

Shri Shivaji Education Society, Amravati's

Matoshree Vimalabai Deshmukh Mahavidyalaya, Amravati

ISO 9001:2015 Certified College



3rd Cycle

Assessment and Accreditation by NAAC

CRITERION –III

RESEARCH, INNOVATIONS AND EXTENSION

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



Shri Shivaji Education Society, Amravati's
Matoshree Vimalabai Deshmukh Mahavidyalaya

Shivaji Nagar, AMRAVATI-444 603 (M.S.)
NAAC Accredited By Grade 'B' with CGPA 2.31 (2nd Cycle)

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Date: 06/04/2023

Declaration

The information, reports, true copies of supporting document numerical data etc. furnished in this file is verified by IQAC and found correct.

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Number	13	15	30	08	18

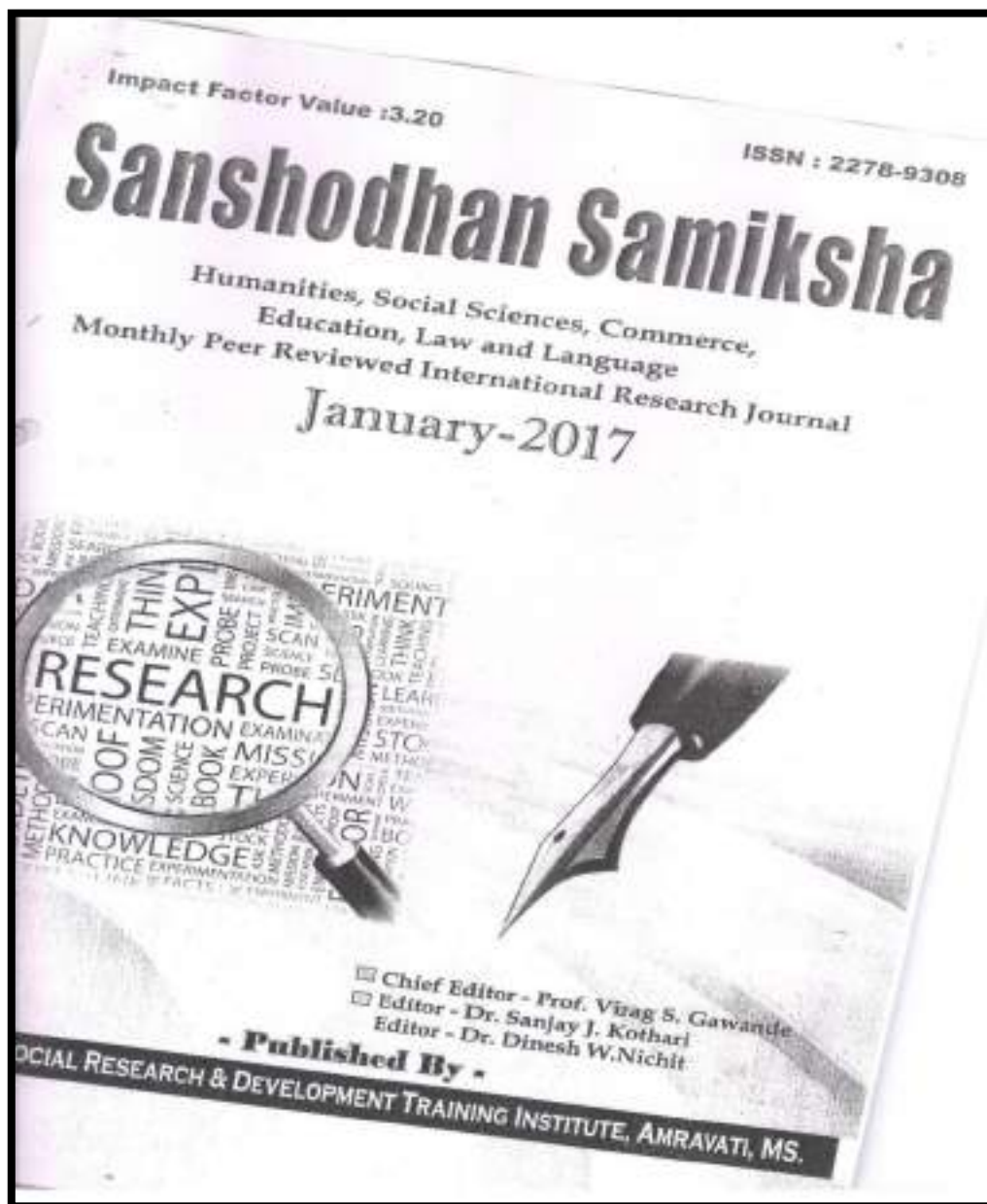

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Number of research papers published per teacher in the Journals in
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शाश्वत विकास - Prof. J. D. Sangode



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शाश्वत विकास

प्रा.जे.डी. सांगोडे

अर्थशास्त्र विभाग प्रमुख मातोश्री विपलाबाई देशमुख महाविद्यालय, अमरावती

जगातील विकासाच्या दृष्टीने विचार केल्यानंतर त्यांची यशस्वी अंमलबजावणी करण्याच्या दृष्टीने जगभरातील संयुक्त राष्ट्रसंघाच्या १९३ सदस्य असणाऱ्या देशांनी २०१५ नंतर शाश्वत विकासाच्या दृष्टीने नविन पाऊल उचललेले आहे. या दृष्टीकोनातून संयुक्त राष्ट्रसंघाच्या सभेमध्ये शाश्वत विकास संपूर्ण जगातील देशांच्या दृष्टीने बंधनकारक करण्यात आला. ज्यामध्ये दारिद्र्य निर्मुलनावर विशेष भर देण्यात आला. शाश्वत विकासासंबंधी आर्थिक विकास, सामाजिक व पर्यावरण संरक्षण या विषयावर विशेष अर्थाने भर देण्यात आला. त्या दृष्टीने शाश्वत विकासाचे लक्ष वैश्विक पातळीवर लागू करण्यात आले.

शाश्वत विकास व दारिद्र्याचे निर्मुलन करण्यासाठी पुढील मुद्द्यांचा विचार करणे गरजेचे ठरते.

- १) **गरिबीचे निर्मुलन करणे :-** सर्व प्रकारच्या गरिबीचे निर्मुलन करणे ज्यामुळे सामाजिक न्याय व्यवस्था प्रस्थापित करणे सोईचे ठरेल. भूक संपविणे, अन्न सुरक्षा व पोषण आहारात सुरक्षितता आणणे व शाश्वत विकासासाठी प्राधान्य देणे.
- २) **शाश्वत शेतीला प्राधान्य :-** शेतीचा विकास हा महत्त्वपूर्ण असा विकास आहे. आजही अनेक देशांच्या अर्थव्यवस्था शेत उत्पादनावरच अवलंबून आहे. भारताच्या बाबतीत विचार करता आजही शेती हेच उत्पन्नाचे महत्त्वपूर्ण असे साधन आहे आणि भारतीय शेती ही मान्सून वर अवलंबून आहे. म्हणून भारतीय शेतीला मान्सूनचा भाग्यविधाता असेही म्हटले जाते. आज शेतीमध्ये मोठ्या प्रमाणात बदल होत असून सेंट्रल शेतीचा विकास केल्या जात आहे. तसेच पिक रचनेत व पद्धतीतही मोठ्या प्रमाणात बदल होत आहे. शाश्वत शेतीच्या माध्यमातून मोठ्या प्रमाणात दारिद्र्याचा भार अल्प विकासात देशातून कमी करणे शक्य आहे.
- ३) **नागरिकांचे कल्याण :-** कल्याणकारी अर्थशास्त्राचा विषय हा उपभोक्त्याचे, उत्पादकांचे आर्थिक कल्याण करणे होय, तसेच जीवनाच्या प्रत्येक ध्येयत घांगले काय आणि वाईट काय याचा विचार मानवी कल्याणात करण्यात येतो. म्हणून समाजाच्या कल्याणाबाबत बोलत असतांना शाश्वत विकासाचाही विचार करणे गरजेचे ठरते. शाश्वत विकास सर्वसमावेशक आणि आर्थिक वाढ व उत्पादक रोजगारामध्ये वाढ करणे होय तसेच शहरे आणि मानवी वस्त्या अधिक सर्व समावेशक आणि सुरक्षित, संवेदनशिल आणि शाश्वत करणे की ज्यामुळे नागरिकांचे कल्याण होईल.
- ४) **पर्यावरण व निसर्गाचे रक्षण :-** भारतीय राज्य घटनेतील कलम २१ नुसार सर्वांना जगण्याचा मुलभूत अधिकार मिळाला आहे हे सगळ्यांना माहित आहे. तेव्हा या संदर्भात सर्वांना जाणून घेणेही गरजेचे ठरते. मा. सर्वोच्च न्यायालयाने गेल्या २० ते २५ वर्षांपासून निसर्ग व पर्यावरण याबाबतीत अनेक सुचनाही केलेल्या आहेत. ज्यामध्ये स्वच्छ हवा, शुद्ध पाणी, प्रदुषणरहित परिसर व समृद्ध निसर्गाचा अंतर्भाव केला जातो. हवामानातील बदल आणि त्यांचे दृष्टरिणाम रोखण्यासाठी योग्य उपाययोजना करणे तसेच महासागर व समुहांचे संवर्धन करणे तसेच त्यांच्याशी संबंधित संशोधनाचा शाश्वतपणे वापर करणे. परिवर्तनीय व्यवस्थापनांचा वापर करून वनाचे व्यवस्थापन करणे तसेच त्यांच्याशी संबंधित बाळबंदीकरण रोखून जमीनीचा कस कमी होऊ न देण्याची प्रकिया राबविणे गरजेचे आहे. पर्यावरण संतुलन व निसर्गाचे संरक्षण करण्याच्या दृष्टीने प्रयत्न करणे आवश्यक आहे.

५) आंतरराष्ट्रीय पातळीवर प्रयत्न :- संयुक्त राष्ट्रसंघाच्या एकात्मिक विकास साधण्याच्या कार्यक्रमात सरसकट विकास व्हावा या दृष्टीकोनातून काही प्रयत्न करण्यात आले. स्टॉक होम परिषद १९७२ मध्ये जेव्हा भरविण्यात आली होती तेव्हा त्या परिषदेने ५ जून जागतिक पर्यावरण दिन जाहीर केला होता. तसेच हवामान विषयक पहिला जागतिक परिषद १९७९ जी भरली होती. त्यामध्ये सुद्धा हवामानात होणारे बदल एक गंभीर समस्या म्हणून मान्यता दिली होती. १९९२ ला रियो परिषद आयोजित करण्यात आली होती. त्या परिषदेला विविध देशातून उपस्थित झालेले १७५ प्रमुखांनी अनेक बाबींवर चर्चा करून त्यामध्ये अजेंडा तयार करण्यात आला. जैविक विविधतेविषयक एक करार करण्यात आला व वनसिद्धांताला सुद्धा मान्यता देण्यात आली होती.

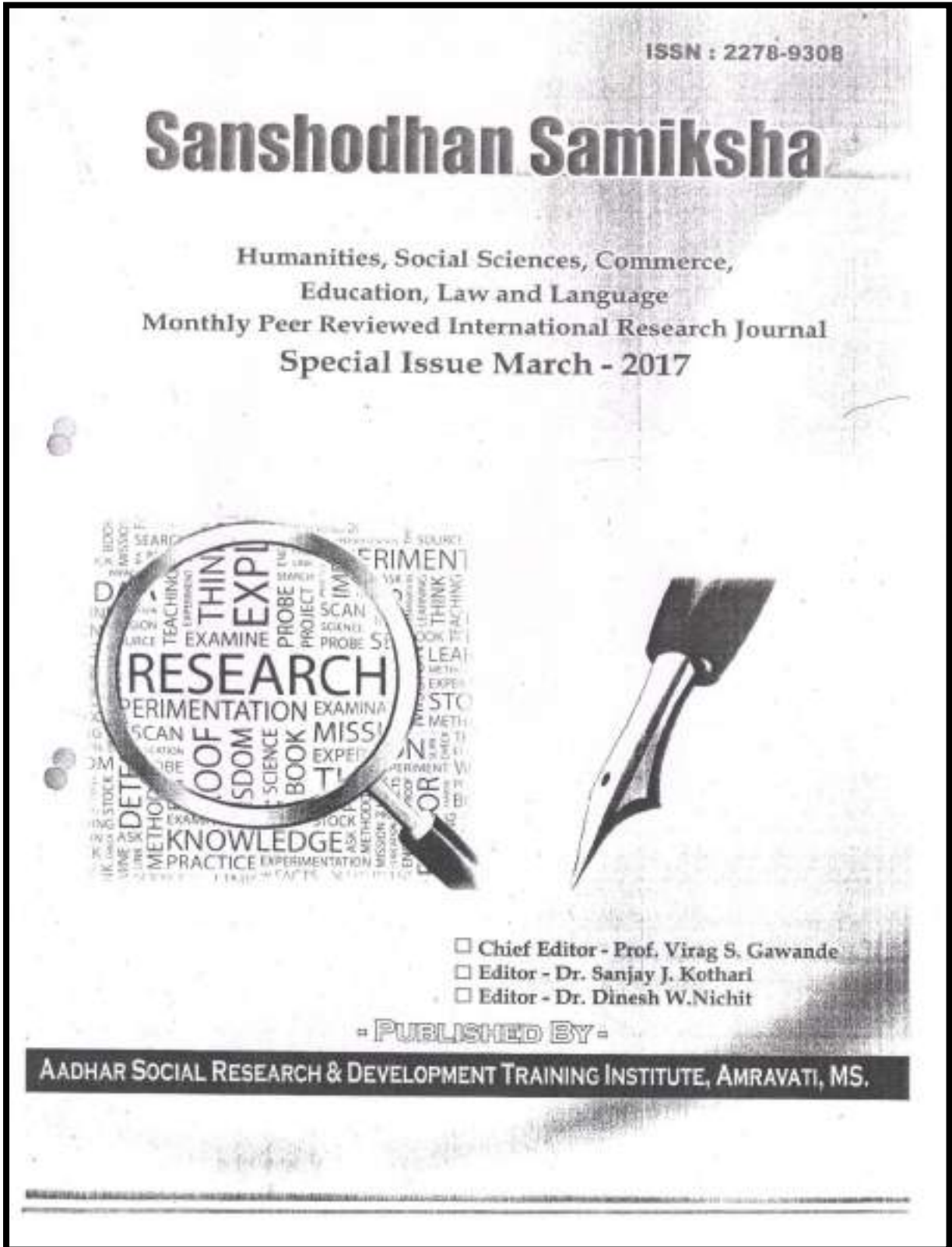
निष्कर्ष :- विकासाच्या नावाखाली पर्यावरणामध्ये मानवीय हस्तक्षेप वाढल्याने जैवविविधतेची मोठ्या प्रमाणात हानी होत आहे. हवामानातील बदल जागतिक तापमानात वाढ तसेच पावसाच्या प्रमाणात होणारे बदल आता अनेक पर्यावरणविषयक समस्या दिसून येतात. जागतिक तापमान वाढीमुळे पृथ्वीवरील अनेक घटकांवर त्याचे दुष्परिणाम मोठ्या प्रमाणात दिसून येत आहे. जागतिक पातळीवर ह्या पर्यावरणाचा गरीब तसेच श्रीमंत देशांवरही परिणाम होत आहे. सध्या पर्यावरणीय समस्यांना आंतरराष्ट्रीय पातळीवरही महत्त्व प्राप्त झाले आहे. कारण मानव हा पर्यावरणाचा एक अविभाज्य घटक आहे. म्हणून जागतिक पर्यावरण चळवळीला एक उभारणी देण्यासाठी सर्व राष्ट्रांनी आपल्या राष्ट्रीय हितांच्या फलीकडे जाऊन शाश्वत विकासाचा पाया रचणे गरजेचे आहे. मानवीय विकास साधतांना पर्यावरणाकडे दुर्लक्ष होणार नाही याचा विचार करावा तसेच जगातील गरीबी कमी करण्यासाठी स्त्री पुरुष समानता योग्य साधने गरजेचे आहे. तसेच स्त्री पुरुष समानता साधतांना जागरूक प्रयत्न केले तरच शाश्वत विकासाचे स्वप्न पूर्ण करता येईल. सर्व पातळीवर समान धोरणाची आखणी करून सर्वसमावेशक गरीबी मिटविण्यासाठी शाश्वत विकास व दारीद्र्याचे निर्मुलन करणे आवश्यक आहे.

संदर्भ :

- १) भारतीय अर्थव्यवस्था विकास व पर्यावरणात्मक अर्थशास्त्र- डॉ. जी.एन. इमारे
- २) पर्यावरण परिषद-डॉ. जयकुमार मगर
- ३) पर्यावरणशास्त्र- डॉ. चिडूल धारपुरे
- ४) भारताचा भूगोल- डॉ. जयकुमार मगर
- ५) शाश्वत विकासाचे उद्दीष्टे - लोकसत्ता वर्तमानपत्र
- ६) नैसर्गिक आपत्ती, व्यवस्थापन- डॉ. आर.जी. पाटील
- ७) पर्यावरण प्रदुषण -डॉ. रविंद्र भावसार
- ८) पर्यावरण और परिस्थितीकौ- डॉ. विजयकुमार तिखारी
- ९) वेध पर्यावरणाचा -निरंजन घाटे
- १०) पर्यावरण व आंतरराष्ट्रीय संबंध - लोकसत्ता वर्तमानपत्र
- ११) Environmental Awareness - Dr. Kishor Pa

जागतिक व्यापार व भारत –

Prof. J. D. Sangode



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

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जागतिक व्यापार व भारत
प्रा.जे.डी. सांगोडे
 अर्थशास्त्र विभाग प्रमुख, मातोश्री विमलबाई देसमुख महाविद्यालय, अमरावती

उरुवेत्ता जे आठवे संमेलन झाले त्यामध्ये जागतिक व्यापार संघटनेत परिवर्तन झाले. गॅट हा एक अंतरिम समझौता होता तर W.T.O. एक औपचारिक आंतरराष्ट्रीय संघटना आहे. जागतिक व्यापार संघटनेची स्थापना १९९५ मध्ये करण्यात आली. अर्थव्यवस्थेच्या जागतिकीकरणाच्या प्रक्रियेत विविध माल व सेवांची खरेदी वित्तीय करणाचे एक राष्ट्रंमधील एक व्यापार केंद्र आहे. या प्रक्रियेमध्ये साधारणपणे अन्नधान्य, खनिजतेल, खंडसामुग्री तसेच सेवा क्षेत्राचा समावेश होतो. त्यामध्ये विमान वाहतूक, आयटी, वित्तीय सेवा क्षेत्र इत्यादी या सर्व क्षेत्रांना चालना देण्यासाठी जागतिक व्यापार संघटनेची स्थापना करण्यात आली आहे. गेल्या २० वर्षांचा विचार करता जागतिक व्यापार संघटनेचे १६१ राष्ट्रांनी सभासदत्व स्वीकारले आहे. त्याशिवाय २८ देश निरीक्षक आहेत. २०१४ पर्यंत सर्व जागतिक निर्याती पैकी ९०% निर्यात ही जागतिक व्यापार संघटनेच्या माध्यमातूनच झाली होती. त्यामुळे आंतरराष्ट्रीय व्यापार जागतिक व्यापार संघटनेच्या तुलनेत साधारण दिसून येतो.

जागतिक व्यापार संघटनेचे सदस्यत्व हे एकप्रकारे दुधारी तलवारीप्रमाणेच दिसून येते. ज्या राष्ट्रांची विकास क्षमता चांगली आहे, निर्यातीचा दर चांगला आहे अशा राष्ट्रांना विकास करण्यासाठी व आपली निर्यात वाढविण्यासाठी जागतिक व्यापार संघटना निश्चित सहाय्यक ठरते. उदा. विचार करावयास झाल्यास चीन हा जागतिक व्यापार संघटनेचा सदस्य नसताना त्याची निर्यात फेब्रुवारी ३% होती. परंतु चिनेने जागतिक व्यापार संघटनेचे सभासदत्व २००१ मध्ये घेतल्यानंतर २०१४ पर्यंत त्याचा निर्यातीचा वाटा १२% वाढला होता.

जागतिक व्यापार संघटनेचे सदस्य झालेल्या देशांना मात्र आपल्या देशांतर्गत आर्थिक धोरण ठरविण्याच्या स्वातंत्र्याला मात्र मर्यादा पडतात. उदा. शेतकऱ्यांना सब्सिडी देण्यासंबंधी निर्णय इ. यामध्ये अडथळी येतात. परंतु विकासाचा विचार करता आज मात्र जागतिक व्यापार संघटनेचा विचार करणे गरजेचे ठरते.

जागतिक व्यापार संघटनेचे प्रमुख मुद्दे :

१) **व्यापारात वाढ :-** गेल्या २० वर्षांमध्ये माल आणि सेवांच्या जागतिक व्यापाराचे डॉलरमधील मूल्य दर १० वर्षांनी मोठ्या प्रमाणात वाढल्याचे दिसून येते. १९९५ व २००५ तसेच २०१४ चा विचार करता ६, १४, व २४ ट्रिलियन डॉलर होते. ट्रिलियन डॉलर म्हणजेच ६५ लाख कोटी रुपये होय. अर्थात ही वाढ एकाच वेळी झालेली नाही. जागतिक जिडीपी वाढला त्यावेळी जागतिक व्यापार वाढेल हे गृहीत धरले जाते. परंतु गेल्या २० वर्षांत मात्र जागतिक व्यापार जिडीपी पेक्षाही वेगाने वाढला आहे. त्याचे महत्त्वाचे कारण म्हणजे इंटरनेट, दूरसंचार, नेट बँकींग इ. मुळे पैशाची देवघेव कार्यालयातच बसून करता येते. त्यामुळे जागतिक व्यापारात लक्षणीय वाढ झालेली दिसून येते.

२) **सेवा क्षेत्रात वाढ :-** गेल्या २० वर्षांपूर्वी सेवा क्षेत्र जागतिक व्यापार फार कमी होता. परंतु त्यामध्ये सतत्याने मोठ्या प्रमाणात वाढ होत आहे. कॉम्प्युटर व आयटी संबंधी सेवांची निर्यात दरवर्षी सरासरी १८% वाढत आहे. जागतिकीकरणामध्ये मोठ्या प्रमाणात स्पर्धा वाढली आणि त्यांचा परिणाम सर्वत्र उत्पादक क्षेत्रातील तसेच आपटीमधील उद्योगात मोठ्या प्रमाणात गुंतवणूक वाढत आहे. आयटी क्षेत्राशिवाय इतर क्षेत्र जसे वित्तीय सेवा, जहाज, विमान वाहतूक, दूरसंचार क्षेत्र यामध्येही सेवांची आयात-निर्यात मोठ्या प्रमाणात वाढली आहे.

३) **काही देशांचेच वर्धस्व :-** जागतिक व्यापार संघटनेचे १६१ देश सभासद असले तरीही युरोपीयन देशांचाच जास्त प्रभाव दिसून येतो. जसे जापान, चिन व अमेरिका तसेच युरोपीयन महासंघ असे दहा निर्यात देश जगातील अर्ध्यापेक्षा जास्त वस्तूंची निर्यात करतात. जगातील गरीब देशांचा जागतिक व्यापारात हिस्सा अगदी नगण्य म्हणजे जेमतेम म्हणजे १% इतक्याच दिसून येतो. याचाच अर्थ जागतिक व्यापार संघटनेत काही विशिष्ट देशांचेच वर्धस्व दिसून येते.

४) **क्षेत्रीय व्यापाराचा मोठा हिस्सा :-** या व्यापाराला आपण जागतिक व्यापार जरी म्हणत असलो, तरीही त्यांचे स्वरूप अजूनही क्षेत्रीय स्वरूपाचेच दिसून येते. उदा. एका-एका प्रांतातील व्यापारिक करार दिसून येतात. एशियन देश (दक्षिण पूर्व आशिया) नॉर्वे (लॅटीन अमेरिकन देश) युरोपीयन महासंघ (अमेरिका, कॅनडा, मेक्सिको) इत्यादी या आपसातील करारामुळे आंतरगत व्यापार वाढला. उदा २०१४ मध्ये युरोप खंडामधून झालेल्या एकूण निर्यातीपैकी ७०% निर्यात युरोपांतर्गतच झाली होती. अमेरिका व आशिया खंडासाठी हे प्रमाण ५०% ते ५२% आहे.

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५) मूल्यसाखळी :- गेल्या २० वर्षांत जागतिक व्यापार मोठ्या प्रमाणात वाढला. त्यामुळे बऱ्याच आर्थिक शक्ती दिसून येतात. तसेच आंतरराष्ट्रीय बाजारपेठा विकसित होत असलेली नवीन उत्पादन प्रणाली आहे. ह्या नविन पद्धतीत देशाच्या अर्थव्यवस्थेत जागतिक मूल्य वृद्धीच्या साखळीत बांधल्या जात आहे, ज्यांचा संबंध जागतिक पातळीवर आंतरराष्ट्रीय व्यापारात वाढ होण्यामध्ये दिसून येते.

६) विकसनशिल देशांच्या व्यापारात वाढ :- बऱ्याच वर्षांपर्यंत भारताचा व्यापार विकसित देशांशी अधिक प्रमाणात होता पण जागतिक व्यापाराशी संबंध अल्पाप्रामाण असून दिसून येतो, त्यांचा व्यापार विकसनशिल व मागासलेल्या देशांशी मोठ्या प्रमाणात होत असल्याचे दिसून येते. भारताचा व्यापार विकसनशिल देशांशी व्यापार १९९५ पर्यंत एकूण निर्यातीच्या ३८% होता, तो १९९४ पर्यंत ५२% इतका झाला आहे. जर विकसित देशात जागतिक मंदी आली तर त्यांची झळ यात कमी बसेल म्हणजेच या मंदीच्या सावटापासून ह्या देशांना दूर ठेवता येईल.

७) बाजारभावात वाढ :- जागतिक व्यापार हा उल्लेखनीय चालतो. वस्तूंच्या मालाची आयात निर्यात मोठ्या प्रमाणात वाढलेली दिसून येते. खनिजतेलाचा व्यापार फार मोठ्या प्रमाणात वाढलेला दिसून येतो. खनिज तेलाचा व्यापार १९९५ ते २०१४ या काळावधीचा विचार केल्यास असे दिसून येते की, हा व्यापार आजपटीने वाढला आहे. त्याचे महत्त्वाचे कारण म्हणजे सामारभावात पाचपटीने वाढ झालेली दिसून येते. म्हणजेच जागतिक व्यापार हा दिवसेंदिवस मोठ्या प्रमाणात वाढत असल्याचेच दिसून येते.

निष्कर्ष :- जागतिक पातळीवर मूल्य साखळी बहुराष्ट्रीय कंपन्या राबवित आहेत. या उत्पादन साखळीतील कार्ये प्रक्रियामध्ये जे उत्पादन घेतले जाते ते घेऊन उत्पादनक्षेत्री ही उत्पादने अधिक स्वस्त पडले ज्यामुळे या बहुराष्ट्रीय कंपन्यांना प्राप्त होणारा नफा अधिक मिळतो आणि त्यांचा अधिक लाभ मिळविण्यासाठी या बहुराष्ट्रीय कंपन्या आयात आधारीत अधिक उत्पादन घेतात. तसेच जेथे मजुरी स्वस्त आहे त्याप्रमाणे जेथील कर्मचार कच्चे अपल्याला लाभदायक आहेत अशाच ठिकाणी ह्या बहुराष्ट्रीय कंपन्या उत्पादन करतात, त्याचे दुष्परिणाम असे झाले की, या कंपन्यांना अर्थकुराल कर्मचार मोठ्या प्रमाणात उपलब्ध झाले व त्यांना सगळे लागणारे बतनही कमी झाले असा दुहेरी लाभ ह्यांना झाला.

"ऑक्सफॅम" या संस्थेने १९९६ मध्ये एक अहवाल प्रसिद्ध केला ज्यामध्ये त्यांनी असे म्हटले आहे की, जागतिक ५०% लोकांच्या एकूण संपत्तीतील जागतिक एकूण संपत्तीचा वाटा १% इतका आहे. याचाच अर्थ असा की, जागतिक पातळीवरील मूल्यसाखळीमुळेच कर्मचारांच्या राहणीमानात दिवसेंदिवस घट होत आहे. तसेच त्यांना हलक्यापणे जीवन जगावे लागत आहे.

जागतिक व्यापार संघटनेच्या स्थापनेपासूनच भारत हा जागतिक व्यापार संघटनेचा सभासद आहे. गेल्या २० वर्षांचा विचार करता जागतिक व्यापार हा चौपट झाला आहे व तो अणखीही वाढतच आहे. परंतु भारताचा विचार करता जागतिक व्यापारात भारताचा हिस्सा हा जेमतेम २% ते ३% इतकाच दिसतो.

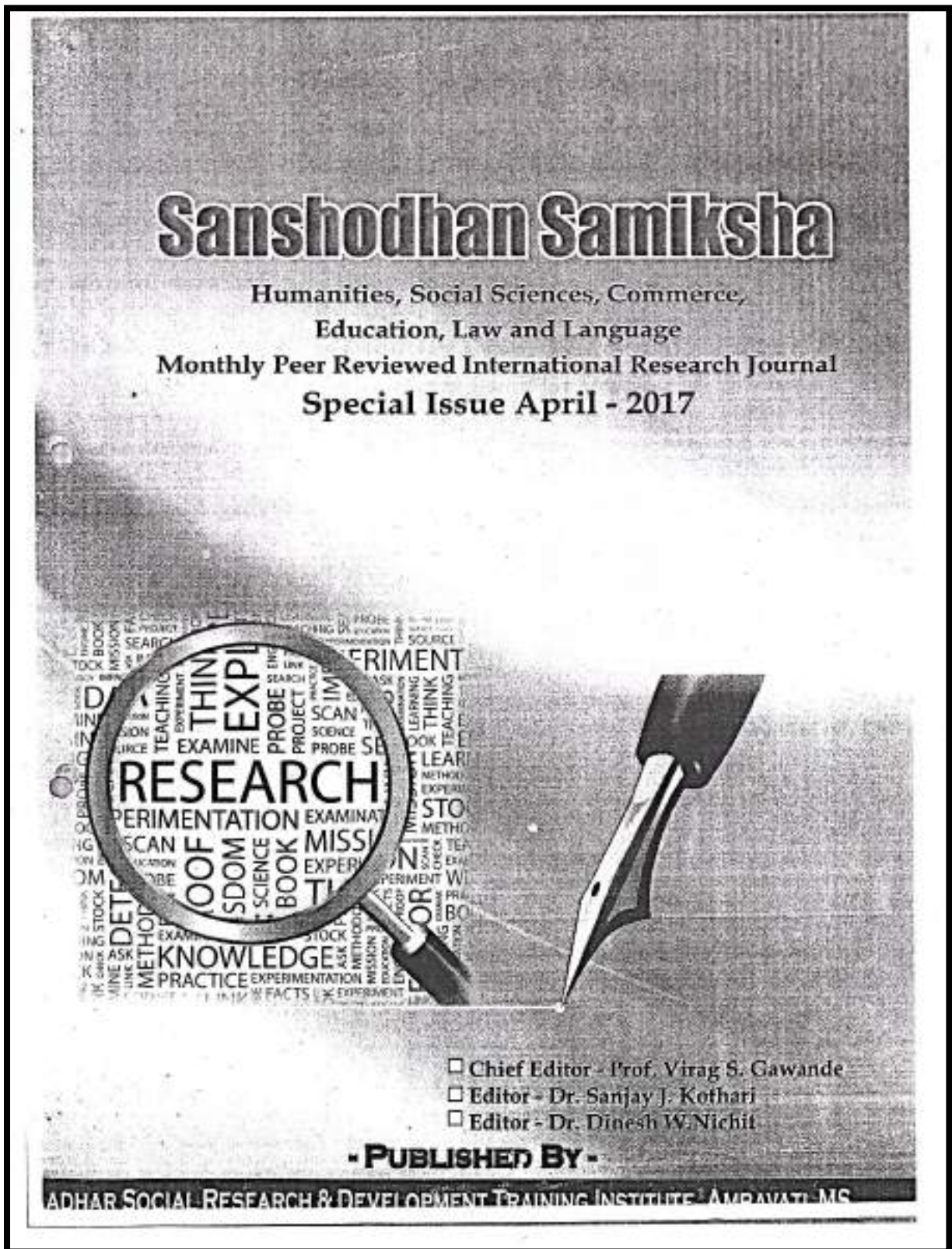
याचाच अर्थ असा की, अजुनही भारत हा जागतिक व्यापारात मोठ्या प्रमाणात मागासलेला दिसून येतो. म्हणजेच जागतिक व्यापार संघटनेचे विरोध लाभ भारताला मिळाल्याचे दिसत नाही. त्या दृष्टीने भारताने आपला विदेशी व्यापार कसा वाढविता येईल असा प्रयत्न आज होणे गरजेचे वाटते.

संदर्भ :

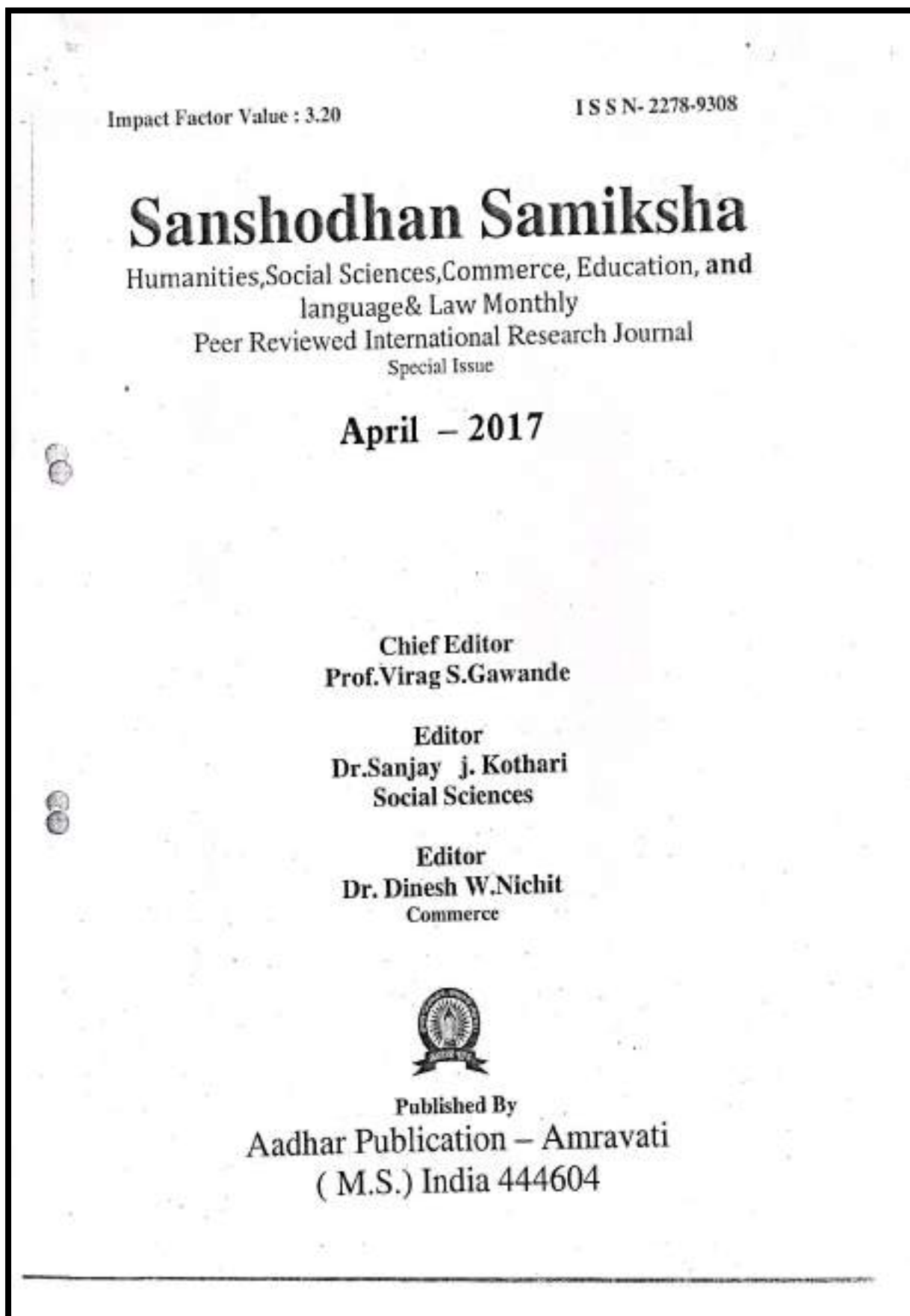
- १) भारतीय अर्थव्यवस्थेचा विकास व पर्यावरणात अर्थशास्त्र - प्रा. ग.ना. झामरे
- २) जागतिक व्यापार आकड्यांच्या पलीकडे - लोकसत्ता
- ३) अर्थसंवाद अंक
- ४) योजना मासिक
- ५) आर्थिक धोरण आणि नियोजन - प्रा. प्रभाकर देशमुख
- ६) Indian Economy - प्रा. अलक घोष
- ७) परदेशी गुंतवणुकीची निकड - लोकसत्ता
- ८) घेऊन गुंतवणुकीचा कृषि अर्थ व्यवस्थेवरील परिणाम - प्रा. एस.के. गुलहाने
- ९) व्यावसायिक पर्यावरण - प्रा. बोधनकर, प्रा. चक्रान
- १०) इंटरनेट

Dr. Ambedkar Taught on Currency –

Prof. J. D. Sangode



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



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2	Kavya Shree .K.M Dr. Manasa Nagabhushanamb	Impact of Information and Communication Technology (ICT) on Buying Decision Process among Generation Cohorts- A conceptual approach	4
3	Ku.Shital.H. Ujade.	Female Foeticide and Infanticide In Maharashtra-India.	16
4	Prashant .S.Thakre	Open Educational Resources In Modern Information System And Role Of Libraries And Lis Professionals.	22
5	Dr. Ajay Patalbansi	Developing Communication Skills in the Students of Rural Colleges	26
6	Prof. J. D. Sangode	Dr. Ambedkar Thoughts on Currency	32
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Dr. Ambedkar Thoughts on Currency

Prof. J. D. Sangode

The year 1835 was a landmark in the Indian currency when by an Imperial government of the silver rupees, India under the control of the East India Company. This was the major monetary reform the Indian currency. The Hindu rulers gave performance to the gold. It is not certain whether gold and silver coins had any fixed legal ratio. It seems the monetary standard approximated to a parally standard rather than to a full-fledged double standard.

Moreover when the East India Company extended its dominion over India it was confronted with nearly 1000 kinds of gold and silver coins of different weights and finesse.

This created a great stringency in the money market which was further aggravated by a large scale proportion of silver coins being converted into bullion for non-monetary purposes. At the same time after 1850 the world production of silver proved inadequate to meet the demand for it. The monetary stringency felt more acute because of this period the trade of India was expanding partly because of reformed tariff of 1842 and repealing of navigation laws in England which gave same impetus of Indian export trade.

It is in this background that the present survey of one hundred year of the Indian currency commences. It would be pertinent.

An attempt of the government to relieve stringency by issuing interest bearing treasury notes was not successfully partly because their amount was insignificant and partly because their use for purpose of circulation was confined to Calcutta, Bombay and Chennai. Thus stringency continued.

The paper currency framed a very small part of the total currency in circulation. In 1864 it was 6% of the metallic currency in circulation. The main reason for this state of affairs seems to be the high denominations of notes. The five notes was issued in 1891. Thus the introduction of paper currency did not provide much relief to the economy.

Under these circumstances the government was pressed to do something, to ease the situation. Proposals suggested by sir Charles Trevalyan for making gold the standard of value in the India was sent to the secretary of state for India.

The movement for a gold currency in India started in the sixties again gained some force when Shree Richard Temple in a memorandum dated May 13, 1972 recommended the adoption of Indian gold coin the Mohur as the unit of currency.

The monetary standard which resulted may better be designated as Gold Bullion-cum-sterling exchange standard since it gave the option to the government to provide gold or steeling at that option against rupees. This standard was important

over its predecessor obligation on the government not merely to buy but also to sell gold or sterling at fixed rates.

A new chapter in Indian currency was opened when 1935 the Reserve Bank of India was established to function as a Central Bank for the country. The necessity of the Central Bank had been felt for a long time the Chamberlain commission had attributed the monetary and currency troubles to the absence of the Central Bank in the currency. The establishment of the Reserve Bank of India the maintenance of the monetary standard issues of paper currency and the maintenance of the external value of the paper was to be looked after by this authority.

During the course of this controversy there has arisen a new stand point which would want us to do nothing in the matter of rehabilitation of our currency unit we first look measure which should substitute the prevalent system of managed currency by new system of automatic currency.

ABSTRACT

In conclusion it may be mentioned that the Indian currency system as it exists at present is capable of being adopted the requirements of the planned economic development possibly the increasing volume of paper currency in recent year which was mainly the result of large scale deficit financing has been one of the principal causes of inflationary pressure on the economy.

Though theoretically case in favour of devaluation can be made yet it appears that the gains from devaluation due to increase in exports are very uncertain while the increased price which India will have to pay for its imports which is mainly inelastic in character would put a heavy strain on its balance of payment situation.

The Government of India have also expressed their views in terms of maintaining.

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Importance of ICT in Teaching English Language –

Dr. S.D.Thakare







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the computer. Using technology in teaching English is highly advantageous to an English teacher it gives him the power to create ideas in the visual medium. Technology aids the teacher in many ways like multiple accesses to English learning content, tracking performance, offering better solutions even during absence, empowering English teaching from any place, breaking the concept of time bound learning and so on. Technology is the basic tool through which the teacher facilitates the learning of English content and hence it needs to be customized for different curriculum and according to the need of the learning group. Content for language learning plays an important role since it determines the instructional objectives. The level and quality of English language content and the ability of technology efficiently impart the ideas to help the teacher to teach/train an English learner efficiently. In this regard, as a user of technology as a tool of instruction, it becomes important for the English teacher to analyze the different features of the technology that we use to teach the students.

Conclusion

To conclude we can say that there are many advantages of using computer based multimedia as a part of ICT in teaching English language and the main advantage is that English language learner can learn the language at his own pace with this own interest in it and therefore it should be integrated into school curriculum. Secondly, it technology is to be used by students, then teachers must possess the confidence, understanding and skills to effectively incorporate technology into their teaching practices. This will only occur by providing adequate training and development of teachers.

Due to globalization English has got the status of global language, world language and international language. English is the powerful market language and transaction of modernization. The changing scenario of English is impacted on English curriculum and teaching methodologies to cater the need of present era.

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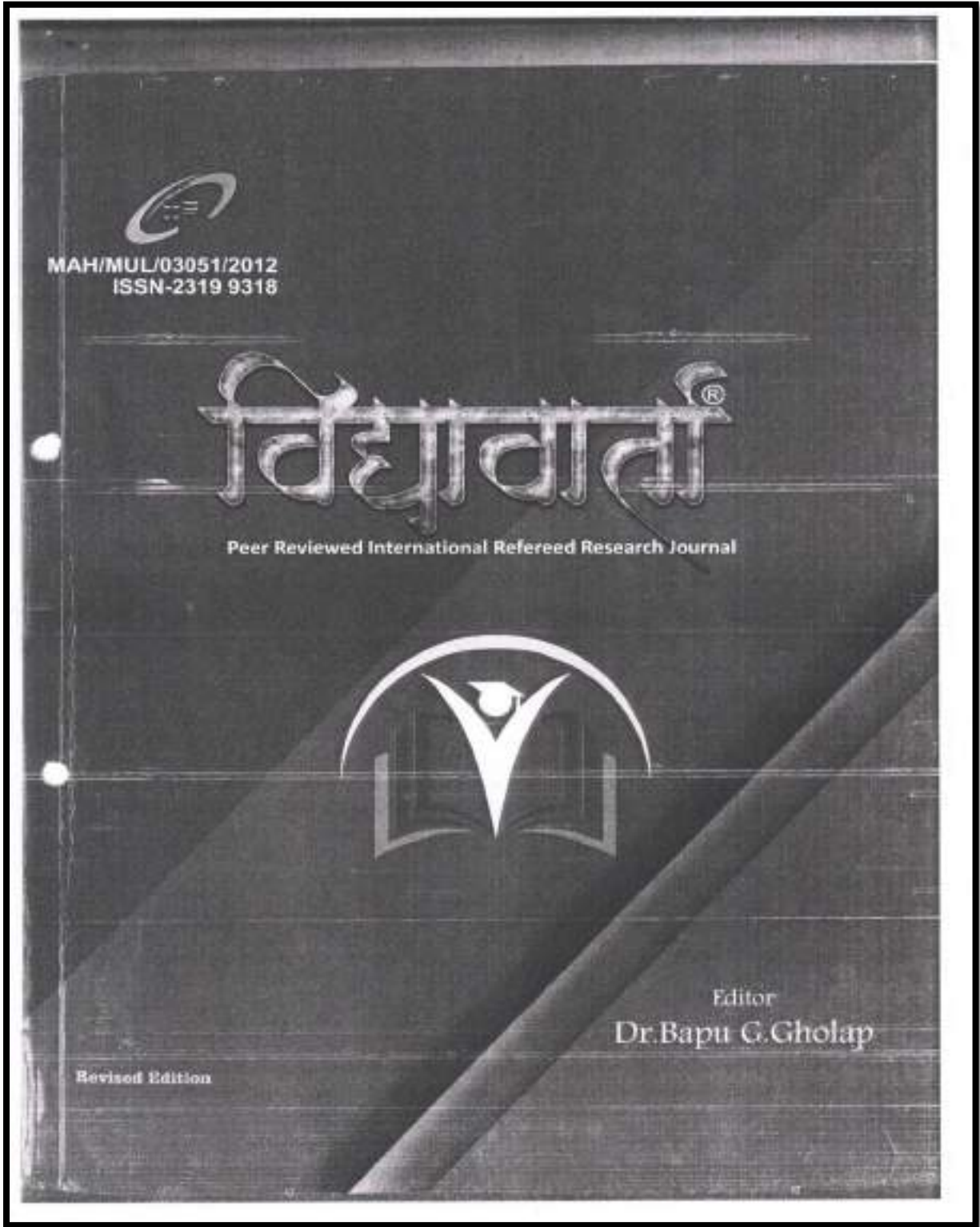
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❖ विद्यावार्ता: Interdisciplinary Multilingual Refereed Journal Impact Factor 4.014 (IIJIF) ❖

The Scientific review on mentally woman Existing Scio- Economics health conditions in Central India –

Dr. R.S. Kawale



02

The Scientific Review on Mentally ill Women Existing- Socio Economic & Health Conditions in Central India

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Abstract: We highlight the present scenario in social work intervention techniques & local support structures for mentally ill women. We had examining the salient features of mentally ill women in specific central India region. It provided an overview for social worker that works with mentally ill women individually or with family members, group or institutions. It will give weight age to social work professionals in performing their objectives, goals. It had explored the significant potential roles skills, & techniques of medical psychiatric social worker in dealing with mentally ill adult women in rural and urban areas.

Hence it is most helpful to know the status of the mentally ill women and the Socio-Economic, health Conditions problems which they are experiencing.

Theoretical framework:

Mental health is a term used in describing the level of cognitive or emotional well-being or an absence of a mental disorder. It is also the state to an individual's ability to

enjoy life.

Mental health important is a good step to understanding and maintaining your own mental health. Mental health deals with an ability to be happy as well as emotional stability, or the lack of a mental illness.

Mental health is a very important aspect of a person life. When someone is feeling off mentally it can affect their whole lives. Some mental health problems can cause of mental illness. Over the history of the healing arts, there has been an evolution of theories regarding the root causes of mental illness.

McGraw-Hill Dictionary of Scientific & Technical Terms-Mental illness: "Any form of mental aberration; usually refers to a chronic or prolonged disorder in which there are wide deviations from the normal."

Definition of Psychosis: Psychosis is a loss of contact with reality, typically including delusions (false ideas about what is taking place or who one is), hallucinations (seeing or hearing things which aren't there), and disorganized thinking.

Psychiatry: The study and treatment of mental illness, emotional disturbance, and abnormal behavior.

There are two views regarding mental illness in psychiatric discipline as a specific branch of Medical Science they are 1. Common Sense view & 2 Scientific Sense View.

Factors Showing Mental illness :



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Causes of Mental illness:	The following treatments are given to		
Mental illness can arise from a combination of sources. In many cases there is no single accepted or consistent cause currently established. A common belief even to this day is that disorders result from genetic vulnerabilities exposed by environmental stressors.	mentally ill Persons:		
VIEWS BASED ON MODELS OF HUMAN.	I) Psychotherapy: In recent years significant		
The Psychoanalytic Model.: Emphasizes Human's basic instinctual drives ,such as sex. Mental health is viewed as the ability to gratify these drives within limits imposed by society.	advances have been made in the field of psychotherapy, some times referred to talk therapy, usually provided by a mental health professional that employs any of a range of specific psychological techniques. There are several main types of "Cognitive behavioral therapy (CBT) is used for wide variety of disorders.		
The Behaviors tic model: Emphasizes overt behavior, seen as the organism's attempt to adapt to environmental stimuli.	II) Medication: Psychiatric medication is widely used to treat mental illness. These are licensed psychoactive drugs usually prescribed by a psychiatrist or family doctor. There are several main groups. Antidepressants are used for the treatment of clinical depression as well as often for "Anxiety" and other disorders. Anxieties are used, generally shorter term for anxiety disorders and related problems.		
The Humanistic model: Emphasizes man's natural tendencies towards responsible self – direction and self –fulfillment.	III) Electro Convulsive therapy OR Insulin shock therapy: With electroconvulsive therapy, electrodes are attached to the head and while the person is sedated, a series of electrical shocks are delivered to the brain. This therapy has consistently been show to be the most effective treatment for severe depression. Many people treated with electro convulsive therapy experience temporary memory loss. This therapy is beneficial for people with severe depression that does not respond to drugs or psychotherapy.		
The Existential Model: Emphasizes the primary reality of the individual's conscious experience and decisions.	IV) Electroencephalogram : A device which records the electrical activity from different parts of the brain and converts it into a tracing called an electroencephalogram or EEG. The machine that records this activity is known as an encephalograph.		
Interpersonal Model: Emphasizes the role of interpersonal relationships in shaping development and behavior.	V) Services for Mental illnesses: Mental health services may be based in hospitals, clinics or the community. An individual may engage in different treatment modalities and use various mental health services centre.		
Diagnosis	Types of Mental Health Care Practitioners:		
Many mental health professionals, particularly psychiatrists, seek to diagnose individuals by ascertaining their particular mental disorder. Some professionals, for example some clinical psychologists, may avoid diagnosis in favor of other assessment methods such as formulation of a client's difficulties and circumstances.	Psychotherapy A major option for many mental disorders is psychotherapy. There are several main types. Cognitive behavioral therapy (CBT) is widely used and is based on modifying the patterns of thought and behavior associated with a particular disorder. Psychoanalysis, addressing underlying psychic conflicts and defenses, has been a dominant school of psychotherapy and is still in use.		
❖ विद्यवार्ता: Interdisciplinary Multilingual Refereed Journal Impact Factor 4.014 (IJIF)			

Sr. No.	Practitioner	Training	Expertise
1	Psychiatrist	Medical doctor with 4 or more yrs of psychiatric training after graduation from medical college.	Can prescribe drugs, perform electro convulsive therapy admit mentally ill people at hospital
2	Psychologist	Practitioner who has a master or doctoral degree but not a medical degree may have post doctoral training & most are trained to administer psychoactive tests that are helpful in diagnosis.	May conduct psychotherapy but can not perform physical examinations prescribe drugs in most cases or admit mentally ill people at hospital
3	Psychiatric Social Worker	A practitioner with specialized training in certain aspects of psychotherapy, such as family & marital therapy or individual psychotherapy. Trained to interface with the social service system.	Cannot perform physical examinations or prescribe drugs.
4	Advanced practice psychiatric nurse	Registered nurse with a masters degree or higher and training in behavioral health.	May practice psychotherapy independently in some cases may prescribe limited drugs under the supervision of a physician / doctor.
5	Psychiatrist	May be a physician / psychologist / or social worker who has many years of training in the practice of psycho analysis. A type of intensive psychotherapy involving several sessions a week designed to explore unconscious patterns of thought, feeling and behavior.	Conduct psycho analysis and if also a physician may prescribe drugs and admit people at hospitals.

Prognosis:

Prognosis depends on the disorder, the individual and numerous related factors. Some disorders are transient, while others may last a lifetime. Some disorders may be very limited in their functional effects, while others may involve substantial disability and support needs. The degree of ability or disability may vary across different life domains. Continued disability has been linked to institutionalization, discrimination and social exclusion as well as to the inherent properties of disorders.

Concluding Remarks: Objectives include the promotion of human rights of people with mental disorders and of their families and monitoring the activities that protect these rights. WHO will support efforts aimed at motivating and informing decision-makers about the impact of economic and social policies on mental health; empowering consumers, families and nongovernmental organizations; organizing anti stigmatization programs in all population groups; and collaborating with the media to disseminate objective information on problems and solutions.

Most importantly, the aim of creating a cultural change to promote the inclusion of people with mental disorders in various forms of community life will be pursued.

Emphasis will be placed on applied research in all countries, according to their specific needs and level of development, to guide cost-effective action. Most research is being done in industrialized nations and specific issues of concern to developing nations are not included. The Programme will therefore work to create sustainable research capacity within developing countries through the provision of research training to promising individuals from developing countries, the creation of an international network of scientists and institutions to support this effort, and the sponsorship of related mental health research activities.

Website Support:-

- <http://www.women.vic.gov.au>
- <http://www.ofw.facs.gov.au>
- <http://www.mentalhealth.org.uk>
- <http://womenshealth.about.com>
- [www.Britannica.com:](http://www.Britannica.com)
- www.Shiksha.com/



A Review of mushroom Bio active metabolites responsible for anti-oxidant and anti-cancerous effect –

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A REVIEW OF MUSHROOM BIOACTIVE METABOLITES RESPONSIBLE FOR ANTIOXIDANT AND ANTICANCEROUS EFFECTS

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Key words : Mushrooms, Bioactive metabolites, Therapeutics, Antitumor, Antiangiogenesis

Abstract- Mushroom are important natural source of foods and medicines. Although mushroom has been recognized as oriental medicine, the last decade has been noticed for the swamping interest in pharmaceutical principles of mushrooms in the researches. Mushroom are the miniature pharmaceutical units of nature. The bioactive compounds of mushroom include polysaccharides, proteins, fats, ash, glycosides, alkaloids, volatile oils, tocopherols, phenolics, flavonoids, carotenoids, folates, ascorbic acid, enzymes and organic acids. Over population, malnutrition problem in developing countries like India create a necessity of mushroom cultivation as alternative food protein source and as an income generating activity for landless laborer, youth and women. The present review is aimed to discuss the bioactive metabolites in mushrooms responsible for controlling antioxidant activity and cancer.

INTRODUCTION

Mushrooms have a long association with humankind and provide profound biological and economical impact. Mushrooms can be epigeous or hypogeous fungi, large enough to be seen with the naked eyes and can be picked by hand (Chang and Miles, 1992). Out of 14000 known species, 2000 are safe for human consumption and about 650 of these possess medicinal properties (Rai et al., 2005). In India, the total recorded mushrooms are approximately 850 species (Deshmukh, 2004). China, Korea, Japan, Central and North American countries are using mushrooms for their nutritional and medicinal properties. Mushrooms have a low fat, high protein content, high content of several vitamins (B, C, D, K), minerals (potassium, phosphorus) and trace elements (selenium). All the essential amino acids required by an adult are present in mushroom (Hayes and Hadded, 1976). Tryptophan and lysine are present in high concentration as compared to cysteine and methionine. Digestibility of mushroom protein is

also high. Folic acid and vitamin B12 which are normally absent in vegetable foods are present in mushrooms although in small quantities. A nutraceutical can be defined as a substance that may be considered a food or a part of a food that provides medical or health benefits like the prevention and treatment of disease. Mushrooms have become "attractive" as a functional food and as a source for development of drugs and nutraceuticals (Khatun et al., 2012) responsible with their antioxidant, antitumor (Jones & Janardhanan, 2000) and antimicrobial properties. Cancer is leading cause of death worldwide. Some of the available anticancer drugs in market cause several side effects and complications in clinical management of various types of cancer. Recent researches are going on for the action of mushrooms as biotherapeutic agent for controlling the side effects of the drugs and their use individually or as an adjuvant with the commercial anticancer drugs.

Reported genera with anticancer effects

Oxygen centered free radicals and other reactive

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oxygen species that are continuously produced in vivo, result in cell death and tissue damage. Oxidative damage caused by these free radicals may be related to ageing and diseases such as atherosclerosis, diabetes, cancer and cirrhosis. The anticancer activities are related with antitumor, antiangiogenesis, antimetabolic reactive oxygen species inducer leading to apoptosis of cancer cells. Many mushrooms have traditionally been used as medicine and tonic in China, Korea and Japan such as *Phellinus*, *Pleurotus*, *Agaricus*, *Ganoderma*, *Clitocybe*, *Antrodia*, *Trametes*, *Cordyceps*, *Xerocomus*, *Calvatia*, *Schizophyllum*, *Flammulina*, *Suillus*, *Inonotus*, *Inocybe*, *Funlia*, *Lactaria*, *Albatrellus*, *Russula* and *Fomes*, *Grifola*, *Lentinus*, *Coriolus*, *Lyophyllum*, *Lepista*, *Morchella*, *Sclerotinia*.

Active metabolites and their action

A wide variety of pathological damage such as DNA, carcinogenesis and cellular degeneration can be caused by reactive oxygen species produced by sunlight, ultraviolet and ionizing radiation chemical reactions and metabolic processes. Many studies show that oxygen derived free radicals such as super oxide, hydroxyl radicals and high energy oxidants such as peroxy nitrite as mediators of inflammation, shock and ischemia/reperfusion injury (Cuzzocrea *et al.*, 2001). The production of ROS at the site of inflammation can contribute to tissue damage (Salvimini *et al.*, 1996). Extracts of *G. lucidum* can apparently remove the hyperoxide radical to be a main factor in the human ageing process (Liu *et al.*, 1997) and the ageing mouse model (Pan *et al.*, 1999). In a clinical trial with 30 elderly people *Ganoderma lucidum* extract (GLE) was given oral 1.5g 3 times daily for 30 days. Interleukin-2 and interferon (IFN) production by peripheral mononuclear cells (PBMC) and NK cell activity in vitro were respectively measured. Production of IL-2 and IFN were significantly increased after GLE treatment suggesting that GLE is possible treatment to raise the cellular immunological activity in ageing people (Tao, 1993). Antitumor activity in *A. blazei* was found to be due to the lipid fraction ergosterol (Takaku *et al.*, 2001). *Grifola frondosa* exhibited antioxidant activity due to the lipid and inhibited the cyclo-oxygenase enzymes, COX-1 and COX-2 (Smânia *et al.*, 1999). Many chronic diseases including cancer are strongly associated with oxidative damage. The inhibition of COX-1 and COX-2 can result in inhibition of tumor development and was found to

be beneficial in some established tumors (Bender *et al.*, 2003).

Last decade researchers emphasized their focus on the four mushrooms *Lentinus* (*Lentinula edodes*) *Schizophyllum commune*, *Grifollia frondosa* and *Sclerotinia sclerotiorum* particularly their respective β -glucans, lentinan, schizophyllan (also called SPG, sonifilan or sizofiran), grifolan and SSG. Most of them β -(1-6)-branched, β -(1-3) linked glucans were found to exhibit antitumor activity (Brochers *et al.*, 2004). The researchers (Ohno *et al.*, 2000; Bezivin *et al.*, 2003) revealed the presence of atleast 651 species of 182 genera of hetero and homobasidio mycetes mushrooms have antitumor or immunomodulating polysaccharides β -1-6 backbone was observed in *A. blazei*. It differs from β -1-3 backbone with β -1-6 side chains in the same mushroom. Also a glucomannan with β -1-2 linked β -mannopyranosyl main chain inhibiting tumorigenesis is detected in the same mushroom (Mizuno *et al.*, 1999). Biological activities of β -glucan are affected by molecular mass, degree of branching number of substituent's, ultrastructure (Murata *et al.*, 2002). Small molecular mass cytotoxic compounds responsible for antitumor activities against tumor cells are illudins, tricyclic sesquiterpenes from *Omphalotus plearius* (DC : Fr.) Singer and *Lampteromyces japonicus* and their derivatives (Morris *et al.*, 1992), the terpenoid leaianafulvene from *Mycena leniana* (Brek) Sacc (Hartting *et al.*, 1990) triterpenes (ganoderic acid Z, Y, X, W, V, T; lialdehydes A, B, C and australic acid) from *G. lucidum* (Gao *et al.*, 2002) or *Ganoderma australe* (Fr.) Pat, acetoxyscirpenediol, ergosterol peroxide (Sonnenberg *et al.*, 2005) from *P. tenuipes* and sterols from the mycelia of *C. sinensis* (Brek.) Sacc (Leon *et al.*, 2003). Nam *et al.* (2001) observed the activity of acetoxyscirpenediol by inducing apoptosis in leukemia lines in vitro. Triterpenes from *Ganoderma concinnum* could be responsible for apoptosis in HL-60 cells (Bok *et al.*, 1999). Applanoxidic acids A-H, the triterpenes separated from *G. applanatum* were effective against mouse skin tumor promoters applanoxidic acid B being the most potent of the acids. Polysaccharides from *A. brasiliensis* were noticed to have antiangiogenic activity (Lee *et al.*, 1998). *Cryptoporus volvatus* (Peck) Murril had sesquiterpenoid cryptoporonic acids A-G which were responsible to inhibit the tumor promotion activity of okadaic acid in two stage carcinogenesis experiments. Their strong radical scavenging activity may be responsible for this effect (Kim *et*

al., 2004). Acidic and neutral compounds isolated from natural antitumor polysaccharides of mushrooms had different types of glycosidic linkages, as well as some polysaccharide protein complexes have been isolated (Wasser, 2002; Meradali et al., 2007). Quinoid compounds from *A. bisporus* have been reported to suppress the propagation of mouse ascites tumor (Graham et al., 1977) and a lectin from this species also reversibly inhibited the proliferation of human colon carcinoma cells (Yu et al., 1993). *Ganoderma lucidum* karst is used in far Eastern people as medicine. A human β line transformed by Epstein-Barr virus and an immortalized line of human T lymphocytes were reduced by this mushroom extract. The concentration of 1 mg/mL which reduced the number of β lines by 61.46%, while in the case of T cells their number were reduced by 57.14% (Anita et al., 2009). *Inonotus obliquus* has been used as folk medicine (Taji et al., 2007). Many phenolic compounds such as triterpenoids, steroids and ergosterol peroxides from *Inonotus obliquus* along with polysaccharides exhibit antitumor and antioxidant effects (Kahles et al., 1986; Park et al., 2005; Cui et al., 2005). *Inonotus obliquus* polysaccharides extracted from cultivated mycelia have anticancer activity (Kim et al., 2005). Proflamin, an isolate of *Flammulina velutipes* has anticancer activity *in vivo* (Ikekawa et al., 1985). Lentinan isolated from *Lentinula edodes* (Duncan et al., 2002). Cyclooxygenase inhibiting compounds from *Pleurotus adamantinus* - a wood rot mushroom were reported. 3 D structures of nine compounds viz. Isobutyl-3 methyl furan 2-Tert-butyl-4 (2,4,4-trimethyl pentan-2-yl) phenol, 3-Methyl-2-(2-methylallyl-enyl) Tetradecan-1-ol, Bicycle [3,1,1] hept-2-ene-e-carbaldehyde, 3-Methyl-2-(2-Methylbut-2enyl) furan 4 methyl benzyl azide, 2,3-Epoxy-5,8-hexa decadien-1-ol, 3 Methyl -2-(2-oxopropyl) furan reported from GCMS analysis of methanol extract of *P. adamantinus* were built using Chemsketch software and biological activity was predicted using PASS. Among the nine phytochemical molecules docked against the cyclooxygenase enzyme the phytochemical-4 methyl benzyl azide was found to be the most effective one when compared to commercial drug, Aspirin (Rajeshwari and Kriushnapriya, 2011). Lectin isolated from *P. citrinopilatus* exerted potent antitumor activity in mice bearing sarcoma S-180 (Li et al., 2008). The cytotoxic effect was reported due to presence of higher content of flavonoids in fruiting body against

cancer cell (HL-60) in their *in vitro* studies with *P. ostreatus* extracts (Maiti et al., 2011). The antioxidant activity was mainly due to presence of polysaccharide pleuran (β -glucan) that has been isolated from *P. ostreatus* showing a positive effect on rat colon with pre-cancerous lesions (Bobek and Galbavy, 2001). The activities of important antioxidant enzymes viz superoxide dismutase, catalase and peroxidase are increased by *P. ostreatus*, thus reducing oxidative damage in humans (Yang et al., 2002). The analysis revealed that the total phenol contents showed major antioxidant components ranged from 9.55 to 16.8 mg/g in different mushrooms of *Cantharellus* species. Total phenols flavanoids, ascorbic acid were (16.80, 12.97, 11.40) (1.92, 1.78, 1.34), (1.10, 0.67, 0.48) mg/dl for *C. friessi*, *C. subcibarius*, *C. cinerius* respectively. β carotenoids (μ g/g) were (12.66, 13.70, 9.88) for the above *Cantharellus* species respectively. As compared to *P. florida* all the antioxidant compounds showed higher values (Deepika Kumari et al., 2011). Antioxidant activity DPPH% and polyphenol mg GAE/g was reported in *G. applanatum* (Hwang medium, Sorghum deposit medium, wine yeast medium). The antioxidant activity DPPH% and polyphenols mg GAE/g in *G. applanatum* and *F. velutipes* in the above media were reported as [(81.466, 68.348), (69.141, 41.209), (74.134, 64.331), (51.552, 33.350), (41.374, 61.805), (74.044, 125.121)] respectively. Alcoholic extracts of mycelia biomass obtained in medium prepared with wine yeast had a higher inhibitory activity compared to other two extracts. The concentration of polyphenolic compounds directly contributed to the antioxidant action (Fidler et al., 2015). β -D-glucan lentinan binds to lymphocyte surfaces activating macrophage, T-helper cells, natural killer cells (NK). These in turn activate the increase in production of antibodies, interleukins (IL-1, IL-2) and interferon (IFN- γ). They have the potential for therapeutic control over cancer (Bisen et al., 2010). The polyphenolic contents having antioxidant activities in Shiitake mushroom extracts increased as temperature and time increased. Heat treatment significantly increased the overall antioxidant activity of shiitake mushroom (Choi et al., 2006). Alkaloid, flavonoids and saponins were high in *Agaricus campestris* while phenolics were high in *Pleurotus sapidus* compared to other species. The antifungal, antimicrobial, antiviral and antioxidant properties were seen in the bioactive compounds (Hemeje, 2015). Protein bound polysaccharide was isolated

from *Inonotus obliquus* and was found to possess antioxidant effects (Chen *et al.*, 2010). Water soluble polysaccharides extracted from *P. citrinopileatus* fermentation broth have been shown to reduce the number of metastatic tumor nodules in tumor bearing mice (Wang *et al.*, 2005). Gandoeric acids A and C from *G. lucidum* are inhibitors of farnesyl protein transferase. This enzymes represent a potential therapeutic strategy for the treatment of cancer (Lee *et al.*, 1998). Anti-angiogenic activity of *A. blazei* Müll. was due to the polysaccharides (Takaku *et al.*, 2001). Antitumor activity may be due to triterpenes and ergosterol peroxide. High antioxidant and genoprotective effects on peroxidase catalysed oxidation of aminodiphenyls was due to melanin complex of *I. obliquus* (Bibitskaya *et al.*, 2002). Cytotoxic activities against tumor cells was due to many small molecular weight compounds such as illudins, tricyclic, sesquiterpenes from *Omphalotus olearius* (DC : Fr.) Singer and *Lampteromyces japonicus* (Kawam.) Singer and their derivatives (McMorris *et al.*, 1992). The terpenoid leaianafalven (Chang and Miles, 1992) from *Mycena leana* (Berk) Sacc (Harting *et al.*, 1990), triterpenes ganoderic acids Z, (Chang, 1996), Y, X, W, V, T; lucialdehydes A, B, C (Wasser *et al.*, 2000), and australic acid (Hawksworth, 2001), from *G. lucidum* (Gao *et al.*, 2002), acetoxyscipenediol, ergosterol peroxide from *P. tenuipes* (Nam *et al.*, 2001). D-glucan in the fruting body of polyporaceae family was responsible for antitumor activity (Ikekawa *et al.*, 1968). Twenty three species of mushrooms naturally grown in different geographic locations of India viz *Termitomyces mummiformis* Heim, *Morchella angusticeps* PK, *Sparassis crispa* Wulf fr., *Cantharellus cibarius* Fr., *Lentinus squarrosulosus* Mont, *Hyalinum repandum*, *Pleurotus Sajur-caju* (Fr.) Singer, *Gastrum arinarius* Lloyd, *Termitomyces heimii* Natarajan, *Lactarius sanguifluus* Peck, *Macrolepiota procera* (Scop. ex Fr.) Sing, *Russula brevipes* Peck, *Morchella conica* Pers, *Termitomyces shimperi* Heim, *Boletus edulis* Bull Fr., *Laetarius deliciosus* (L. ex Fr.) S.F. Gray, *Cantharellus clavatus* Fr., *Termitomyces tylerance* Heim, *Auricularia polytricha* (Mont.) Sacc., *Lentinus sajur-caju* (Fr.) Fr., *Helvella crispa* scap. Fr., *Termitomyces micro carpus* (Berk & Br.) Heim, *Pleurotus djimor* sacc were studied for their antioxidant activity (Antioxidant Index AI). Yield of water extract & methanolic extract was also studied. All the varieties exhibited antioxidant activity. *Termitomyces heimii* was identified as the best variety showing 100% AI with 37 mg of phenolics /g of

sample, 418 units of reducing power ability (RPA/g) and an IC₅₀ of ~1.1mg (dry weight)/mL, free radical scavenging activity (FRS) in the water extract followed by 11.2 mg of phenolics/g, 275 units of RPA/g and an IC₅₀ of ~2.7 mg (dry weight)/mL of FRS in methanolic extract (Netravathi *et al.*, 2006). The concentration of polyphenols, flavanoids, β-carotens and lycopene in aqueous and methanolic extracts of different parts in dried fruiting bodies as well as their reducing power and ability to scavenge ABTS cation radical from thirteen frequently consumed species of Polish mushrooms were determined. The concentration of antioxidants is different in different parts of the fruiting body of mushrooms (Robaszkiewicz *et al.*, 2010).

CONCLUSION

The literature published over the past decade supports the concept that certain mushrooms and mushroom extracts may have potent anticarcinogenic activity. Mushrooms appear to be good natural sources of antioxidants and could be of significance in human therapy. Further studies should be done on the isolation and characterization of new compounds from mushroom which are responsible for antioxidant activity. There is a need in the field for detailed information on the extraction procedure and if at all possible a through analysis of the chemical composition of the extract under investigation. Mushrooms contain a number of bioactive components such as polysaccharo-peptides, polysaccharide, proteins, glycoproteins, glucans, proteoglycans and others. Edible mushrooms can directly be consumed directly as food or the extract in the diet can be used to promote health. The potential immunotherapeutic implications of mushroom are enormous but detailed mechanisms of the various health benefits on human need to be investigated and more research to be done on commercial use of mushroom anticancerous and antioxidant drug for betterment of mankind.

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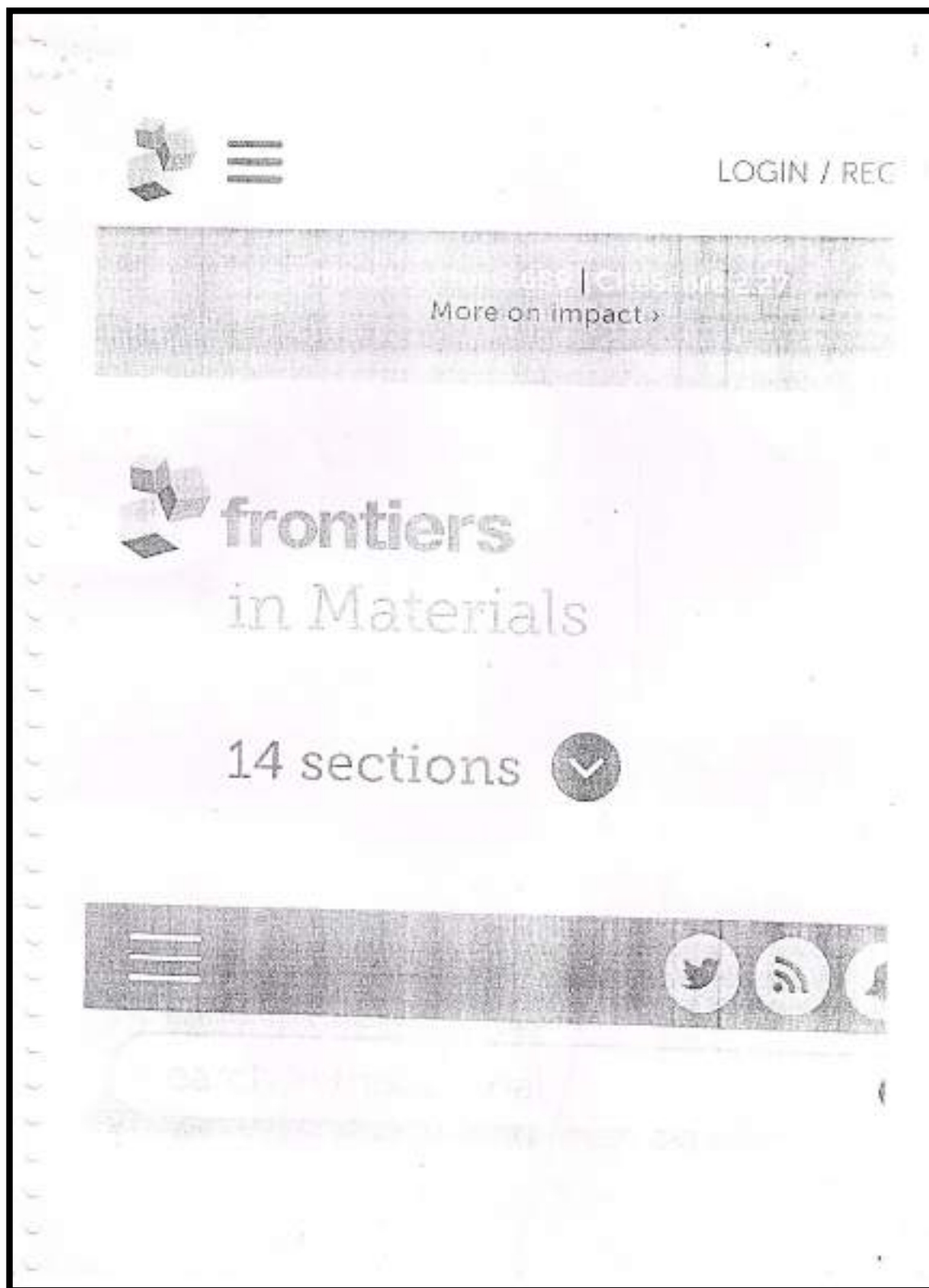
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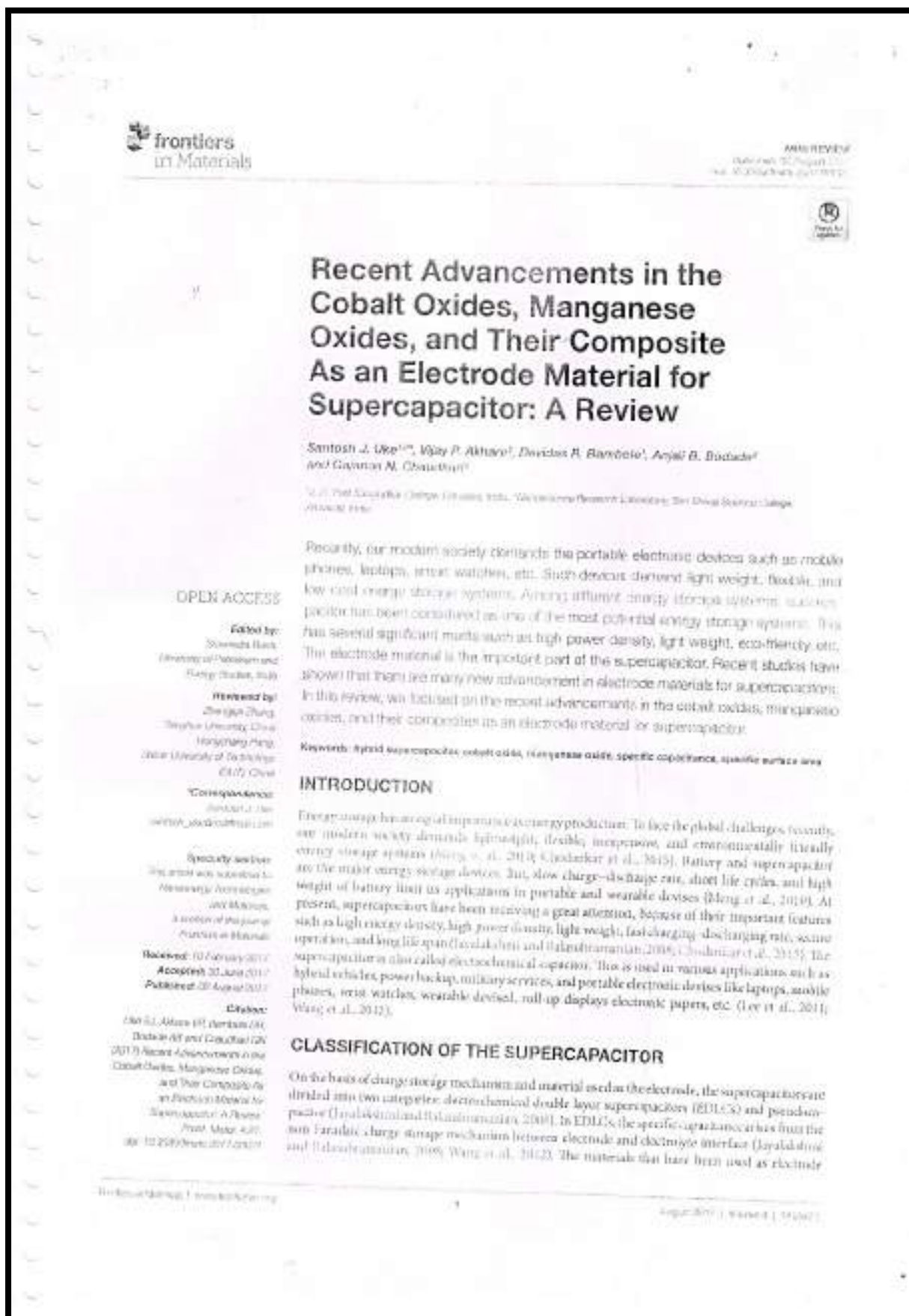
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Recent advancements in the cobalt oxides, Manganese oxides, and their composite as an electrode material for supercapacitor: A review –

Dr. D.R.Bambole





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

Sl. No.	Material	Method of synthesis	High surface area	Electrolyte	High Sp. capacitance	Retention	Year	Reference
1	GOx (GO) substrate	Electrochemical method	-	1M Na2SO4	345 fg ⁻¹ at 20 mV s ⁻¹	~50% after 100	2014	Tajmar et al., (2014)
2	Co2+/Co3+ doped graphene	Hydrothermal method	-	1M NaOH	4811 fg ⁻¹ at 0.7 A g ⁻¹	~4.0% after 1,000 cycles	2015	Ajmal et al., (2015)
3	Hydroxide and metal ion doped GOx (GOx) nanocomposites	Self synthesis method	300 m ² g ⁻¹	1M NaCl electrolyte	0.7 fg ⁻¹ at 1 A g ⁻¹	81% after 1,000 cycles	2016	Sharma et al., (2016)
4	Co3+/NiCo2O4 (oxide doped) nanocomposite	Hydro synthesis	-	1M Na2SO4	377 fg ⁻¹ at a current density of 5 A g ⁻¹	52.5% after 1,000 cycles	2015	Hu et al., (2015)
5	Nyctantran doped graphene (Co3+/NiCo2O4) nanocomposites	Electro synthesis method	-	1M Na2SO4	410 fg ⁻¹ at average density of 0.5 mA cm ⁻²	~40% after 1,000 cycles	2015	Hu et al., (2015)
6	GOx nanocomposites	Chemical deposited method	-	0.5M NaCl	374 fg ⁻¹ at 0.1 A g ⁻¹	61% after 1,000 cycles	2014	Sharma et al., (2014)
7	Ultrasound Co3+/NiCo2O4 substrate	Ultrasound assisted method	-	-	177 fg ⁻¹ at scan rate 1 mV s ⁻¹	100% after 20,000 cycles	2016	Li et al., (2016)
8	Co3+/NiCo2O4 (GOx)	Chemical precipitation	-	0.2 M Na2SO4	378 fg ⁻¹ at scan rate 2 mV s ⁻¹	95.6% after 4,000 cycles	2016	Ali et al., (2016)

for EDCs are porous carbon (Kang et al., 2010); SWNT (Lin et al., 2006); MWCNT (Huang et al., 2014); reduce graphene oxide (Zhang and Zhao, 2012); aerogel (Faraj and Ali, 2015), etc. In pseudocapacitor, the specific capacitance arises from faradaic reaction at the electrode interface. The materials that have been studied so extensively for pseudocapacitors are transition metal oxides and conducting polymers (Wang et al., 2011).

In particular, the specific capacitance of the supercapacitors depends on the surface area and the pore size distribution of the electrode material. Compared with the transition metal oxides and conducting polymers, carbon and its different types have high surface area (3,270 m²g⁻¹) (Kang et al., 2011). However, the high surface area of carbon is not completely accessible for the electrolyte (Haran and Am, 2015). To overcome this shortcoming, the composites of carbon with transition metal oxides or conducting polymer have received great attention. These composite are also called hybrid materials. The use of hybrid material as an electrode in supercapacitors result in the third category of supercapacitors called hybrid supercapacitor. In hybrid supercapacitors, the specific capacitance arises from Faradic as well as non-Faradic charge storage mechanism at the electrode and electrolyte interface (Zhang et al., 2013; Pardeh et al., 2015).

PARAMETERS FOR SUPERCAPACITOR

The specific capacitance (C) (F kg⁻¹), energy density E (Wh kg⁻¹), power density P (W kg⁻¹), and retention efficiency (η) are the crucial characteristics of the supercapacitor device. The (C) (F kg⁻¹) at the single electrode of the device is calculated given by:

$$C_s = \frac{1}{mV(V_{max} - V_{min})} \int i(v)dv \tag{1}$$

where m is the mass (g cm⁻²) deposited, I(v) is the response current (mA) of the electrode material for unit area, V is the scan rate, V_{max}-V_{min} is the operational potential window in (V), V_a anodic current, and V_c cathodic current. Energy density E (Wh kg⁻¹) and power density P (W kg⁻¹) of supercapacitor are calculated using following relations as,

$$E = \frac{0.5 \times C_s \times (V_{max}^2 - V_{min}^2)}{3.6} \tag{2}$$

$$P = \frac{E}{t_c} \tag{3}$$

where C_s is specific capacitance (F kg⁻¹), V_{max} and V_{min} are the maximum and minimum voltage achieved during charging and discharging process, respectively in volt (V), and t_c is the discharging time (s) for a cycle of the supercapacitor. The retention of specific capacitance is calculated using the relation,

$$\eta = \frac{t_c}{t_0} \tag{4}$$

where t_c and t₀ are the charge and discharge time (s), respectively, for a cycle of the supercapacitor (Wang et al., 2010; Dalal et al., 2012).

RECENT ADVANCES IN COBALT OXIDE SUPERCAPACITOR

The transition metal oxides have a great scientific significance. These are the basis of a variety of functional materials (Shinde et al., 2015). Among the various supercapacitor electrode materials, transition metal oxides offer high electronegativity, rich redox reactions, low cost, environmental friendliness, and excellent electrochemical performance. Different transition metal oxides such as NiO, RuO₂, Co₃O₄, MnO₂, Fe₂O₃, SnO₂,

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NiO etc., have been extensively studied as the electrode material for supercapacitor (Luo et al., 2014). Among these, RuO_2 has been identified as a dominant candidate because it has high theoretical specific capacitance ($1,358 \text{ Fg}^{-1}$), high electrical conductivity (300 S cm^{-1}), and high electrochemical stability (Yu et al., 2013). However, the high cost and toxicity associated with the RuO_2 limits its commercial applications (Cheng et al., 2011).

Furthermore, the cobalt oxides have received significant interest in recent years because of their low cost, non-toxic, easy synthesis, and environmental friendly nature. The cobalt oxides have high theoretical capacitance (CoO : $4,292 \text{ Fg}^{-1}$, Co_3O_4 : $3,360 \text{ Fg}^{-1}$) (Cheng et al., 2010; Yu et al., 2011). Additionally, cobalt oxides show excellent electrochemical behavior in alkaline as well as organic electrolyte. These have the ability to interact with the ions of the electrolyte at the surface as well as through the bulk of the material (Vijayakumar et al., 2013). The features of cobalt oxides such as morphology, structures, and dimension can be easily controlled via adjusting the preparative parameters such as, reaction temperature, reaction time, concentration of matrix solution, complexing agent, etc. (Wu et al., 2015a).

An optimum microstructure and controlled morphology of the material will enhance the specific surface area and pore size distribution, which facilitate the electrolyte ion transport in the material (Jhafer and Rao, 2011). Recently, many new approaches have been successfully in use to synthesize the meso and microporous nanostructure cobalt oxide materials such as hydrothermal method (Jhafer and Rao, 2011), chemical bath deposition method (Xu et al., 2010), hydrothermal precipitation method (Yu et al., 2009), solvothermal synthesis method (Yang et al., 2013), combustion synthesis method (Cheng et al., 2010), microwave-assisted synthesis method (Vijayakumar et al., 2013), etc.

The specific capacitance of the cobalt oxide strongly depends on morphology, surface area, and pore size distribution. Recently,

TABLE 2 | MnO₂-based supercapacitor

Sr. no.	Material	Method of synthesis	High surface area	Electrolyte	High Sp. capacitance	Retention	Year	Reference
1	Manganese oxide (MnO ₂)/graphene composite (FC, reduced) porous MnO ₂ /G	Reverse intercalation hydrothermal	$147 \text{ m}^2 \text{ g}^{-1}$	0.1 M NaOH	700.9 Fg^{-1} at 0.2 A g^{-1}	87.8% after 1,000 cycles	2015	Yu et al. (2015)
2	Graphene/MnO ₂ composite	Hydrothermal method, followed by electrochemical deposition		0.1 M NaOH	342 Fg^{-1} at scan rate of 10 A g^{-1}	80.6% after 3,000 cycles	2015	Yu et al. (2015)
3	Mn porous (2D) MnO ₂ composite	Hydrothermal synthesis followed by electrochemical deposition technique	$209.40 \text{ m}^2 \text{ g}^{-1}$	0.1 M NaOH	1623 Fg^{-1} at the current density of 1 A g^{-1}		2015	Yu et al. (2015)
4	Cobalt hexammine complex MnO ₂	Co-precipitation and reduction method	$670 \text{ m}^2 \text{ g}^{-1}$	0.1 M NaOH	61.6 Fg^{-1} at a current density of 1 A g^{-1}	87% after 5,000 cycles	2015	Yu et al. (2015)
5	A MnO ₂ /graphene (oxide MnO ₂)/graphene porous structure hybrid film	A facile solution infiltration and electrochemical deposition		0.1 M NaOH	$2,417 \text{ Fg}^{-1}$ at a scan rate of 0.1 mV s^{-1}	90.3% after 1,000 cycles	2015	Yu et al. (2015)
6	Three-dimensional carbon nanotubes (CNTs)/graphene nanofibers	A facile shape chemical vapor deposition (CVD) and hydrothermal synthesis	$127.3 \text{ m}^2 \text{ g}^{-1}$	0.1 M NaOH	$2,055.0 \text{ Fg}^{-1}$ at a current density of 0.1 A g^{-1}	93.2% after 5,000 cycles	2014	Yu et al. (2014)
7	MnO ₂ /graphene composite	Graphene synthesis by organic synthesis and MnO ₂ electrodeposited by electrochemical	$163 \text{ m}^2 \text{ g}^{-1}$	0.1 M NaOH	431 Fg^{-1} at 2 A g^{-1}	95% after 50,000 cycles at $1,000 \text{ mV s}^{-1}$	2014	Yang et al. (2014)
8	Manganese oxide nanowires	Electrochemical deposition		0.1 M NaOH	770 Fg^{-1} at 1 A g^{-1}	92% after 1,000 cycles	2015	Jiang et al. (2015)
9	MnO ₂ on graphene	Synthetic method		0.1 M NaOH	110 Fg^{-1} at a current density of 0.1 A g^{-1}	87% retained after 2,000 cycles at 1 A g^{-1}	2013	Yu et al. (2013)
10	MnO ₂ nanofibers on flexible carbon fiber fabric	Hydrothermal synthesis, the dried material of the carbon fiber fabric between carbon and MnO ₂	$310 \text{ m}^2 \text{ g}^{-1}$	0.1 M NaOH	140.73 Fg^{-1} at 2 A g^{-1}	94.2% retained after 2,000 cycles	2015	Yu et al. (2015)

Yu et al. (2015a) | www.intechopen.com

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use of new synthesis approaches, surface modifying agents, complexing, and structure directing agents results in high specific capacitance, which is equal to the theoretical specific capacitance of cobalt oxide. In this review paper, we have focused the recent advancements in the cobalt oxides and their composites as the electrode material. Table 1 shows the preparation and electrochemical performance of cobalt oxides and their composites based supercapacitors.

RECENT ADVANCES IN MANGANESE OXIDE SUPERCAPACITOR

Manganese (Mn) has different oxidation states. Out of these, the most stable oxidation states are Mn (II) and Mn (IV). The Mn (II) forms MnO, on the other hand, Mn (IV) forms MnO₂ and Mn₂O₃. The MnO₂ has α, γ, and β-type polymorph (Chen et al., 2014; Salunkhe et al., 2013). The advantages of manganese-based metal oxides include low cost, low toxicity, natural abundance, and environmental friendly in nature (Sun et al., 2015; Wei et al., 2015). In aqueous and organic electrolyte, the MnO, Mn₂O₃, and MnO₂ can form the different oxidation states. Thus, it results in the high-specific capacitance. The highest reported theoretical specific capacitance of MnO₂ is 3.370 Fg⁻¹ (Gao et al., 2015a; Wei et al., 2015). However, the low electrical conductivity and large volume change during the charge-discharge process result in the unsatisfactory rate performance and cyclic stability. In consequence, this reduces the specific capacitance of the manganese oxide-based supercapacitors (Cabanis et al., 2010; Chen et al., 2010). To overcome such hindrances, recently, the researchers have been executing many new strategies, such as use of carbon containing materials for increasing the electrical conductivity and adopt the volume buffers for relaxing internal stresses (Yao et al., 2008; Sun et al., 2013). Manganese oxides have been prepared by various synthesis methods, such as pulse laser deposition method (Xie et al., 2011), hydrothermal method (Zhang et al., 2014), electrochemical synthesis method (Jiang and Kuznetsov, 2012), selenite deposition method (Jordjida and Belanger, 2009), successive hydrolysis-coordination method (Sawaguchi and Litnanski, 2012), etc. Further, the detail of MnO₂ synthesis and their supercapacitive performance are shown in Table 2.

CONCLUSION AND FUTURE PROSPECTIVE

Recently, cobalt- and manganese-based metal oxide as the electrode materials for supercapacitor have been receiving the great attention. From the recent reports, it has concluded that,

- (i) Advanced chemical method such as hydrothermal, pulse laser deposition, reverse microemulsion, microwave-assisted, etc. has been adopted to synthesize cobalt- and manganese-based metal oxide material.
- (ii) The specific capacitance of the cobalt oxide- and manganese-based metal oxide supercapacitor strongly depends on morphology, surface area, and pore-size distribution.
- (iii) In most of the reports, the composites of cobalt oxide or manganese oxide with carbon material, i.e., hybrid materials are used as an electrode for supercapacitor. Moreover, this results in high-specific capacitance.
- (iv) In addition, the increase in conductivity of the cobalt oxide and manganese oxides is projected if this material and carbon material are combined. This makes the application of cobalt oxide and manganese oxides in high energy applications. As a result, the proposed material cobalt oxides and manganese oxide are a promising material for flexible, portable high-rate hybrid supercapacitor, and has plenty room for advancement.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

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Cost effective synthesis of spinel Ni Co₂O₄ nanocrystal by sol-gel citrate method and its application for supercapacitor –

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Cost effective synthesis of spinel NiCo₂O₄ nanocrystal
by sol-gel citrate method and its application for
supercapacitor

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Abstract

In the present investigation, nanocrystalline spinel NiCo₂O₄ was synthesised by simple and cost effective sol-gel citrate method. Synthesized NiCo₂O₄ was characterized by using different characterization techniques. The electrochemical supercapacitive performance study shows that NiCo₂O₄ exhibits high specific capacitance of 342 Fg⁻¹ in 1 M Na₂SO₄ electrolyte with good stability. The further EIS analysis implies low ESR value with excellent frequency response of nanocrystalline NiCo₂O₄. Thus present study successfully conveys the applicability of easy and cost effective sol-gel citrate method for synthesis of nanocrystalline NiCo₂O₄ to be utilised for supercapacitor.

Keywords: supercapacitor, specific surface area, impedance spectroscopy, specific capacitance

1. INTRODUCTION

Due to the concerns about the depletion of fossil fuel, global warming issues and increasing demand of energy, the development of alternate energy storage resources with high power and energy capacity is of particular interest [1,2]. Among the various energy storage resources, supercapacitor, have attracted immense attention because many attractive properties, such as high energy density, fast charging-discharging and long cycle life [1]. The electrode material is an important part of supercapacitor. At present, the use of nanomaterials as the electrode of supercapacitors has attracted

great interest since they have shown higher power, energy densities and specific surface area than the respective bulk material [3]. The conductivity of the material directly influences the charge stored on the electrodes [4]. The binary transition metal oxides have a much higher electrical conductivity as compared to single transition metal oxides. The binary metal oxides such as NiCo_2O_4 , MnCo_2O_4 , ZnCo_2O_4 , CuFe_2O_4 , CoFe_2O_4 , ZnMn_2O_4 have been extensively studied for the electrode material in supercapacitor [5]. Among the binary metal oxides, NiCo_2O_4 is considered as a very promising electrode material for supercapacitor because of its good electrical conductivity, low cost, non toxicity and great flexibility in the structures and morphology [6,7].

This letter is aimed at presenting a more systematic report on the applicability of easy and cost effective sol- gel citrate method for synthesis of nanocrystalline NiCo_2O_4 to be utilised for supercapacitor. The specific capacitance of the supercapacitor can be enhanced by increasing the surface area of synthesized material. There are different methods of synthesis of NiCo_2O_4 [8,9], out of these different methods of synthesis of nanocrystalline NiCo_2O_4 , sol- gel citrate method is simple, cost effective and results in high surface area nanocrystals with desire morphology [10].

2. EXPERIMENTAL

Nanocrystalline NiCo_2O_4 was synthesised by using sol-gel citrate method. Nickel nitrate and cobalt nitrate were used as starting materials. A stoichiometric mixture of nitrates was mixed with citric acid and ethanol and stirred magnetically at 80°C for 3 h to obtain a homogenous mixture. The solution was further heated at the pressure vessel at about 130°C for 3h. The dried powder was then calcined at temperatures from 350°C to 750°C . Electrode was fabricated by dispersing the nanocrystalline powder of 95 weight % NiCo_2O_4 in dimethyl formamide as a solvent and 5 wt % Poly (Vinylidene fluoride) (PVDF) as binder, homogeneous gel formed deposited on stainless still as a substrate via bath deposition method. The electrochemical test of the sample was conducted using a three electrode system in 1 M Na_2SO_4 using a CHI 604e electrochemical workstation. The stainless still supported composite was directly used as working electrode with platinum plate counter electrode and Ag/AgCl as a reference electrode.

3. RESULT AND DISCUSSION

Fig 1(a) shows XRD pattern of nanocrystalline NiCo_2O_4 synthesised by sol- gel citrate method. It is seen that XRD pattern exhibits major peaks reflecting along the (311), other peaks corresponding to (111), (220), (400), (401), (422), (511) and (440) planes observed with a lower intensity. The XRD pattern of nanocrystalline NiCo_2O_4

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is in good agreement with that of the standard pattern for NiCo₂O₄ (JCPDF File 20-0781) [11]. The result indicates that as prepared NiCo₂O₄ has spinel structure with polycrystalline in nature. The average crystalline size of NiCo₂O₄ is calculated by Deby-Scherrer formula [12] (1) and it is found to be 19 nm.

$$D = \frac{0.9 \lambda}{\beta \cos \theta} \quad (1)$$

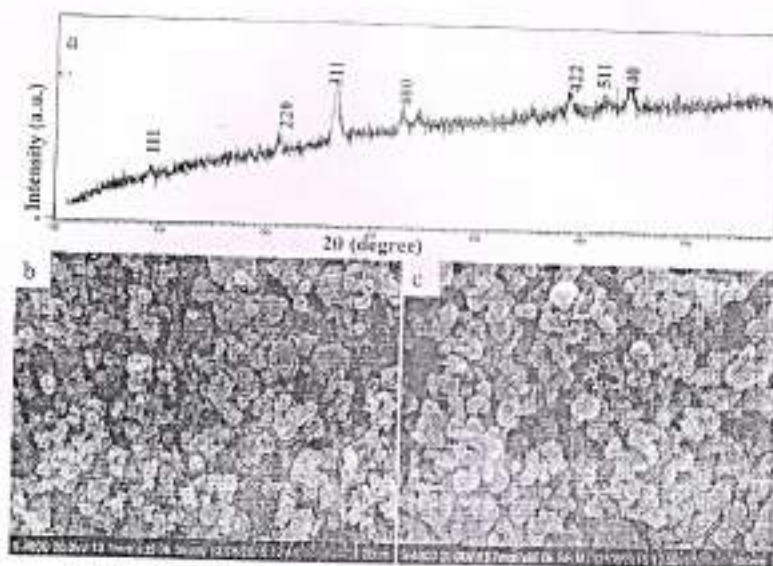


Fig.1. (a) XRD spectra, (b) and (c) FESEM micrograph

The morphology of NiCo₂O₄ is investigated by Field emission scanning electron microscopy (FE-SEM). Fig 1 (b) and (c) represent the FE-SEM micrographs of nanocrystalline NiCo₂O₄ at two different magnifications. From Fig 1 (b) and (c), it is seen that the random shaped aggregates and agglomeration clusters of NiCo₂O₄, the approximate size of which is about 38-68 nm. It is also seen that the size of nanocrystals are uniform, rough and porous with smaller particles suggesting high surface area.

The optical absorption spectrum in the range of 250-280 for NiCo₂O₄ is shown in Fig 2 (a). Inset of Fig 2 (a) shows the plot of photon energy (hu) versus (ahu)², which is linear at the absorption edge conforms the material has a direct band gap. The optical band gap value of nanocrystalline NiCo₂O₄ estimated from classical relation equation (2) and it is found out to be 4.9 eV.

$$\alpha = \frac{A(h\nu - E_g)}{hv} \quad (2)$$

Thermogravimetric and differential thermal analysis (TG-DTA) in the temperature range between room temperature and 700°C were carried out on the nanocrystals of NiCo₂O₄ to investigate their thermal behaviour. The corresponding pattern is illustrated in Fig 2 (b). It is seen that, there is no much weight loss is observed with the increase in temperature. This is due to the material was calcined at 550°C and the contained impurities like moisture, structural water, nitrate, CO₂ etc. was already decomposed. The total weight loss is found to be 1.6%. This study confirms that the NiCo₂O₄ is thermally stable at higher temperatures and can be applied as the electrode material for supercapacitor at variable temperature applications.

The specific surface area of nanocrystalline NiCo₂O₄ has been measured through employing Brunauer-Emmett-teller (BET) method. To study surface area and porosity of nanocrystalline NiCo₂O₄ the N₂ adsorption-desorption isotherm has been carried out. The corresponding pattern is illustrated in Fig 2 (c) and (d). Fig 2 (c) shows the isotherm with a distinct hysteresis loop in the range of 0 to 1 and at relative pressure P/P_0 . The observed hysteresis loop shifts to higher relative pressure on approaching $P/P_0 = 1$, that suggests the hierarchical mesoporous structure of NiCo₂O₄. The pore size distribution and pore volume of NiCo₂O₄ are estimated using the Barrett-Joyner-Halenda (BJH) method. Fig 2 (d) shows the pore size distribution of NiCo₂O₄ at the amount of nitrogen absorbed at $P/P_0 = 0.98595$. BET surface area of the NiCo₂O₄ is 22.011 m²/g and a corresponding pore volume is 0.0303 cm³/g. These results are in good agreement with the literature

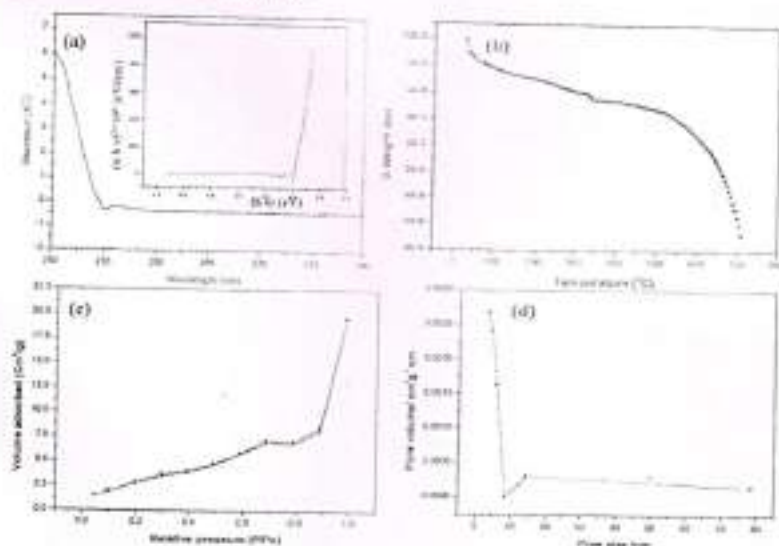


Fig 2 (a) UV- Visible spectra, inset shows the variation of photon energy ($h\nu$) vs $(h\nu)^2$, (b) Thermal analysis (c), N₂ adsorption desorption isotherm and (d) pore size distribution

To estimate the electrochemical behaviour of nanocrystalline NiCo₂O₄, Fig 3 (a) gives the cyclic voltammogram curves for nanocrystalline NiCo₂O₄ electrodes in the potential of -0.3 to 0.6V at scan rates 1, 10 and 100 mVs⁻¹ in 1M Na₂SO₄ electrolyte. Compared with the curves at different scan rates, all curves shows the pair of oxidation and reduction peaks, which indicates that the current potential response was potential dependant and pseudocapacitance mainly derived from redox reaction of nanocrystalline NiCo₂O₄ electrodes. It was found that the current responses as a function of scan rates and the slowly increased with the increase scan rate. This shows that the voltammogram currents are directly proportional to scan rates of CV. This indicates an ideally capacitive behaviour [13].

The NiCo₂O₄ electrode exhibits specific capacitance of 342 Fg⁻¹, 248 Fg⁻¹ and 13.3 Fg⁻¹ at 1 mVs⁻¹, 10 mVs⁻¹ and 100 mVs⁻¹ scan rates respectively. The maximum specific capacitance and energy density was calculated to be 342 Fg⁻¹ and 12.35 W h Kg⁻¹ at scan rate 1mVs⁻¹. Fig 3(b) represents the variation of scan rate with the specific capacitance. As the scan rate increases, the specific capacitance decrease, which is distinctive for electrochemically active NiCo₂O₄. As shown in fig 3 (b) the specific capacitance decreases from 342 Fg⁻¹ to 13.3 Fg⁻¹. Such behaviour of supercapacitor is due to diffusion effects of protons within the electrodes and presence of inner active sites that cannot sustain the redox transition completely at higher scan rates[14].

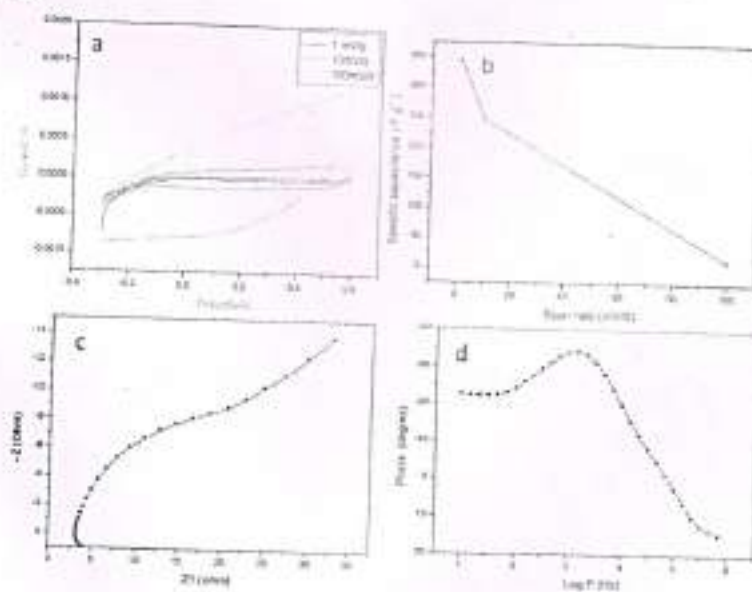


Fig 3 (a) cyclic voltammogram curve, (b) effect of scan rates on specific capacitance (c) Nyquist plot and (d) Bode plot

Impedance spectroscopic analysis of material was carried out in the frequency range 1 Hz to 1 MHz. Fig.3 (c) and (d) shows the Nyquist plot (real part vs. imaginary part of impedance) and Bode plots (frequency vs. phase angle) of nanocrystalline NiCo_2O_4 respectively. The intercept of the Nyquist plots to the real axis represents equivalent series resistance (R_s) which involves the electrolyte resistance, the intrinsic resistance of the electrode material and the contact resistance of active material to the current collector. The semicircle in the high frequency region gives the charge transfer resistance (R_{ct}), it is related to the internal resistance of the electrode and the double layer capacitance (C_{dl}). The charge transfer resistance (R_{ct}) was calculated by measuring the diameter of the semicircle. [15]. From fig 3 (c) equivalent series resistance (R_s) and charge transfer resistance (R_{ct}) of NiCo_2O_4 supercapacitor were found to be 4.7Ω and 15.2Ω respectively. The response-time data are calculated from Bode plot (*frequency Vs Phase*). Fig.3 (d) shows the Bode plot for electrode. These data follow the same trend as internal-resistance values. The ion-diffusion pathway through the layer of porous matrix is responsible for shorter response time [16]. The response time of NiCo_2O_4 is found to be less at a constant phase angle.

4. CONCLUSION

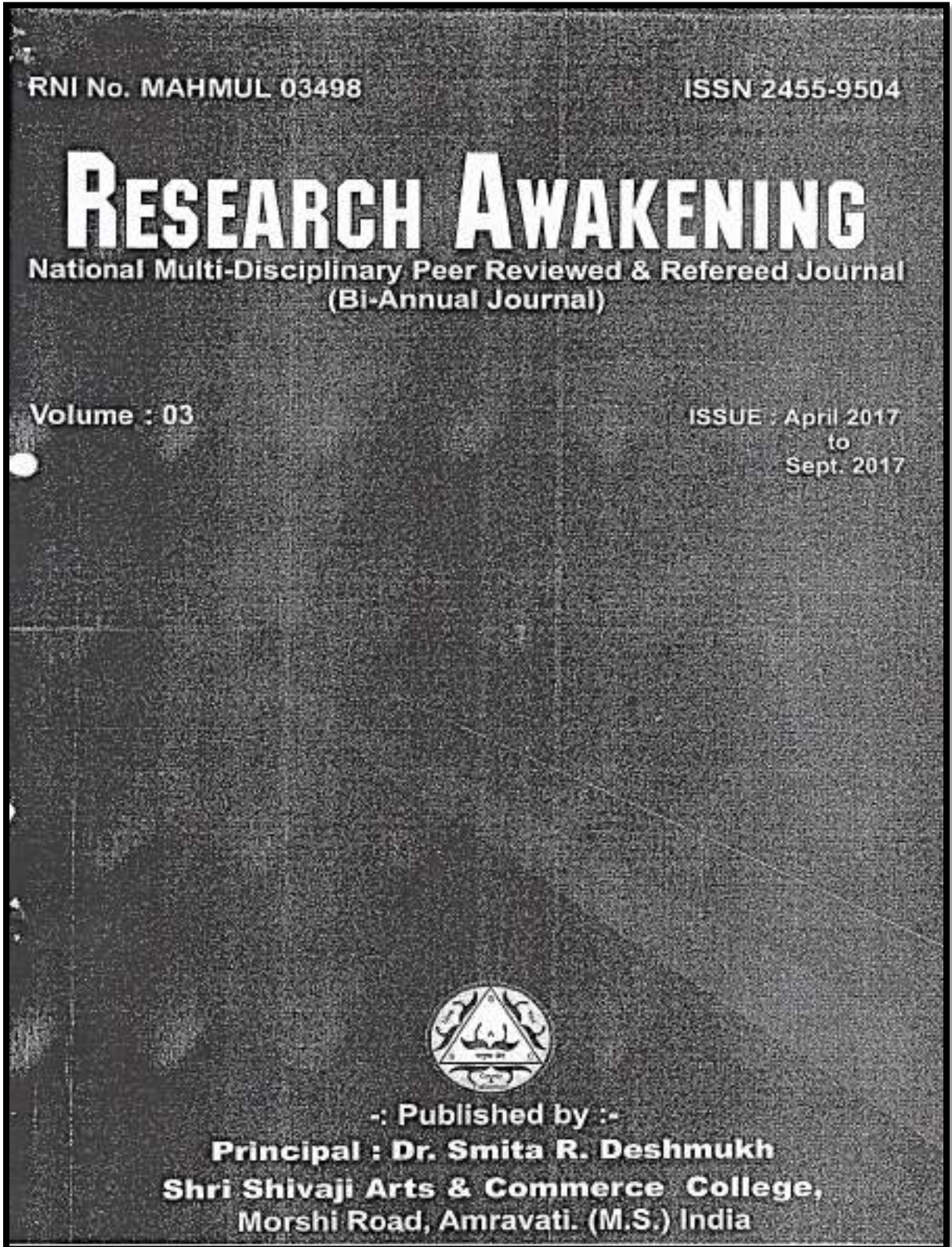
In summary, we have successfully synthesised nanocrystalline NiCo_2O_4 by cost effective sol-gel citrate method. BET surface area and corresponding pore volume of NiCo_2O_4 were found to be $22.011 \text{ m}^2/\text{g}$ and $0.0303 \text{ cm}^3/\text{g}$ respectively. The highest specific capacitance and energy density at scan rate 1 mVs^{-1} were achieved to be 342 Fg^{-1} and 12.35 Wh Kg^{-1} respectively. ESI study shows the low values of equivalent series resistance and charge transfer resistance are favourable for an increase in the value specific capacitance of NiCo_2O_4 . Thus the results suggest that the sol-gel citrate method can serve as promising synthesis method for preparation of NiCo_2O_4 for high performance supercapacitor.

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प्रस्तावना :

आज देशात कौटुंबिक, सामाजिक, आर्थिक आणि सांस्कृतिक अशा विविध क्षेत्रात महिला विशेष कामगिरी करत असल्या तरी राजकारणात मात्र पिचाडीवर असलेल्या दिसतात. राजकारणातील पिचाडी भरूण काढण्यासाठी आरक्षण ह्या साधनाचा आधार घेतला गेला. १०८ वी घटनादुरुस्ती करणारे विधेयक महिला आरक्षण विधेयक या नावाने परिचित आहे. लोकसभा आणि विधानसभामध्ये १/३ जागा महिलांसाठी आरक्षित कराव्यात, हे आरक्षण चक्राकार पद्धतीने निश्चित करावे. अनुसूचित जाती आणि जमातीसाठी राखीव असलेल्या जागांपैकी १/३ जागा संबंधित जाती-जमातीतील महिलांसाठी आरक्षित कराव्यात असा हा कायदा होता. हा कायदा अस्तित्वात आल्यानंतर १५ वर्षानंतर आरक्षण रद्द करण्यात यावे अशा विविध तरतुदींचा प्रस्ताव या विधेयकाद्वारे मांडण्यात आला आहे. हे विधेयक ६ मे २००८ रोजी राज्यसभेत सादर करण्यात आले आणि ९ मार्च २०१० रोजी या विधेयकाला राज्यसभेने मान्यता दिलेली आहे. पण या विधेयकाला लोकसभेने अजून मान्यता दिलेली नाही.

घटनादुरुस्ती विधेयक :

१९२ वे घटनादुरुस्ती विधेयक २४ नोव्हेंबर २००९ मध्ये लोकसभेत मांडण्यात आले होते. यानुसार राज्यघटनेतील कलम २४३ टी मध्ये दुरुस्ती प्रस्तावित आहे. नागरी शहरी स्थानिक संस्थामध्ये एकूण जागांपैकी आणि अध्यक्षपथच्या एकूण जागांपैकी ५० टक्के जागा (सध्या १/३) महिलांसाठी आरक्षित करणे, तसेच शहरी

स्थानिक संस्थामध्ये अनुसूचित जाती व जमातीसाठी राखीव असलेल्या जागांमध्ये ५० टक्के प्रतिनिधीत्व संबंधित जाती जमातीतील महिलांसाठी आरक्षित करण्याचा प्रस्ताव या विधेयकात आहे. हे विधेयक मंजूर झाले असून संसदीय स्थायी समितीकडे परीक्षणासाठी पाठविण्यात आले आहे. समितीचे अध्यक्ष शरद यादव आहेत. पण या विधेयकास राष्ट्रीय जनता दल, समाजवादी पक्ष आणि बहुजन समाजपक्ष यांचा विरोध आहे.

महिलांसाठी आरक्षण :

महिलांसाठी आरक्षण अन्य देशांमध्येही आहे. नेपाळ ३३% पाकिस्तान २२, रवांडा ५६, ऑस्ट्रेलिया २७ स्वित्झर्लंड २८, जर्मनी ३३, स्पेन ३६ बांगलादेश १४, फ्रान्स १८.०५, फिलीपिन्स २१, ब्रिटन २० आणि स्वीडनमध्ये ४७ जागा महिलांसाठी राखीव असून अधिकाधिक महिलांनी राजकारणात सक्रिय सहभागी व्हावे असेच प्रयत्न सर्वत्र आहे. १९९० नंतर महिला आरक्षणाचा प्रश्न ऐरणीवर आला तेव्हापासून महिलांमध्ये राजकीय जागृती होऊन राजकीय क्षेत्रातील त्यांच्या सहभागाचे प्रमाणही चढत्या क्रमाने वाढलेले दिसते.

स्थानिक राजकीय संस्थामध्ये महिलांचे स्थान :

महाराष्ट्र स्थानिक राजकीय संस्थामध्ये ३३, महिलांना आरक्षण लागू करण्यात आघाडीवर होता. पण दुसऱ्या बाजूला २०१४ च्या विधानसभेत फक्त १९ महिला असून विधान परिषदेमध्ये ६ महिला आहेत. मात्र स्थानिक राजकारणात महिला ३३ टक्क्यांपेक्षा अधिक संख्येने सहभागी आहेत. महाराष्ट्रात ३३ जिल्हा परिषद असून तेथे ६७५ महिला निवडून आलेल्या आहेत. तर तालुका पंचायतीत १,३७२ महिला निवडून आलेल्या आहेत. ग्रामपंचायतीच्या सदस्य म्हणून ७५,९५० महिला निवडून आलेल्या आहेत. त्यापैकी ९,४४८ अ.जा. महिला आहेत. स्थानिक स्वराज्य संस्थेत ५० टक्के महिलांना आरक्षण मिळाल्याने स्थानिक राजकारणातला निर्णयप्रक्रियेतील महिलांचा सहभाग वाढला असला तरी विधानसभा व लोकसभेतला

त्यांचा सहभाग नगण्य असलेला दिसतो) (देश व राज्य पातळीवर महिला नेतृत्व वाढण्यासाठी अधिक प्रयत्नांची आवश्यकता आहे.)

महाराष्ट्रातील बीड जिल्ह्यातील वडवणी तालुक्यातील डुकरे गावात गेली १५ वर्षे ग्रामपंचायतीचे संपूर्ण पॅनेल महिलांचे आहे. या गावात पक्के रस्ते, नळाद्वारे पाणीपुरवठा, वीज आणि दवाखाने या सोयी महिलांनीच आणल्या आहेत. महिला बहुसंख्येने स्थानिक स्वराज्य संस्थेत निवडून येत असल्या तरी अनेक ठिकाणी महिलांच्या वतीने पुरुषमंडळी कामकाज बघतात. यावर नियंत्रण ठेवणे गरजेचे आहे. तसेच या महिलांना आवश्यक ते प्रशिक्षण देण्याची गरजही पंचायत राजव्यवस्थेने संसदीय समितीने केलेली आहे. गावात दारूबंदी करण्यासाठी ग्रामसभेत ठराव घेण्याऐवजी गावातील २५% महिला जिल्हा उत्पादन शुल्क कार्यालयात थेट निवेदन सादर करू शकणार आहेत. पूर्वी दारूबंदीसाठी ५०% महिलांच्या बहुमताची अट होती.

प्रगत समजल्या जाणाऱ्या महाराष्ट्र राज्यात मुलींचा जन्मदर दिवसेंदिवस कमी होत असल्याने गर्भलिंग परीक्षण करण्याच्यावर कठोर कारवाई करण्याचे आदेश शासनाने दिले आहेत. रेशन दुकानांमधील भ्रष्टाचाराला आळा बसावा यासाठी दुकानांचे परवाने महिला बचत गटांना देण्याची सूचना सर्वोच्च न्यायालयाने केली आहे. छत्तीसगड सरकारने विनयभंग करणाऱ्या खाजगी दुकानधरांचे परवाने रद्द करून त्यांची दुकाने महिलांकडे सुपूर्द केली आहेत. तसेच महिलांना दुकानासाठी ७० हजार रुपयांचे कर्जही उपलब्ध करून दिले आहे.

केरळ राज्यातील पंचायत राज हे देशातील मॉडेल बनले आहे. राज्याच्या अर्थसंकल्पात महानगर पालिकेचा अर्थसंकल्प असतो तसाच ग्रामपंचायतीचाही असतो. तिथे अनेक ग्रामपंचायतींवर महिला निवडून आल्या असून ग्रामविकासाचा त्यांचा वाटा मोलाचा आहे. बचतगटांच्या धर्तीवर तेथे कुटुंबश्री हे महिलांचे संघटन सुरू झाले आहे. आज राज्यातील ३७ लाख महिला या अभियानात सहभागी झाल्या आहेत. निराधार व्यक्तींना देण्यात येणारे अर्थसाह्य आता परित्यक्ता महिला,

देवदासी व तृतीयपंथीयांनाही मिळणार आहेत. आत्महत्या करणाऱ्या शेतकऱ्यांच्या पत्नीस संजय गांधी निराधार अनुदान योजनेतुन अर्थसहाय्य मिळणार आहे.

जागतिक राजकारणात महिलांचा प्रभाव :

जागतिक राजकारणातही महिलांनी आपल्या कर्तृत्वाने वेगळा ठसा उमटवला आहे. ब्राझीलच्या अध्यक्षपदी दिलमा रौसेफ यांची निवड करण्यात आली. हुकूमशाही राजवटीला विरोध करत कारावास भोगलेल्या दिलमा रौसेफ यांनी ब्राझीलची अ- भांडवलशाही अर्थव्यवस्था अधिक भक्कम करण्याचे आश्वासन दिले आहे. कॅलिफोर्नियाच्या ॲटर्नी जनरल पदावर कमला हॅरीस या भारतीय वंशाच्या महिलेची प्रथमच निवड झाली आहे. तर भारतीय वंशाच्या निकी रंधवा हॅले या दक्षिण कॅरोलिनाच्या राज्यपाल म्हणून निवडून आल्या. त्या अमेरिकेतील पहिल्याच भारतीय वंशाच्या महिला राज्यपाल आहेत.

ब्रिटनच्या सार्वत्रिक निवडणुकीत आशियाई वंशाच्या महिला पहिल्यांदाच संसदेवर निवडून गेल्या आहेत. यात भारतीय वंशाच्या प्रीती पटेल वॅलरी वाझ यांच्यासह ब्रिटनमधील पहिल्या मुस्लिम खासदार शबाना महमूद, यास्मिन कुरेशी, रूखसाना अली यांची संसदेत निवड झाली आहे. म्यानमारमधील लष्करी राजवट मोडून काढण्यासाठी सतत संघर्ष करणाऱ्या आंग सान स्यू की यांना २० वर्ष नजरकैद भोगावी लागली संयुक्त राष्ट्र संघटनेनेही त्यांच्या सुटकेसाठी प्रयत्न केले होते. २०१० मध्ये म्यानमार सरकारने त्यांची सुटका केली. लोकशाही स्थापनेसाठी लष्करशाहीच्या विरोधात त्यांनी दिलेली झुंज गौरवास्पद आहे. ऑस्ट्रेलियाच्या पंतप्रधानपदाची सूत्रे जुलिया गिलार्ड यांनी स्वीकारली आहेत.

पुरुषांचे वर्चस्व असलेल्या राजनय क्षेत्रातही अनेक महिला स्वतःचे कर्तृत्व गाजवत आहेत. अमेरिकेतील विविध देशांच्या १८२ दूतावासांतील २५ दूतावासांच्या प्रमुख राजदूत महिला आहेत हा आतापर्यंतचा विक्रम असल्याचे अमेरिकेच्या परराष्ट्र खात्याने म्हटले आहे.

आज जग एक खेडे बनलेले आहे. या खेड्यातील जागतिकीकरणातही महिलांचे स्थान दुय्यम राहिलेले आहे. कारण या जागतिकीकरणामध्ये उपभोगवादाचीच चलती आहे. त्यामुळेच ८ मार्चला महिला दिन कष्टकरी स्त्रियांच्या लढ्यातून निर्माण झालेला असला तरी तोही आता सौंदर्यप्रसाधनांच्या बलाढ्य बहुराष्ट्रीय कंपन्यांनी प्रायोजित करायला सुरुवात केली आहे. त्याचे मुळ स्वरूप आणि महत्त्व हे उत्सवाच्या आवरणात झाकून टाकले जात आहे. प्रसारमाध्यमातून स्त्रीच्या होणाऱ्या चित्रणातून उपभोगवादाचाच प्रसार होतो आहे. प्रत्येक क्षणी स्त्रीला सुंदर-दिसण्याची सक्तीच केली जात आहे. (उपभोगवादाच्या या जागतिकीकरणाने स्त्रीचे दुय्यमत्व नाहीसे होणारे नाही. म्हणून गरज आहे ती जगण्याकडे, सामाजिक पर्यावरणाकडे चिकित्सकपणे पाहण्याची. समाजात आपण बदल घडवू शकतो या आत्मविश्वासाची. त्यासाठी आवश्यक असलेल्या वैचारिक मंथनाला चालना देणारी प्रक्रिया हीच खऱ्या अर्थाने व्यापक जागतिकीकरणाची वाटचाल असेल.

संदर्भ :

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New Challenges in Water Management by introducing polymer membrane for canal lining against conventional CC living –

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New challenges in water management by introducing polymer membrane for canal lining against conventional C.C. Lining

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ABSTRACTS

Water is the most important necessity of life. According to the U.N. the global water consumption will increase by 30% by 2030 due to population growth and increased wealth. In irrigation department the traditional method of water saving in canal work in C.C. lining. This paper provides alternative for water saving by providing HTCP polymer membrane against C.C. lining with successful result in cutting 90% the percolation/seepages and evaporation losses through canal and cost effective by 2.5 times less to total cost of C.C. lining and thus changes to green revolution through eco-friendly polymer membrane in national development and contribute to human poverty reduction, health and economic prosperity.

Keywords : Irrigation, Canal, Seepage, Evaporation losses, Polymer membrane, C.C. lining

Introduction

Water is scarce but essential resource that it under increasing pressure. According to the UN the global water consumption will increase by 30% percentage by 2030 due to population growth and increased wealth. It has therefore never been more important to find new solution and climate changes only increase the proper management of water resources.

In most urban areas, population increasing rapidly and the issue of supplying adequate water to meet societal needs and to ensure equity in access to water in one of the most urgent and significant challenges faced by decision makes.

With respect to the physical alternatives to fulfill sustainable management of water, there are two solutions : finding alternate or additional water resources using conventional centralized approaches

or better utilizing the limited amount of water resources available in more efficient way. To date much attention has been given to the first option and only limited attention has been given to optimizing water management system.

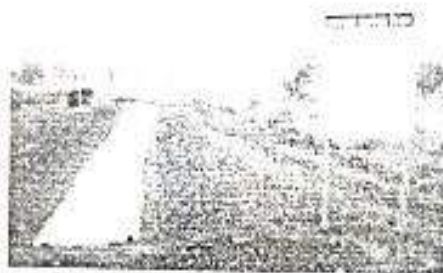
Water is one of the most precious and scare resource on planet. The nation is suffering from this endless cycle of drought and hood. Low rainfall during last 4/5 years has caused great diserts to the farmers and many have committed suicides in Dist. Yeotmal Vidarbha region of Maharashtra State.

Today need it to conserve water, utilized the available water for the best spread, avoid water losses in water management system. In light of recent field experience the profit must be implemented with a new challenge and innovation efforts should be made to overcome various water losses. Various losses are identified through percolation and evapo-

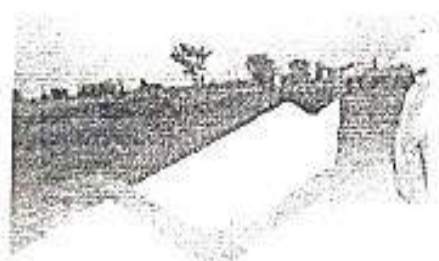
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ration in reservoir / storage and transit through canal.

The revolutionary product by polymer membrane which reduces the losses due to heavy percolation in banking portion of canal and also in saline track of B.C. soil area.



A case study (HT CPM) through fenacity composite polymer membrane has been proved practically successful used in WRD on trial basis in cutting the water losses of various man made water bodies / ponds and uncleaned irrigation canal distributors or minors where there were tremendous and heavy loss due to percolation.



Advantages of HTCPM Membrane

A) First trial Goki project in 2009

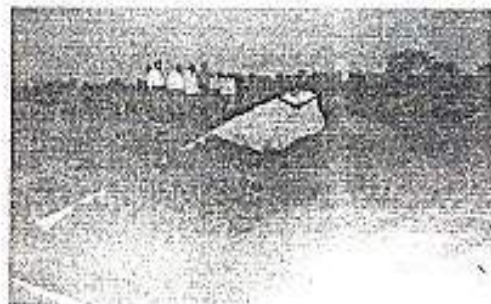
- 1) Arrest percolation water loss by lining
- 2) Easy to install
- 3) Long life
- 4) Economical than conventional method of cement concrete lining
- 5) Less requirement of manpower
- 6) Time tested product
- 7) Globally acceptable technology
- 8) Eco-friendly
- 9) Reduction in yearly maintenance as no growth of trees and bushes can't happen in the canal

B) Second trial on branched canal of Bembla Project in 2016

- Emmbi has created a demonstration site, Yeotmal in the Year 2009. On Rui Minor No-3 of Goki Medium Project.
- The site available was having tremendous water losses due to percolation.
- The results obtained were extremely encouraging, water losses were substantially minimized. This saved quantum of water can be utilized for increasing the net irrigable area. Almost to the tune of 95 % loss was arrested.
- The work which was carried out in December 2009 is found to be in good condition and the HTCPM sheets laid beneath CBL are found in good condition. When observed after 7 years (Ex Engg. Letter Attached).
- The cost of then prevailing C.C. lining was Rs. 375 - per Sq.m and HTCPM lining was Rs. 90/- per Sq.m. (As per the Rates of 2009).


Application of canal liners at Goki Project in 2009

Present condition of canal liners at Goki project




Canal section without liner

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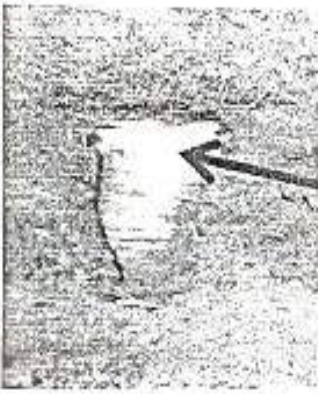


Canal section with liner
No growth of bushes in canal section with liner



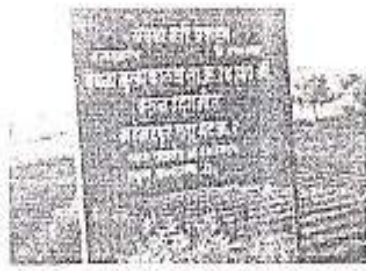
After successful completion of first trial in 2009 and when it was established that the membrane was in very good condition after 6 years of utilization in submerged condition, company decided to conduct the experiment on another project in different conditions

Present condition of canal liners at Goki project



Canal section with liner checking after 7 years findings : no damages, no seepage and free from shrubs

No.-2, on Bembla Main Canal which was selected because where the maximum losses were observed and the adjacent fields were suffering from water logging



Application of canal liners at Bembla project

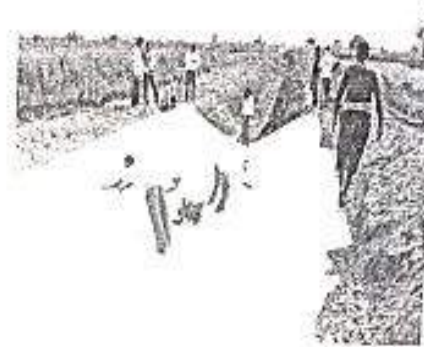
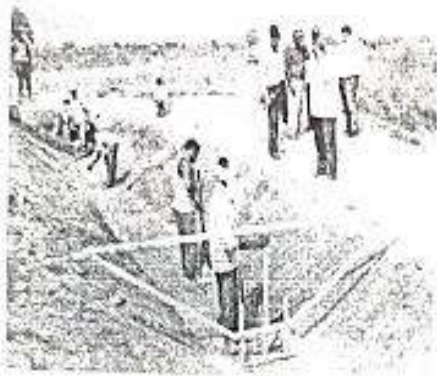
Second trial

Application of HTCPM membrane on highly breached canal of Bembla project.

- Executive Engineer, Bembla Canal Division, Yavatmal has suggested and co-operated with due permission, and allowed to conduct the experiment with company's expenditure.
- Two important goals were set for this Trial Installation
 - 1) To Correct Highly Breached Canal with HTCPM Membrane and Observe Effectiveness
 - 2) Analysis the Percolation losses of Water in the flowing water condition
- Demonstration site was at Mahandpur Minor

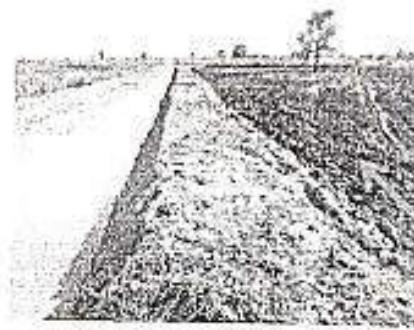
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The selected minor was initially cleared, surveyed and then necessary excavation is done for laying HTCPM sheets, backfilling with the excavated soil, watering and compaction was done to bring the canal section at designed level. For maintaining section and positioning of HTCPM sheets, concrete profiles were provided at 30 m. interval.

Application of canal liners at Bembla project in 2015 canal position before and after laying liners.



During execution of work all the factors affecting water losses were considered e.g. losses through outlets, and CD works/ embankments. For taking trial HTCPM sheets were laid at 3km beneath the canal bed level and across the slopes up to top bank level.

Application of canal liners at Bembla Project in 2016

Application of canal liners at Bembla project in 2016.



Zero water logging due to percolation on both the sides of canals

Trials were conducted by releasing the water up to FSL for substantial time period and noticed that the losses were totally stopped, which concluded that HTCPM sheets can be efficiently used as substi-

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Canal position before laying HTCPM membrane



Canal position before laying HTCPM membrane

hate to traditional cement concrete lining along with reclamation of adjacent water logged field. Photographs were taken along with video shooting during the execution and after the completion of work and during trial and testing.

Application of Canal Liners at Bembla Project in 2016

- Cost comparison of cement concrete lining and HTCPM lining was studied and found that, according to prevailing WRD CSR 2013-14, cost of C.C lining works out to be Rs. 556/- per Sq.m and cost of HTCPM lining comes out to be 225/- per Sq.m.
- For cost comparison of both the types of lining, assumptions were made that the existing canal section is as per designed section. With this result it can be concluded that, by using HTCPM canal liners as substitute to prevailing C.C lining, the cost is much more less, easy to get work done in short period for serving the same purpose.
- By comparing both the methods and their advantages, we request to WRD Officers to give us opportunity to serve the department in view of saving the water and enhance irrigated area by using minimal quantum of water.

Comparative Study

CC Lining

- Cost of 80 mm thick CC lining (Side Slope 2:1) according to prevailing WRD CSR 2013-14 for selected lengths works out to Rs. 2014240/- i.e.

Rs. 566/- per Sq.m

- Skilled Labor force required. Workmanship to be maintained at highly precise level.
- Need High investment Batching plant, Transit mixture, Concrete paver, Water Tanker, Roller etc. required to maintain speed of the work & the quality of work.
- Maximum life of 30 years. This also depends on many factors such as existing sub strata, precise workmanship and quality of material.
- Comparatively costlier viz. 2.5 times the cost of HTCPM Liners
- Repairs in future are tedious and costlier
- HTCP Membrane Sheet lining
- Cost of HDPE Membrane sheet lining (Side Slope 2:1) according to prevailing WRD CSR 2013-14 and Factory supply rates of sheets for selected lengths works out to Rs. 941300/- i.e. Rs. 225/- per Sq. m
- No need of Skilled workman on the installation site required. Easy to get work done. No Curing, No post installation activity
- No requirement of specialized machinery. Excavators and earthmovers are locally available for doing the work
- The speed of laying HTCPM sheets can be up to 6000 Sq.m. per day with right type of machinery and considering the canal is at design section
- Life of HTCPM lining is about 30 years in the submerged condition. The actual service life of the membrane can be worked out on the depth at which sheets are laid in the canal. Deeper the membrane it will have high protection from mechanical damages during future re-

Sl. No.

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Comparison of HTCP Membrane with C.C. lining

	HTCP Membrane	CC lining
Cost	Considering design section cost works out to be Rs. 225/- per Sqm	Considering design section cost works out to be Rs. 566/- per Sqm
Time	Within short period work output is about 6000 Sqm per day	Time required is much more for casting C.C. lining
Life	© 30 years in submerged condition realistic test data in submerged condition for 7 years is available at Gokhi project	Life is about 30 years if and only if material used and precise workmanship
Joint	Joint free construction	Joints are needed at specific intervals expansion contraction & construction joints are required at specific intervals
Temperature effect	As laid beneath the soil, hence no temperature effect	Temperature stress are developed in C.C. lining
CNS	No special material required	CNS material is required the swelling pressure of sub grade
Behavior in BC soil	Stable and no deterioration observed	C.C. lining is very susceptible to BC soil

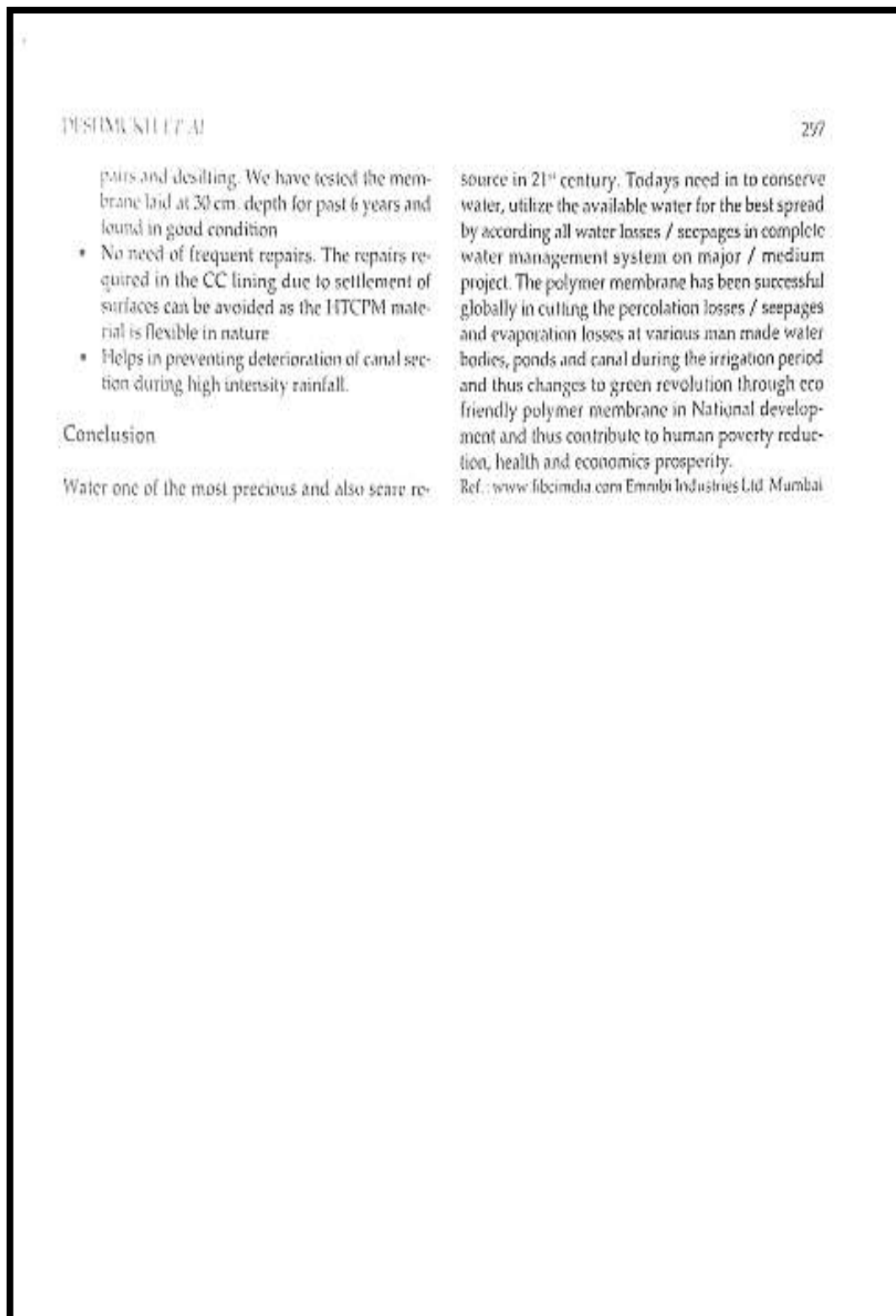
Cost comparison of 80 mm thick CC lining and HTCPM sheet lining

Sr No	Description of Item	Rate / sq.m	Cost %
1	Providing and construction of 80 mm thick C.C. lining with C.C. 1:2:4 (M-150/20MSA) including laying, compaction, finishing, curing etc comp (Considering side slope 2:1)	Rs. 566.00	100
2	Providing and laying high tenacity composite membrane (HTCPM) sheet and whether proofing agent including transportation, necessary supervision, laying in proper position, jointing wherever necessary, with 15 m initial lead and 1.5 m life etc. as directed complete (including VAT and Excise duty) (Considering depth of HTCPM laying 30 cm)	Rs. 225.00	0.40
3	Providing and laying high tenacity composite membrane (HTCPM) sheet and whether proofing agent including transportation, necessary supervision, laying in proper position, jointing wherever necessary, with 15 m initial lead and 1.5 m life etc. as directed complete (including VAT and Excise duty) (Considering depth of HTCPM laying 45 cm)	Rs. 247.00	0.44

Requirement for laminated HDPE woven fabric (Geo-Membrane) for water proof lining.

Sr No	Property	Type I
1	Thickness, mm, Min	0.25
2	Mass, g/m ² , Min	250
3	Dimensions (length and width)	As declared
4	Carbon black content, percent, Min	2.5
5	Braking load on 20 cm x 10 cm strip, N, Min before UV exposure	2000
6	Strain at maximum load, percent	20 ± 5
7	Braking load on 20 cm x 10 cm strip, N, Min before UV exposure of 500 h	85% of actual original value
8	Impact failure load, at 1520 mm drop, Min, gram force at 50% failure	1000
9	Tear resistance, N, Min	70
10	Puncture resistance, N, Min	70
11	Bursting strength (ball burst), N/cm ² , Min	45
12	Seam strength before UV exposure, N/mm, Min	11
13	Hydrostatic resistance	No leakage at 10 kg/cm ²

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



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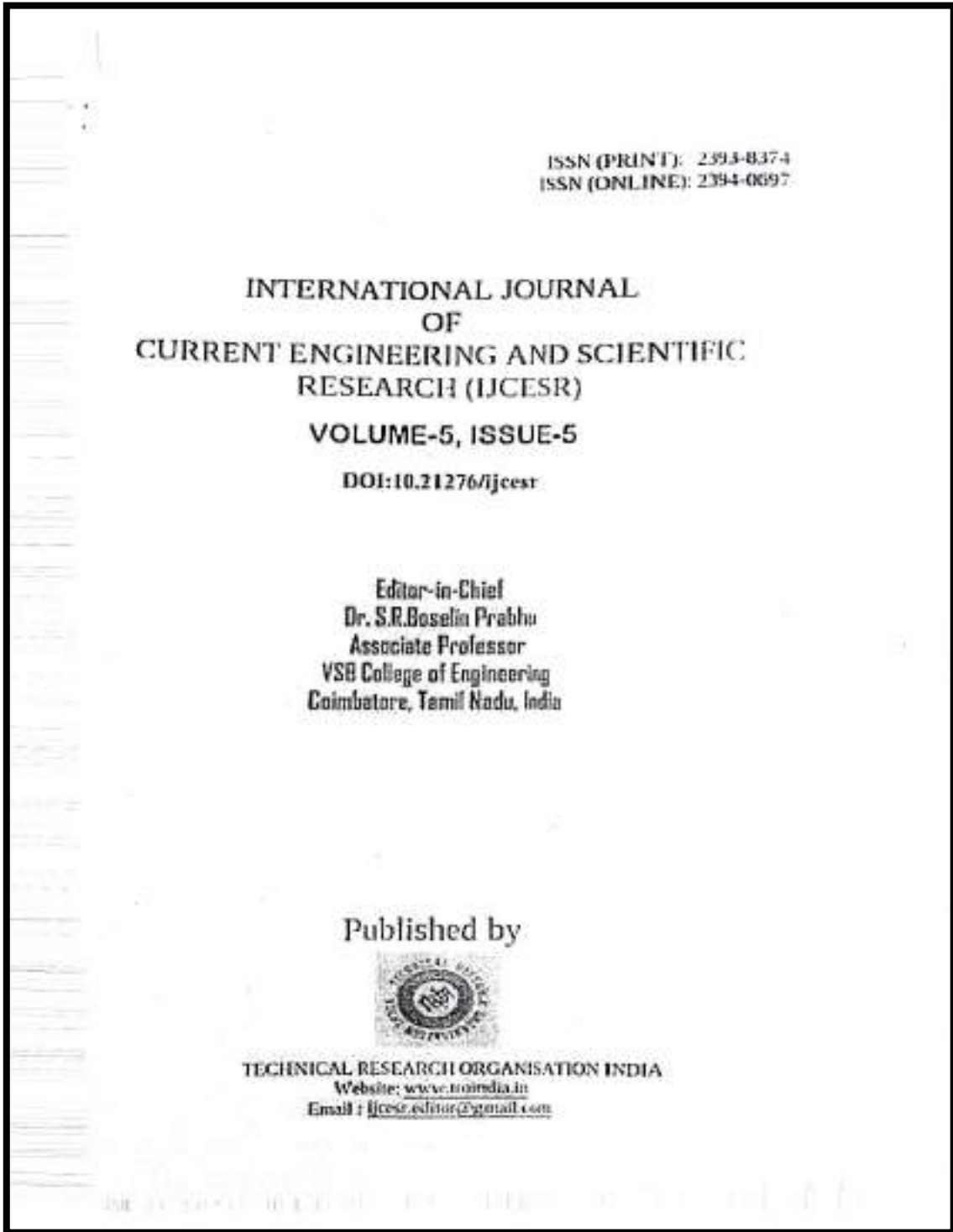
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Dr. M.M. Nandurkar



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



आंध्र जगतीच्या लोकजीवनातील नव्या आविष्का

डॉ. प्रभा माणिकराव भांगुरकर
मालोडी विद्यालयाई देशमुख महाविद्यालय, अमरावती

आंध्र ही आंध्रवासी जमात असून ती चाही वसतीत यांनाच वजन राहते. आंध्रक पाण्याचा साठ ज्या ठिकाणी असले तिथे ही जमा विचारा देते. पाण्याच्या वडी स्रोतापुढे आंध्रचा मानेवरी हा पारंपरिक व्यवसाय हागे पडलांना दिशून घनो आंध्र ही आंध्रवासी जमात पारंपरिक, प्राथमिक व कष्टातू आढळते. आंध्र हे गिदपोगिन घेतलात निस्त्यात आंध्रक संछेने आढळतात, ते सामुहिक जीवन जगताना दिशून घते. आंध्र ही प्राचीनतम आदिवासी जमात आहे. आंध्राचे पारंपरिक, सामुहिक जीवन उन्लेखनीय आढळते.

जाने सांगितले जाऊ शकते. आंध्र जागतिकीय लोकजीवने समन्वयी भक्ता, ही लोकजीवने हदवाचा ठर घेतता, या सावणीतांमध्ये आशावाणी विविधता आढळते. दैन्य, दु:ख, पाहेर, सासर, निराश, अध्यात्मा, शून्य, दुष्पदी विषय लोकजीवनातून प्रकटतांना दिशून घते. दिव्यतर यथावक करून सांगता वडी प्रकीर्ण घेवून समुहिकरणे गीते सांगती जाणात, या लोकजीवना सामाजिक व आनयवृत्त संकेत त मधीन शब्दांची भर पडलांना दिशून घते. यथुध अरोनेसे आंध्राचे विषय गिदतून घकटत.

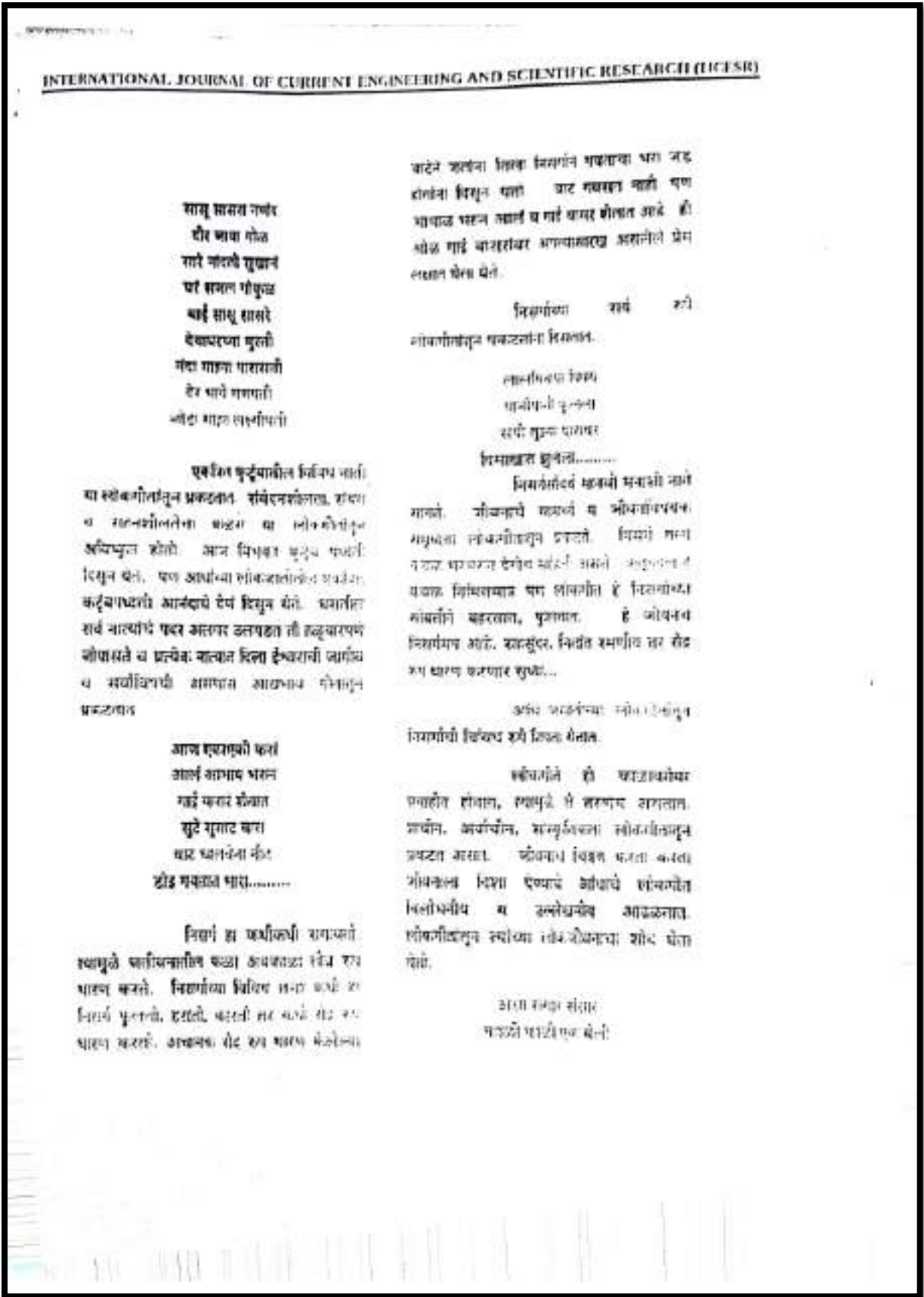
अविष्टे

- आंध्राचे लोकजीवने विपूल प्रमाणात आढळतात.
- आंध्राच्या लोकजीवनेत विविधांगीयता आढळता.
- आंध्रांनी अगत्या लोकजीवनाचा खजिना खतन व संघर्षेन कळून ठेवलेला दिशून घते.
- आंध्रांचे लोकजीवने नव्या आविष्का प्रकटतात.

आंध्रांची लोकजीवने विविध असून ते परंपरेने धारत अनेकी आढळतात. आदिवासी आंध्र जमातीच्या लोकजीवनातून यांमन जीवनाला प्रेरणा व सामर्थ्य झाले. लोकजीवने ही प्रवाही अगत्याने स्थल कालावरील परिवर्तनाची

सांगताच तर नारा
 त्यांचे कथाय त्यांचे
 घाटे सल्लोच
 पुढे पाहताच म्हण

सूक्ष्म अल्प्य या गोसातून प्रकटते आंध्री जीवनाची घत यथानेसा यथके, गीतातून खोबखता लेश हा कथ आधुनिकीयनेही मेळ घालतांना आढळता.



पत्र दुष्काळी प्राणघाती
रात चांदण्यात नहाली.....

अंध जगातील लोकांमध्ये ही जीवनमूल्ये च धरूनच रूढ धारण बांधणी आढळतात. पत्रा अंधांचे जीवन येते हातहत हात पसून घालताना दिसून येते.

महामोक्षदा, महामयना, हनुमत्, रंगार संवेदनांची उलट अनुभूती आदिवासी अंध लोकांमध्ये रूढ हीनांना दिसून येते. पत्र दुष्काळी झोपडी ही जीवनाची योष आहे. त्यात करम च अनात्मवना आढळते लोकांमधील भावार्थात च प्रवृत्ततात जीवनाभवाची समृद्धी मिळत चरताना

- आदिवासी अंध जगातील लोकांमध्ये समृद्धताचा आदिवासी प्रकटतो.
- आदिवासी अंध लोकांमध्ये शब्दांची रसास्पर्शिता मिळत प्रकटतात.
- आदिवासी अंध लोकांमध्ये आदिवासी च परिपरेने घालत आलेली आढळतात.
- रूढ, वाढानुभूत लोकांमध्ये नव्या जाग्या प्रकटतात.

एकुलत अंध जगातील लोकांमध्ये नव्या जाग्या समृद्ध होताना आढळते.

संश्लेष

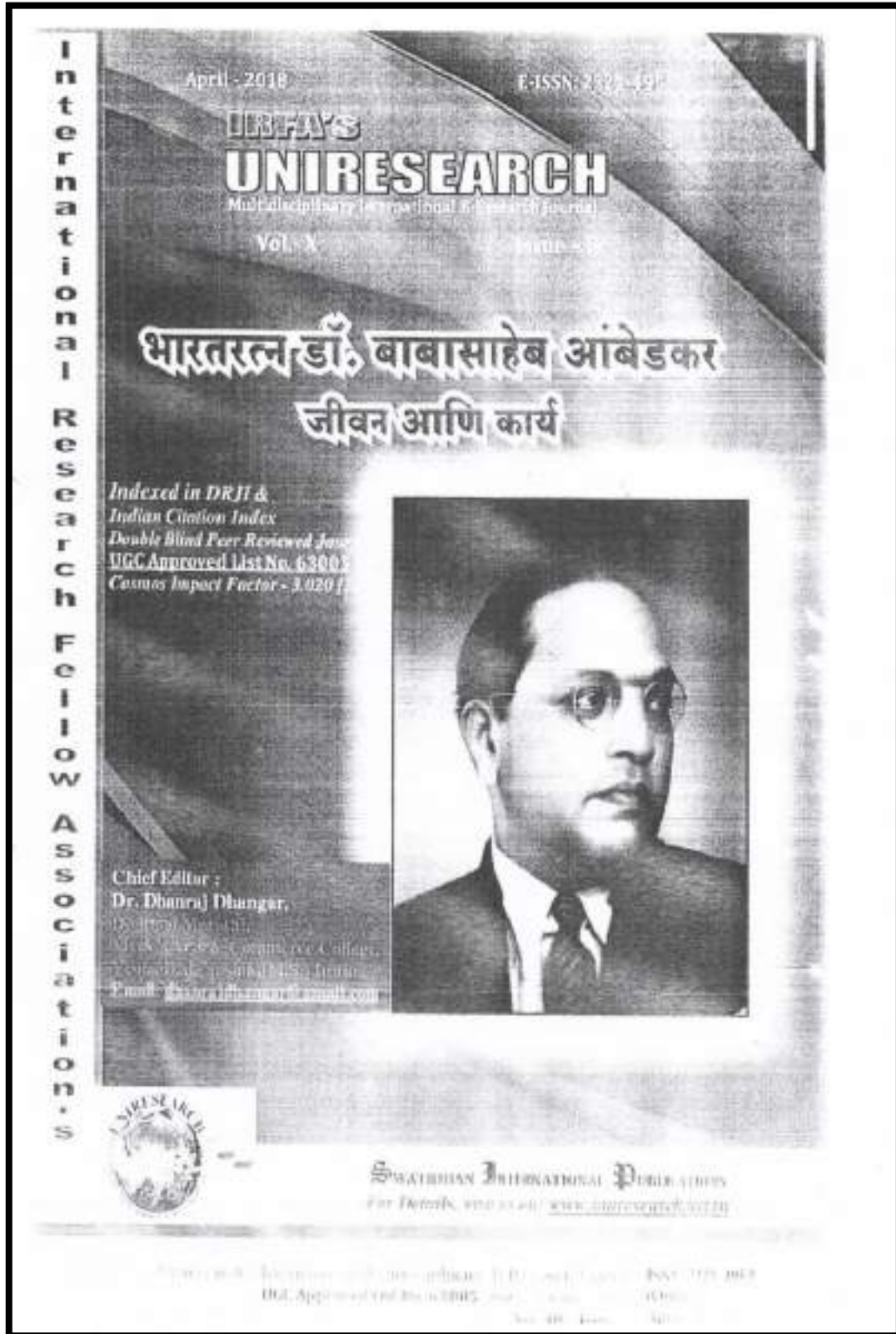
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डॉ. राजेंद्र, अंध, अंधांची जीवनाची अंधांची, अंधांची जीवनाची अंधांची

अंधांची जीवनाची अंधांची

डॉ. बाबासाहेब आंबेडकर: दलित कवितेचे प्रेरणास्थान

Dr. M.M. Nandurkar



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

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Our Editors have reviewed paper with experts' committee, and they have checked the papers on their level best to stop further literature. Except it, the respective authors of the papers are responsible for originality of the papers and intensive thoughts in the papers.

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डॉ. बाबासाहेब अंबेडकर दलित कवितेचे प्रेरणास्थान
डॉ. मंदा माणिकराव नांदूरकर
 मानोधी विमलाबाई देभमूत्र महाविद्यालय

दलित कविता, दलित साहित्यातील प्रभावी व महत्त्वाचा प्रकार जाणवतो. डॉ. बाबासाहेब अंबेडकरांच्या प्रभावी विचारांमुळेच दलितनामधे जागृतीचे भान येऊन आपल्या व्यथा, दुःखे काळाच्या अधस्तात परस्परपक्षे मांदनांना दिसून येतात, अनेक कवींनी मोठ्या प्रमाणात काव्य लेखन केलेले आढळते. तेच कविता मनोरंजनातून निर्माण होण्यात दिवून येतात. दलित कविता मागील श्रेण्यांचा विचार केल्यास लगेच बुद्ध, महात्मा फुले डॉ. बाबासाहेब अंबेडकर हेच मुख्य प्रेरणा दिग्दर्शक.

दलित कविता प्रख्यापितारिद्ध बंध पुढारत्यांना दिवून येते
 दलित कवितेतील व्यक्त होणाऱ्या वेदनेचे पाहिले दर्शन मंग कर्ममेळा यांच्या अर्भकानु पाह्यावयास मिळते.

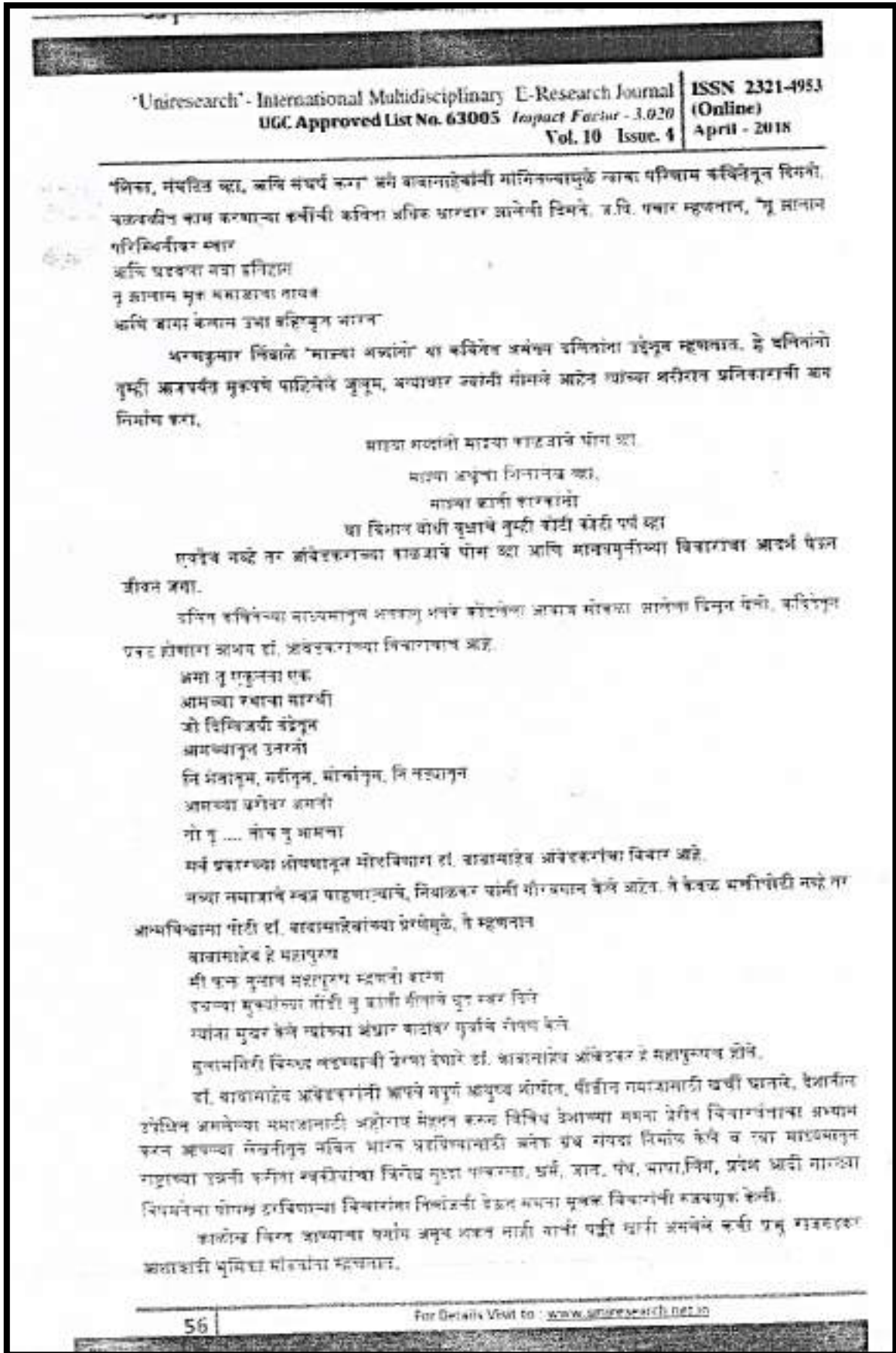
म्हणजे विषयी अगवेनी वचना त्यांच्या अर्भकानु प्रकटते,
 उम होणा परी रम नथे डोषा
 काय भुलतामी धरनिया रंगा
 न मंग कर्ममेळा (श्रीमंदाबांना मुलगा) त्यांच्या अर्भकानु दर्शवतात.

आमुनी केवी हीन पाती।
 तुज का न कळे धीपती
 जन्म केना उभे खाना
 लाज न ये तुमचे चिन्ता
 आमचे घरी भान वही
 खाऊन पैसा म्हणनी नाही
 म्हणे चोखिद्याना कर्ममेळा
 कागधा जन्म दिवा मला

दलित अल्प्याची जाणीव कर्ममेळा यांच्या अर्भकानु प्रकटतांना दिवून येते.
 साजरे जगान ज्याने अजरामर नाव
 तुझा भीमराव तुझा भीमराव
 म्हणजे भारताना भाग्यविधाना
 निहिली आहे जिला कथा
 मगानाही इथ

'दलित कविता' ही कवींच्या आत्मजोधातून प्रकटते. आपल्याचन झालेला अन्वार, अन्वाचन करत मान, धर्म, दलित कवितेतील व्यक्त होताना दिवून येते. दलित कवितेवर डॉ. बाबासाहेब अंबेडकरांच्या प्रबुद्ध प्रभाव मून येतो. नामदेव इयाळ म्हणताना, "अनेक अनेकांपासून आपल्या पूर्वजांनी जणू वेगळी होण्यास साकारून ज्वलनेकडे पाठ फिरवून प्रथम केला. अनेक वर्गांपासून आपल्या पूर्वजांनी केवळ निधारेच हाताव आले. पण आपल्या हातान उज्वलत भविष्यास मूर्धमुखे देवघारे, जागृती करून उदयोन्मुख करणारे बाबासाहेब अंबेडकर त्या गिरवणीनुसार,

मूर्ध फुलासारखे मूर्धमुख झालेच पाहिले
 मूर्धकडे पाठ फिरवून त्यांनी अनेकांचा प्रथम केला
 जाला अंधार यादिक होण्याचे साकारले पाहिले
 मूर्धमुखे हाती देवघार पक्षीन इजागी वर्षांतूनच साभना, आता मूर्ध फुलासारखे मूर्धमुख झालेच पाहिले



Phosphate solubilizing bacteria and fungi isolated from the salinity affected soil and its growth promotion on soyabean plant

Dr. S.S.Deshmukh





Phosphate Solubilizing Bacteria and Fungi Isolated from the Salinity Affected Soil and its Growth Promotion on Soybean Plant

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Abstract: The use of phosphate solubilizing bacteria (PSB) as biofertilizer has concurrently increased phosphorus uptake in plants and improved yields in several crop species. A laboratory study was conducted to isolate, identify and characterize the phosphate solubilizing bacteria from salinity affected area of Amravati district. (*Aspergillus* sp., *Penicillium* sp. and *Trichoderma harzianum*) have the more solubilizing ability of inorganic insoluble phosphate than bacteria, i.e., *Bacillus cereus*, *Bacillus megaterium*, *Bacillus subtilis*, *Bacillus polymyxa*, *Pseudomonas putida*, *Pseudomonas striata*, *Micrococcus lotus*, *Enterobacteriaceae*. Hence the application of biofertilizer prepared by above mentioned fungi should be helpful to increase the crop yield in salinity affected soil by solubilizing large concentration of inorganic insoluble phosphate. Application of all isolated culture with lignite showed plant growth promoting activity.

Keywords: Phosphate Solubilizing Bacteria (PSB), Biofertilizer, salinity affected soil.

I. INTRODUCTION

Microorganisms are integral to the soil phosphorus (P) cycle and as such play an important role in mediating the availability of phosphorus to plants. The concept of microbial enhancement of phosphorus availability to plants is not new. (Gerretsen, 1948) showed that pure cultures of soil bacteria could increase the phosphorus nutrition of plants under controlled conditions through solubilization of precipitated forms of calcium (Ca) phosphates. Phosphorus (P) is one of the major essential macronutrients for plant and is applied to soil in the form of phosphate fertilizers. In soil inorganic and organic forms of phosphorus is present. The inorganic forms of the element in soil are compound of calcium, iron, aluminum and fluorine. The organic forms are compounds of phytins, phospholipids and nucleic acid which come mainly by way of decaying undergrowth. Therefore, soils containing high organic matter are also rich in organic forms of phosphorus [1]. Soil microorganisms enhance plant nutrient acquisition. They are involved in a wide range of biological processes including the transformation of insoluble soil nutrients [2].

Phosphate solubilizing microorganisms (PSM) play a significant role in making phosphorus available to plants by bringing about favorable changes in soil reaction in the soil microenvironment leading to solubilization of inorganic phosphate sources. Some microorganisms associated with different plant rhizosphere are able to solubilise inorganic insoluble P salts. *Pseudomonas* and *Bacillus* are two important genera of soil bacteria with promising activity of phosphate solubilisation[3-4].

Many soil bacteria chiefly those belonging to the genera *Bacillus* and *Pseudomonas* possess the ability to bring insoluble phosphates in the soluble forms by secreting organic acids. These acids lower the pH and bring about the dissolution of bound forms of phosphorus. These bacteria are commonly known as phosphate-bacteria. They can be applied either through seed or soil application. Phosphorus, both native in soil and applied to inorganic fertilizers becomes mostly unavailable to crops because of its low level of mobility and solubility and its tendency to become fixed in soil. PSM increases the bioavailability of soil insoluble phosphorus for plant use [5].

II. MATERIALS AND METHOD

A. Sample Collection

The study total 128 soil samples were collected in sterilized container from Amravati district (Amravati tehsil-10, Daryapur tehsil -43, Banskuli tehsil -31, Anjansonsurji tehsil -23, Achalpur tehsil -03, and Chandrabaze tehsil -18). The soil suspension was prepared by mixing 1 g of soil sample in 9 mL distilled water then supernatant discarded and soil sample was point inoculated on previously prepared and sterilized pikovskaya's agar plates. Then the pikovskaya's agar plates were incubated at 28±2 °C for



24–48 h. And after completion of incubation time, Zone of phosphate solubilization was recorded. The colonies that showed clear zone of solubilization were further subculture on pikovskaya's agar plates.

B. Microscopic study of Bacteria and fungi

Microscopic study of the Size, shape, arrangement motility, gram's staining was done for morphological study, the stained smear was observed under microscope (Oil immersion lens-100x). The fungal isolates were identified up to generic level based on their colony morphology and microscopic examination as outlined in the manual of [6]

C. Identification Of Bacterial Isolates Through Biochemical Test

The PSBs isolated from salt affected soils was identified up to generic level based on morphological, cultural, enzymatic test and biochemical tests as specified in Bergey's Manual of Determinative Bacteriology [7].

D. Phosphate Solubilization by Plate Assay

Solubilization of tricalcium phosphate was detected in Pikovskaya's Agar medium [8]. Each isolate was point inoculated at the center of Pikovskaya's Agar plate and incubated for 24 – 48 h. The developments of clear zone around the colony indicated phosphate solubilizing activity. The zone of solubilization was observed around the colony and diameter was measured.

E. Preparation Of Production Media Of Phosphate Solubilizing Bacteria As Starter Cultures

After the screening of the PSB bacterial strains from the pure culture slants the bacterial strains were transferred to the liquid broth which was also the production media and as well as the starter culture for the growth of cells. Production media is that media in which the number of viable bacterial cells of that particular bacteria increases because that bacteria is grown in that particular media only. Thus, in phosphate solubilising bacteria strains were grown in Pikovskaya as production media (Protocol followed for growth of PSB). Thus a 100ml of separate conical flasks were taken and PVK media was prepared after pH adjustments and autoclaved. Then inside the laminar airflow the pure cultures marked in the pure culture slants were transferred to the PVK production media conical flasks by the help of uncontaminated inoculating loop. Then the conical flasks were put in the rotary B.O.D shaker for 1week or 7 days. The viable cell count in the production media or the liquid broth was found to come up to 10⁹ CFU/ml. Then for the mass production of PSB bio-fertilizer the inoculums from these starter cultures were transferred to larger flasks.

F. Mass Production Of Psb Bio-Fertilizer And Preparation Of Inoculums

The Phosphate solubilising bacterial strains in the starter cultures were needed to be grown in large scale for which their mass production were required. So larger conical flasks of 1000 ml were taken and then again starter cultures were transferred to these larger conical flasks containing the appropriate growth media in aseptic conditions for small scale production and for large scale production again 1 liter of the starter cultures were put into the fermenter. Finally continuous agitation and proper aeration was complete for about 1 week. The flasks were checked for time to time for the growth of the cell mass and that they were free of any contamination. After 1 week the cell population increased up to 10⁹ cells/ml or 10⁹ cfu/ml load in the larger conical flasks. Then the conical flasks were stored in cool temperatures so that they can be mixed with proper carrier materials. Moreover it is not advisable to stay the conical flasks for long time in storage because of the loss of cell load.

G. Carrier Material Preparation

In this experiment for the inoculation to be made charcoal was used as carrier material. There are many steps for preparation of the carrier material. The steps are discussed below- First about collection of charcoal powdered. Then by the help of mortar and pestle the entire coal was crushed to dried crushed form. After crushing also the remaining pieces were further powdered by the help of mixer and grinder. The dust form of coal as charcoal was made and to it 1% calcium carbonate and wooden charcoal or activated charcoal was mixed and neutralized so that no contaminants were present.

H. Preparation Of Inoculum With Carrier Material (Mixing)

The mass produced bacterial cell cultures of PSB were taken out of storage and then the cell cultures were mixed with the sterilized carrier materials in individual beakers. The mixing of the carrier materials and the production media were in the ratio 2:1 where 1 part of production media was mixed with 2 parts of carrier material or in other words 30:60 ratios of both. It was done manually and



under aseptic conditions. The cell count of that carrier mixed culture was found to be 108 CFU/gm. The bio-fertilizers were filled in polythene bags which are advised to be of 250 gm. Then the packets were left in room temperature for curing.

1. Effect of this isolates on test plant

In present study used 24 pots, each pots containing 1 kg soil sample which were collected by salinity soil of study area. And each pot added soybean seed. Out of 24 pots, eight pots selected were for control and it was containing only soil and soybean seed. And other out of sixteen pot eight pot selected for checking effects of chemical fertilizer so it was contain 1 kg soil and soybean seed and add 1gm of chemical phosphate fertilizer. Other remaining eight pots were selected for check effects of PSB, so in these pots add 1kg soil, soybean seed and 1gm prepared biofertilizer. Then supply daily equal volume of water and observed growth up to 90 days from first date seedling.

III. RESULT AND DISCUSSION

The present section describes the results obtained during the study total 128 soil samples in Amravati district (Amravati tehsil-10, Daryapur tehsil -43, Bhatkuli tehsil -31, Anjunsongstaji tehsil -23, Achalpur tehsil -03, and Chandurbazar tehsil -18) Collected and analyzed, total 34 isolates were isolated from salinity affected soils. Out of 34 isolates 21 PSB and 13 fungi were found, but only 3 fungi species showed significant zone of P solubikization. Among 21, only 8 PSB bacterial culture showed variation and others were repeated. A clear halo zone was formed around the colonies after 2 days of incubation on solidified Pikovaskaya's agar plates and all phosphate solubilizing bacteria and fungi were selected and sub cultured on Pikovaskaya's agar plates for further studies. In the Present study, total eight bacterial species and three fungi species were isolated and identified on the basis of microscopic study, cultural study, Biochemical study and 16S RNA sequence. The isolated bacteria were named as Bacillus subtilis, Pseudomonas putida, Pseudomonas striata, Bacillus polyoxyana, Bacillus megsterium, Bacillus cereus, Enterobacter cloacae, Micrococcus luteus, and Fungi- Trichoderma harzianum, Aspergillusniger, Penicilliumrugulosum. Characterisations were made following microbiology, a laboratory manual (Cappucino and Sherman, 1982).

Detail of biochemical and microscopic result given in following table no. (1).

Isolates	Gram	shape	motility	Indole	M/R	V/P	Citrate	Oxidase	Catalase	Nitrate	Urease	starch	Gelatin	H ₂ S	D	Ga	Tr	Ma	Sa	La	Fr	M	Rs
PSB 1	+	Rod	+	-	-	+	-	-	+	+	+	+	-	+	-	-	-	+	+	-	-	-	-
PSB 2	-	Rod	+	-	-	-	+	+	+	+	+	-	-	+	-	-	-	-	-	-	+	+	-
PSB 3	-	Rod	+	-	-	-	+	+	+	+	-	-	-	+	-	-	-	-	+	-	+	+	-
PSB 4	+	Rod	+	-	-	+	-	-	+	+	+	+	-	+	+	-	-	+	+	-	+	-	-
PSB 5	+	Rod	+	-	-	+	+	-	+	-	+	+	+	+	+	-	-	+	+	+	+	-	-
PSB 6	+	Rod	+	-	-	+	-	+	+	+	+	+	-	+	+	-	-	-	-	-	-	-	-
PSB 7	-	Rod	+	-	-	+	+	-	+	+	+	-	-	+	-	+	+	+	+	-	-	+	+
PSB 8	+	Cocci	-	-	-	-	-	+	+	-	+	+	-	+	-	-	-	-	-	-	-	-	-

Table no. 1- Biochemical test of isolated strains

A. Fungal identification

Identification of fungal species was done as per the manuals of [9-10]. After isolation of fungal isolate it was sub cultured on the PDA slants Phenotypic characteristics used as a means of identification for fungi rely on microscopic morphology for accurate and correct identification [11]. In this study, Trichoderma species cloud was growing at 28-35°C in 3-4 days. The strains belonging to



the genus *Aspergillus* characteristically present dark-brown to black conidia, with uniseriate or biseriate conidiophores, spherical vesicles and hyaline or lightly pigmented hyphae near the apex [12]. In present study macroscopically, this fungus can be identified growing on substrates producing colonies of felt like yellow to white hyphae, turning black with the formation of conidia. Morphological identification of the potential *Trichoderma* isolates was performed using an online interactive key [13] based on the colony appearance and pigmentation, the presence or absence of sweet coconut smell, growth rate at 35°C, the presence or absence of pustules on CMD, the sizes of conidia, the branching patterns of conidiophores, and the presence or absence of chlamyospores.

Detail of isolated fungi cultural character given in following table

Fungi	Colony diameter	Colony color	Conidia	Mycelium	Exudates	Colony edge	Reverse
Fungi-1	80-90mm	Yellow green	Green	Watery white	yellowish watery droplets	smooth	Colorless
Fungi-2	90 mm	Dark black	Black	Dull white	Nil	smooth	Florescent yellow and wrinkled mycelia
Fungi-3	30-45 mm	Yellow green	Grey	White	Clear rosy	smooth	colorless

Table no. 2- Cultural characters of fungi

B. Genotypic Identification

All the 11 isolates were deposited in gene bank at GSBM with particular accession number (BAB) shown following table. 16S rRNA gene sequences of the strains obtained after sequencing were identified using BLAST at the National Centre for Biotechnology Information web site: www.ncbi.nlm.nih.gov and submitted to GenBank EMBL with accession number assigned by them. After 16S rRNA sequence analysis, identity of 11 isolates. Most of the isolates showed 98 to 100% of similarity with sequences in the EMBL data. [14] Suggested that a 16S rRNA gene sequence similarity of 97 % should become the boundary for delineation of prokaryotic species, which has been well accepted among microbiologists.

C. Phylogenetic Tree

Molecular analysis by the 16S rDNA identification technique was adopted in this study. These excellent markers for the clarification of bacterial phylogeny are ribosomal ribonucleic acids. In this study, we used gene sequences from to determine the phylogenetic relationships among the tested isolates. The neighbor-joining tree was subjected to the numerical re-sampling by bootstrapping, and the resulting bootstrap values were observed at the tree branch nodes. The identification of phylogenetic neighbours was initially carried out by the BLAST [15] and MEGA BLAST [16] programs against the database of type strains with validly published prokaryotic names [17].

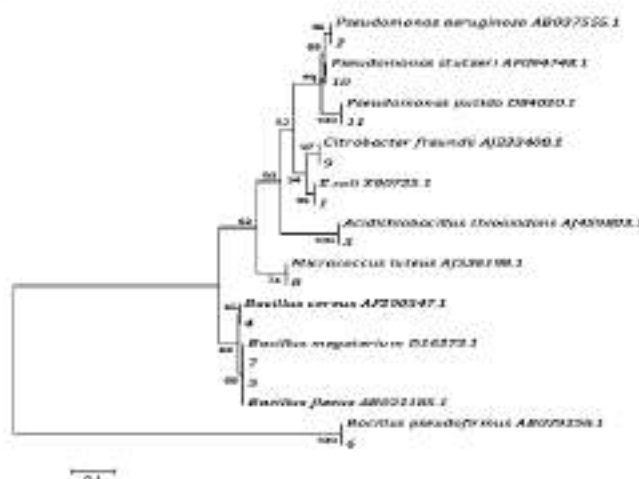


Fig no. 1- Phylogenetic tree of isolated PSB



D. Determination of Efficiency of Phosphate solubilization

A clear halo zone was formed around the colonies after 2-4 days of incubation on solidified Pikovskaya's agar plates and all phosphate solubilizing bacteria and fungi were selected and sub cultured on Pikovskaya's agar plates for further studies. That is Bacillus cereus, Bacillus megaterium, Bacillus subtilis, Bacillus polymyxa, pseudomonas straita, pseudomonas putida, Micrococcus lotus, Enterobacterclocae, fungi (Aspergillusniger, Penicilliumrugulosum, and trichodermaharzanium) Out of this isolate fungi (Aspergillusniger, Penicilliumrugulosum, and trichodermaharzanium) having efficiency of Phosphate solubilization was more as compare to other isolated phosphate solubilizing bacteria that was (284, 220, 276) But Enterobacterclocae having efficiency of Phosphate solubilization was less as compare to other isolated phosphate solubilizing bacteria that was (127). Efficiency of Phosphate solubilization was determined by plate assay using Pikovskaya's Agar Medium.

Phosphate solubilisation efficiency was assayed visually and the solubilisation index (SI) for each isolate was calculated as the ratio of total diameter of phosphate solubilization to colony diameter [18].

Detail of zone of efficiency given by in following table no 3.

% of Efficiency of PSB was calculated by using following formula

$$\text{Efficiency of phosphate solubilization} = \frac{\text{Solubilization diameter}}{\text{Diameter of colony}} \times 100$$

Sr. No.	PSB and Fungi strain	Colony Diameter	Solubilization Diameter	% Efficiency 48-72 Hr
1.	Bacillusubtilis	0.9	1.4	155
2.	Pseudomonas putida	0.5	1.2	240
3.	Pseudomonasstraita	0.6	1.4	233
4.	Bacillus polymyxa	0.8	1.1	137
5.	Bacillus megaterium	1.2	1.8	150
6.	Bacillus cereus	1.2	1.6	133
7.	Enterobacterclocae	1.1	1.4	127
8.	Micrococcus lotus	1.3	3.6	276
9.	Trichoderma harzanium	1.3	3.6	276
10.	Aspergillusniger	1.3	3.7	284
11.	Penicilliumrugulosum	0.5	1.1	220

Table no 3 - % of efficiency

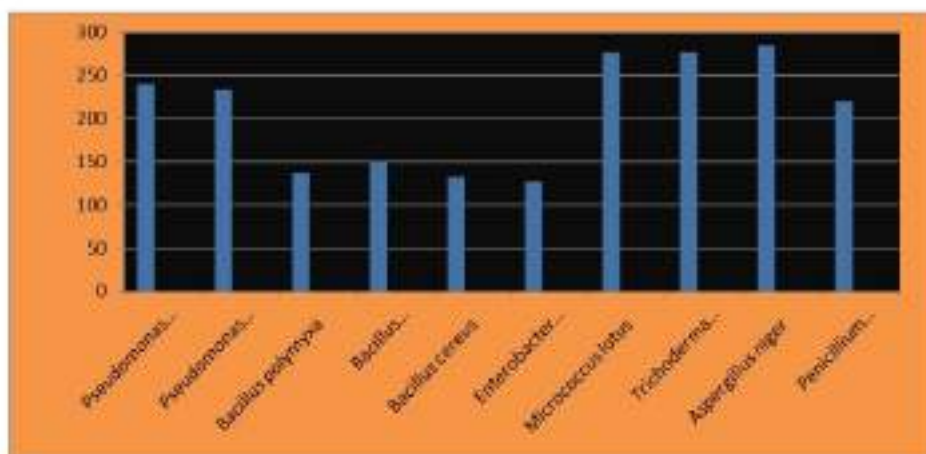


Fig No 2- Determine % of Efficiency



E. Pot experiment of Soybean plant

Following table shows the growth promotion in Soybean test plants as compared with control after 90 days.

Sr. No.	Plant of Soybean	Shoot length (cm)	Root length (cm)	Leaf width	No. of leaf	No of branches
1.	A1-Control (seeds)	66	8.9	3.2	32	10
2.	A2 (seeds + Phosphate fertilizer)	68	9.4	3.2	36	12
3.	A3 (seeds + Isolated culture)	74	9.9	3.3	48	15

Table no. 4- Comparison of average growth test plant with control (24 pots)

In the present investigation effect of combination of biofertilizer and soil were studied on the growth parameters of soybean plant. The inoculation of isolated PSB had a more stimulating effect on the assimilation and solubilization of phosphate than uninoculated control. The lowest values of soybean growth parameters were obtained by soil without inoculation (Control). It was obvious that addition of biofertilizer inoculated phosphate solubilising microorganisms caused an enhancement in plant growth parameters. This study confirms that phosphate solubilizing microbial inoculants improved the estimated characters compared with untreated control. Many phosphate solubilizing bacteria are reported as plant growth promoter [19-20]. It is well established that introduction of plant growth promoting bacteria,[21] Reported that PSM increased phosphorus accumulation in plants, yield of pea and barley.

IV. CONCLUSION

It is concluded from the present study A total of 11 strains (*Bacillus cereus*, *Bacillus megaterium*, *Bacillus subtilis*, *Bacillus polymyxa*, *Pseudomonas putida*, *Pseudomonas striata*, *Micrococcus lotus*, *Enterobacter cloacae*, fungi -*Aspergillus niger*, *Penicillium rugulosum* and *Trichoderma harzianum*) were isolated from salinity affected soil in Annavati district are very useful for increasing solubilization of inorganic insoluble phosphate. This isolates are very important for increasing crop yield which is taken in salinity affected soil in productivity of soybean (*Glycine Max*) plant etc. Salinity is a serious environmental issue, as it limits crop growth and drastically reduces productivity. Therefore, in addition to these isolate increase crop productivity because these isolate not only solubilize phosphorus but also increases nitrogen uptake. In this study, the Cheapest and easily available carrier (charcoal powder) were utilized for the production of nutrient rich phosphate solubilizing biofertilizer for salinity affected soils better growth of plant. From the study it was observed that the fungi (*Aspergillus niger*, *Penicillium rugulosum* and *Trichoderma harzianum*) have the more solubilizing ability of inorganic insoluble phosphate than bacteria, i.e., *Bacillus cereus*, *Bacillus megaterium*, *Bacillus subtilis*, *Bacillus polymyxa*, *Pseudomonas putida*, *Pseudomonas striata*, *Micrococcus lotus*, *Enterobacter cloacae*., Hence the application of biofertilizer prepared by above mentioned fungi should be helpful to increase the crop yield in salinity affected soil by solubilizing large concentration of inorganic insoluble phosphates

V. ACKNOWLEDGEMENT

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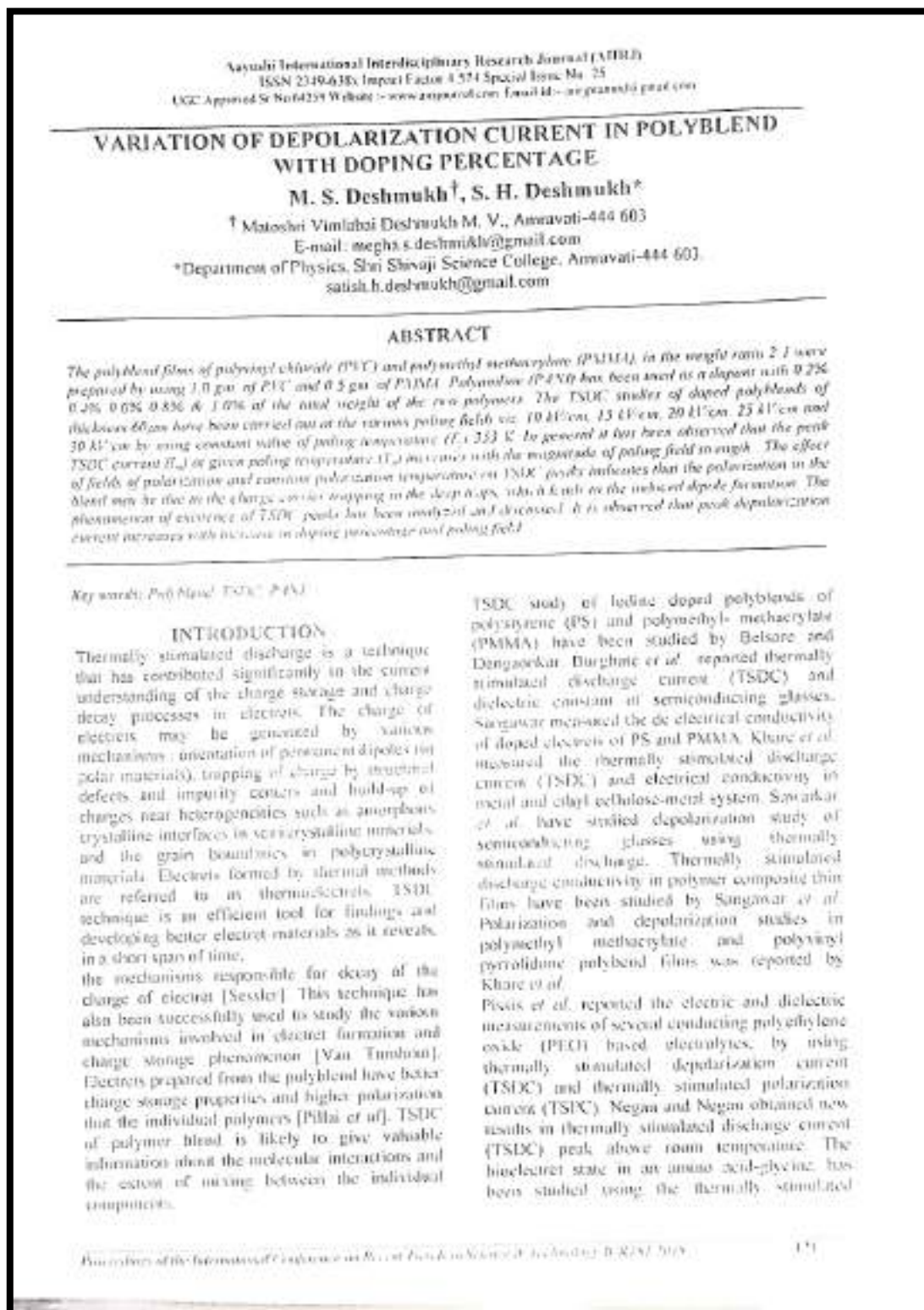
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3.3.1 Number of research papers published per teacher in the Journals notified on UGC care list during last five years

Number of research papers published per teacher in the Journals in 2018 - 2019

Variations of Depolarization current in polyblame with dobbing Percentage - Dr. M.S. Deshmukh



discharge current (TSDC) technique by Mishra *et al.*

The detailed survey of literature revealed that the thermally stimulated discharge technique is extensively applied for the study of polymer thermoelectrets only. However, work on TSDC measurement is very scant in polyblends doped with polyaniline. Therefore, it has been decided to study the depolarization in PVC- PMMA blend doped with PANI, using thermally stimulated discharge current (TSDC) technique.

THEORY

The polarization in a dielectric is caused by i) orientation of dipoles ii) transference of space charge and iii) injected surface charge from electrodes. If the sample is polarized at a temperature T_p , the polarization will acquire an equilibrium value. According to Perlman *et al.*, the discharge current at any time $t(T)$ at absolute temperature T is given by

$$i(t) = A \exp\left[-\frac{E}{kT}\right] - \frac{1}{\beta \tau_0} \int_{T_0}^T \exp(-E/kT) dt \tag{1}$$

Where A is a constant, E is an activation energy, k is the Boltzman constant, T_0 is the room temperature and T is the temperature attained by the specimen in time t on heating it at a definite linear rate β and τ_0 is the characteristics relaxation time given by the expression

$$\tau = \tau_0 \exp(E/kT)$$

Where τ is the relaxation time of dipoles at the temperature T . The relation represented by eq 1 shows a peak at T_m , which has the following relation with τ_m

$$\tau_m = \left[\frac{kT_m^2}{\beta E \exp(E/kT_m)} \right] \tag{2}$$

The activation energy E has been calculated using the formula, given by Christodoulides as

$$E = [T_1 T_2 / 4738 (T_2 - T_1)] - [T_1 / 11616] \text{ in eV when } T \text{ is in K}$$

Where T_1 and T_2 denote the temperature at which depolarization current drops to half of its maximum value on the low temperature and high temperature sides respectively.

MEASUREMENT OF THERMALLY STIMULATED DISCHARGE (TSD) CURRENT

Thermoelectret samples were heated at nearly uniform heating rate of 1.25°C/min. This rate of heating was achieved by suitably adjusting the position of the knob of the thermostatic control of the furnace with respect to time and temperature, which would produce equal rise of temperature (5°C) in equal interval (4min.) of time. The discharge (TSDC) current was measured with the sensitive pico ammeter (Model DPA 111 with accuracy $\pm 0.2\%$ Scientific Equipment, Roorkee).

RESULTS AND DISCUSSION

The peak depolarization current for various values of poising fields for different samples are preserved in Table 1.

A representative TSDC thermogram for sample blend PVC-PMMA, doped with 0.2% polyaniline (PANI) at various poising fields E 10 kV/cm, 15 kV/cm, 20 kV/cm & 30 kV/cm, poising temperature 353 K, heating rate 1.25°C/min, sample thickness 50µm and poising time is shown in Fig 1. Each of the curves shows a single prominent peak at around 408 K. This current peak (Fig 1) is characterized by following feature.

1. With increasing poising field, the peak shows a linear increasing magnitude (Fig-1), the temperature of peak current remaining almost the same i.e. constant at around 408K.
2. The area under the curve, which is measure of total stored polarization also increased with increasing poising field (Fig.1).

It appears therefore that the magnitude of peak current and the total polarization are linear functions of poising field. This is suggestive of the fact that the current peak is due to dipole orientation rather than space charge (Anagnostopoulos *et al*, Turnhout and Pillai *et al*). The linearity between peak depolarization current and polarizing field, suggests uniform polarization. Addition of PMMA to PVC and doping with PANI makes a heterogeneous structure and creates a plasticisation effect. Because of the heterogeneous structure, the charge carriers injected into the bulk by increasing may field pile up at the phase boundaries. The plasticisation causes loosening of the structure and provides greater mobility to charge carriers. This results in increase in peak current.

In the blend PVC-PMMA doped with PANI, of least two or three phases coexist and so discontinuity of structure at such boundaries increases. The carriers may get trapped at the interface of the phase boundary due to difference in conductivity of different phases. Dipoles may also originate, due to trapping of both +ve and -ve charge carriers, in deep traps in such a way as to form induced dipoles. Ionization of impurities may also generate trapped charge carriers. These lead to induced dipole polarization in polyblend films.

PMMA ($\mu = 1.33D$), PVC ($\mu = 1.73D$) and PANI, all known to be polar in nature, there should already be a contribution of permanent dipoles, to the host material. It may just happen that the dipoles to the polyblend are so constrained by the polarizing field, that they do not orient at all or their contribution to total polarization is almost negligible as compared to the contribution of induced dipoles formed due to trapping of charge carriers during polarization. In such a case the energy required to disorient the charge carriers and their subsequent release from trapping site, will be higher. This entails higher activation energy. Thus the higher value of activation energy observed in this case points to the induced dipole formation. Such induced dipole formation in polyblends has been observed by Khare *et al.* Also similar results are obtained in all other samples.

Fig. 1: Representative TSDC Thermograms of polyaniline (0.2%) doped.

PVC-PMMA polyblends.

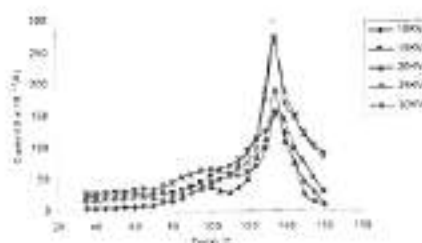


Fig. 2: Variation of peak current (I_p) with PANI % for various polarizing fields, $E_p = 10, 15, 20, 25$ and $30kV/cm$.



Table No. 1 Peak Depolarization Current in polyaniline doped PVC-PMMA Polymer blend.

Poling field (kV/cm)	Peak Depolarization Current (nA)				
	0.2% Sample	0.4% Sample	0.6% Sample	0.8% Sample	1.0% Sample
10	171x10 ⁻¹²	212x10 ⁻¹²	272x10 ⁻¹²	428x10 ⁻¹²	495x10 ⁻¹²
15	123x10 ⁻¹²	230x10 ⁻¹²	329x10 ⁻¹²	470x10 ⁻¹²	592x10 ⁻¹²
20	190x10 ⁻¹²	297x10 ⁻¹²	400x10 ⁻¹²	477x10 ⁻¹²	728x10 ⁻¹²
25	264x10 ⁻¹²	340x10 ⁻¹²	506x10 ⁻¹²	480x10 ⁻¹²	797x10 ⁻¹²
30	271x10 ⁻¹²	406x10 ⁻¹²	717x10 ⁻¹²	528x10 ⁻¹²	890x10 ⁻¹²

CONCLUSIONS


1. It is observed that with the increasing poling field the peak shows a linear increase in peak magnitude. However, the peak temperature remains the same.
2. The area under the curve, which is a measure of total stored polarization, also increases linearly with the increasing poling field, as shown in Fig. 1.
3. The peak depolarization current increases almost linearly with increasing poling field and with increasing percentage of doping (Fig. 2).

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Sessional Variation of Cestodepariside from economically importance mammals

Dr. K.E. Chaudhary



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Seasonal Variation of Cestode Parasites from Economically Important Mammals

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ABSTRACT

Seasonal changes are cyclic and source of external variation influencing natural systems. Population investigation can provide data for the prediction of integrated method to achieve the regulation of number of harmful parasites. Seasonality is so ubiquitous in nature that identifying the relevant environmental drivers and parameters they influence become extremely difficult to completely understand many infectious disease systems it will become increasingly important to understand how seasonality affects multiple processes including host behavior, reproduction, immune function and parasite transmission and survival in the environment. The precise and accurate examination of parameters of cestode parasite population can be achieved by careful and extensive experimentation. So in the present paper attempt was made to study the seasonal variation of cestode parasites from mammal which includes application of statistical methods to understand the distribution and seasonal variation of cestode parasites in two annual cycles. The study indicates the incidence of infection in *Capra hircus* less in summer and risen considerable in winter season and reached its peak and then moderate in rainy season.

Keywords: Cestode, seasonal variation.

I. INTRODUCTION

Tapeworms infects almost all the vertebrates. Mammals, birds and fishes are used as food by man, since they carry heavy helminthes infection it reduces food value of them. Therefore population investigation of parasites became an important way to order to control the parasitic infection. Ecology, the study of interaction and relationship between living system and the environment. It is an extremely active and dynamic field of life science. The precise and accurate examination of the parameters of cestode parasite population can be achieved through careful and extensive experimentation. Importance of the annual seasons was first reported by Bogayvlenski(1979) who studied the influence on various annual seasons on the infection of trematoda in the Volga district U.S.S.R. The information available in India about the effect of seasonal variation on the incidence of fishes and amphibian helminthes parasites is very major. Since no

attempt was made to study the nature of helminthes population in certain mammalian host of Amravati district M.S. India. An attempt was made to study the population dynamic of cestode parasites and only statistical study of cestode parasite with their host is made.

II. MATERIAL AND METHODS

In the present study deals with the effect of seasons on total cestode population from the host collected during two annual cycles 2014-2016. each annual cycle comprises of

1. rainy season (june to September)
2. winter season (nov. to January)
3. summer season (feb. to may)

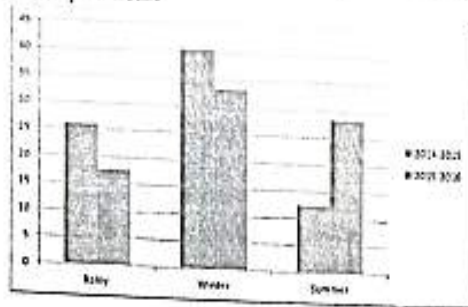
The influence of annual seasons on the population of cestode parasites of mammals *Capra hircus* and *Ovis bharnal* was worked out on the basis of incidence of infection

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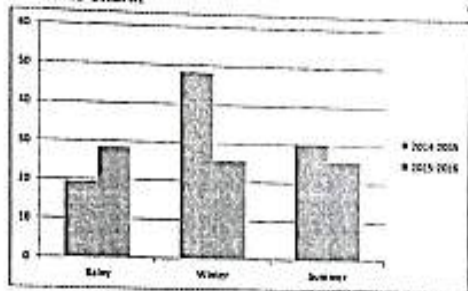
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III. OBSERVATION AND RESULT

Percentage of seasonal incidence of parasite *Monezia* from *Capra hircus*:



Percentage of seasonal incidence of parasite *Stilesia* from *Ovis bharal*



The study reveals that during 2014-16 were examined 420 hosts out of them 162 infected with cestode parasites and remaining were free from infection.

IV. DISCUSSION

The considerable work on the population dynamics were carried out by many workers on different hosts Mital(1980),Shushella (1987)have shown the effect seasons on the geographic distribution of cestode parasites. The other worker also studied the effect of climatic factors also studied effect of climatic factor on helminth include Kennedy(1969) Lawrence(1970). Seasonal dynamics have great potential to evolve in part because of the short generation times and high mutation rates of pathogens and because pathogens impact both their own fitness and that of their hosts(Altizer et al 2003).

From above study it shows that the infection of cestode were more observed in Winter season moderate in rainy season and poorly in the summer season. Exactly do not

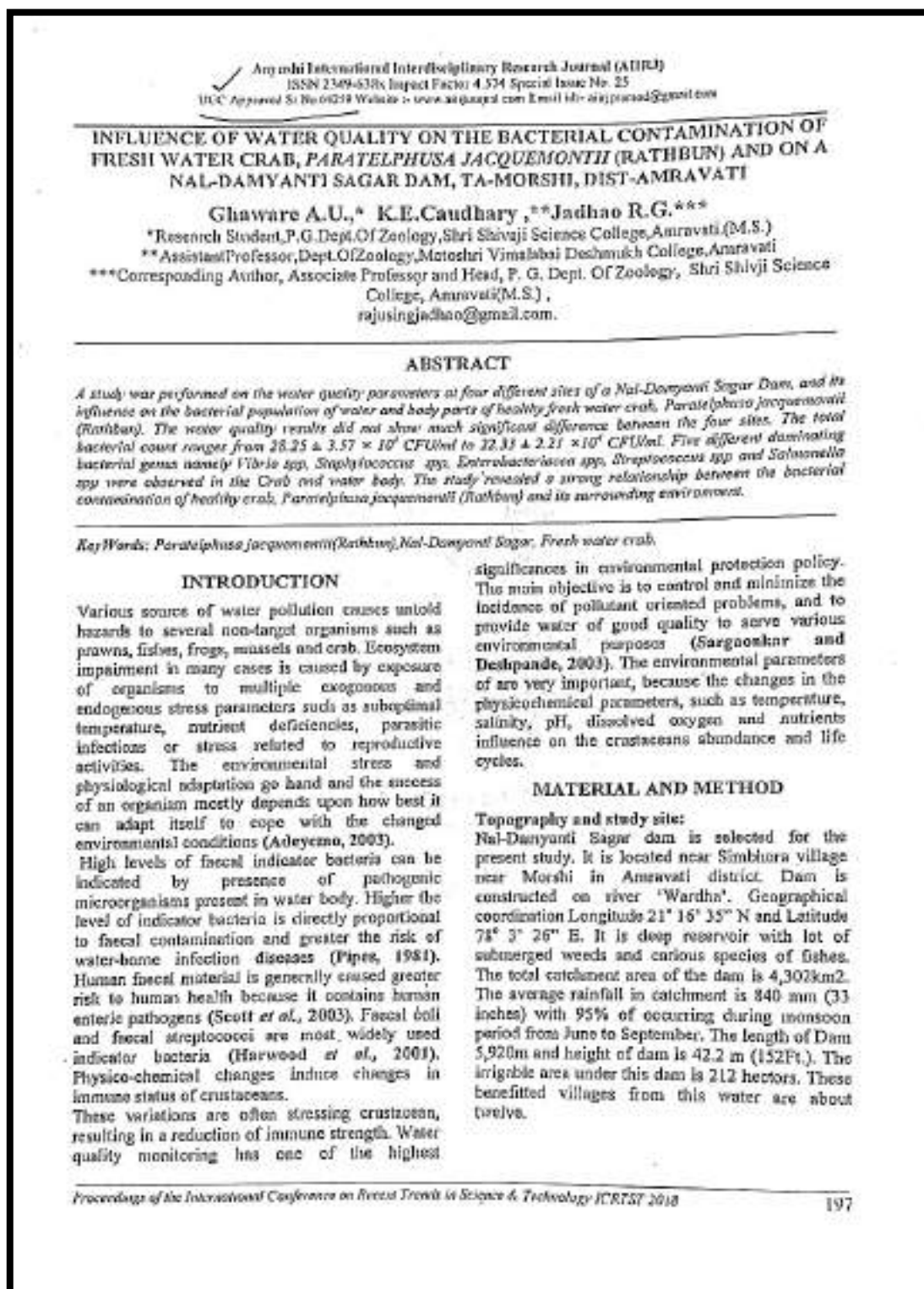
know the the reason of that fluctuation but some workers concluded that the seasonal changes were influenced by nature of the life cycles and parasites or their intermediate host or by both. Also when host graze most intensively varied the parasite fauna, Doigal and Blhorrk (1958).

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Influence of water quality on the bacterial contamination of fresh water crab paratelephous *Jeckuemontii Rathubul* from Naldamyanti Sagar dam Morshi

- Dr. K.E.Chaudhary



Water Quality Parameters:-

Physical parameters of water were analyzed to know the status of dam and their impact on the biological activity. The parameters studied were Temperature, Dissolved Oxygen, Turbidity, pH, Nitrate and Sulphate will be carried out according to methods of APHA (2005) for the study year 2010-2011.

Bacterial Enumeration and Identification:-

Water sample for microbiological analysis were collected in sterilized containers and kept in icebox and carried to the laboratory as early as possible. The samples were then analyzed for bacteriological parameters such as Total heterotrophic bacterial (THB). One ml of the water sample from each station was serially diluted with distilled water. Appropriately diluted water samples were plated on Nutrient Agar (NA) medium using spread plate technique. The inoculated plates were incubated at 37°C for 24-48 hours. After incubation plates with countable range (30-300 colonies) were selected for counting and the bacterial load in the sample was expressed as total colony forming units (cfu) per ml of water sample. Morphologically different colonies were isolated, re-streaked to ensure purity. The culture were then identified as various genera as per Bergey's manual of determinative bacteriology (Buchanan and Gibbons, 1984).

STATISTICAL METHOD

To verify the significance of the results of water quality and bacteriological study, statistical analysis namely, standard deviation, Karl Pearson correlation coefficient and ANOVA (one-way) were performed using SPSS software.

RESULTS AND DISCUSSION

Water samples are collected and analyzed from Nal-Damyanti Sagar dam during Feb-2010 to Jan-2011. The station wise minimum, maximum, mean and SE values of different parameters are given in (Table-1). The physico-chemical parameters such as Water temp., pH, Dissolve Oxygen, Turbidity, Sulphate, and Nitrate were observed.

In the present study, temperature of water at the four different sampling sites (A, B, C, and D) ranged between 22.48 ± 0.73°C to 22.65 ± 0.79 °C. In present investigation, the highest temperature value was recorded 28.66°C at station D during summer (May) and lowest value 18.46°C recorded at station B during winter (December). Similarly, results have been reported by (Anita *et*

al., 2005; Jawale and Patil, 2009). The oxidation of organic matter is highly influenced by the temperature of water. It influences the biota in a water body by affecting activities such as behavior, respiration and metabolism. In particular, aquatic animals are highly sensitive to temperature change and it is widely accepted that elevated temperatures can lead to reduced oxygen tension in the water, higher microbial growth and immunosuppression, resulting in higher prevalence of disease (Le Moullec and Haffner, 2006). Temperature will show effect on the metabolic activities, growth, oxygen consumption, reproduction, moulting, survival, distribution and migratory behaviours of crustaceans (Le Moullec and Haffner, 2000).

The average pH of water ranged between 6.75 ± 0.14 to 7.94 ± 0.14 showing fluctuations. In present investigation, the highest pH value was recorded 7.8 ± 0.18 at station A during summer (May) and lowest value 6.21 ± 0.02 recorded at station B during winter (January). In the present investigation, the pH values were maximum during summer and minimum during winter. The alkaline pH was found to be linked with more number of crab species. However, with increasing pH, the number of species has been reported to decrease (Das *et al.*, 1997). In decapods, pH affects the metabolism; physiology and maturation process (Muthu and Laxminarayana, 1977). Research suggests that water with lower pH levels can negatively affect the carapaces of crabs. Discoloration of calcareous shell may adversely affect other organs like gills and the eyes. Exposure of crabs to acidic water causes impairment of normal metabolism leading to growth retardation and death. (Lavilla-Pitogo, 2004).

Dissolved oxygen at the four different sites ranged between 6.81 ± 0.12 to 6.93 ± 0.14 mg/l. In present investigation, the highest DO value was recorded 7.51 ± 0.15 mg/l at Station B during winter (October) and lowest value 6.26 ± 0.08 mg/l recorded at station A during summer (March). Kataria (2006) reported that depletion of dissolve oxygen in water is due to high temperature and increased microbial activity, on their study on water quality of Dahod dam, India. Dissolved oxygen (DO) plays an important role in aquatic environment and is essential for growth of phytoplankton and crab productivity. The inhabitant organisms are affected greatly due the

diurnal and seasonal variation in the dissolved oxygen of the ambient water (Kiran, 2010). The average value of turbidity of all station in whole year ranges from 44.23 ± 0.80 to 44.56 ± 0.77 (NTU). In the present investigation, the highest turbidity value was recorded 49.47 ± 0.16 at station-C during monsoon (August) and lowest turbidity value 41.22 ± 0.06 was recorded at station-A during summer in month of May. These observations were also supported by (Prasanna and Ranjan, 2010, Shradidha *et al.*, 2008 and Trivedi *et al.*, 2009). In the present study, sulphate value in water at the four different sampling sites (A, B, C, and D) ranged between 17.73 ± 1.00 to 18.13 ± 0.51 mg/l. In the present investigation, the highest sulphate values obtained 20.56 ± 0.14 mg/l at station-B in month of August during monsoon and lowest

value 14.2 ± 0.05 mg/l at station-A obtained in month of January during winter. Maximum sulphate concentration during monsoon may be due to the dilution and utilization of sulphate by aquatic plants. However, the low sulphate concentration was noted during winter may be due to biodegradation and low water level. Similarly, results have been reported (Reddy Vasumathi *et al.*, 2009; Telkhade *et al.*, 2008; Shanthi *et al.*, 2006). The Mean \pm Standard Error values of selected water quality parameters during the period of sampling are summarized in Table-1. No significant variation was observed in the parameters between the four different sampling sites A, B, C and D of the Nal-Damyanti Sagar dam.

Table1. Mean \pm standard deviation values of selected water quality parameters of four sites of Nal-Damyanti Sagar Dam.

Parameters	Stations											
	A			B			C			D		
	Max.	Min.	Mean \pm SE	Max.	Min.	Mean \pm SE	Max.	Min.	Mean \pm SE	Max.	Min.	Mean \pm SE
Temp.	28.3	18.7	22.65 \pm 0.79	28.16	18.46	22.50 \pm 0.77	28.4	18.56	22.61 \pm 0.79	28.66	19.13	22.48 \pm 0.73
pH	7.8	6.33	7.94 \pm 0.14	7.5	6.21	6.91 \pm 0.15	7.5	6.3	6.75 \pm 0.14	7.66	6.53	7.17 \pm 0.14
DO	7.46	6.26	6.86 \pm 0.12	7.51	6.43	6.93 \pm 0.14	7.36	6.3	6.81 \pm 0.12	7.4	6.3	6.85 \pm 0.14
Turbidity	49.42	41.22	44.48 \pm 0.80	48.54	41.23	44.23 \pm 0.80	49.47	42.09	44.51 \pm 0.77	48.43	41.23	44.56 \pm 0.77
Sulphate	20.4	14.2	17.73 \pm 1.00	20.56	14.3	18.13 \pm 0.51	20.43	14.8	17.89 \pm 0.45	20.31	14.6	18.06 \pm 0.17
Nitrate	0.92	0.62	0.68 \pm 0.02	0.94	0.62	0.70 \pm 0.02	1.03	0.65	0.77 \pm 0.025	0.83	0.64	0.69 \pm 0.04

High bacterial density in water indicates sewage contamination. The total bacterial count ranges from $28.25 \pm 3.57 \times 10^4$ CFU/ml to $22.33 \pm 2.21 \times 10^4$ CFU/ml. Higher bacterial population during monsoon is due to increased land run off and higher faecal inputs in to dam from connecting rivers and various sources. An increase in the bacterial level after rainfall was reported by (Shehane *et al.*, 2005). The load in the present study is significantly correlated with dissolve oxygen. Facultative anaerobic and Gram-negative cum heterotrophic bacterial forms are pathogenic to fish population and crab species, as some of

them are considered as chitinolytic and cellulolytic in nature.

Total bacterial count (CFU) from different parts of crab

Total bacterial count of crab on nutrient agar in ranged 31×10^4 to 3×10^4 . Changes in total bacterial count in gills, carapace, gut, muscle and haemolymph are shown in Table-2. The bacterial count on fresh crab tissue were in the ranged of 21 to 14×10^4 on carapace, 31 to 26×10^4 on gills, 23 to 19×10^4 in gut, 12 to 7×10^4 in muscle and 5 to 3×10^4 in haemolymph. The bacterial counts of water were significantly higher than crab tissues.

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Quantitative distribution of Total bacteria from different parts of *P. jayakeramoni* in fresh water.

Season	Counting (CFU/g) × 10 ⁴				Counting (CFU/ml) × 10 ⁴
	Carapace	Gill	Gut	Muscle	Haemolymph
Summer	21	31	23	12	5
Monsoon	18	26	19	9	7
Winter	14	29	21	7	3

CONCLUSION

The present study entitled 'Influence of water quality on the bacterial contamination of fresh water crab, *Paratrophus jayakeramoni* (Rathbun) and on a Nal-Damnyami Sagar Dam, was carried out to examine the physico-chemical parameter and microbial status and its effect on crabs with respect to haematological alteration and histological changes in vital organs like gills, gonads and hepatopancreas.

From this investigation, it has been concluded that the physicochemical characteristics of selected dam are suitable for the growth of the crabs, but sewage contamination from human habitation increase the microbial load in water. So the bacterial species showed harmful effect on the aquatic organisms. There is need to create awareness among crab eating people. Thus, it can

be concluded that these characteristics of water bodies are influenced by seasonal variations.

It is recommended that the proper maintenance of the water bodies is necessary. Proper sanitation measures and environmental education to public care essential to keep these water bodies clean and safe. To improve quality of water there should be continuous monitoring of pollution level and maintain the favorable conditions essential for fish, crab survival, growth and reproduction. There is need for innovative measures to discourage the local population from eating improperly cooked crabs. Pollution in water increases the load of harmful microbes which directly infect the aquatic animals. These diseases increase the mortality of crab. So market losses could occur as loss of production due to diseases and quality. Market value also decrease result in economic loss.

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Study of Diversity of Mantides from Amravati (M.S.)

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Study of Diversity of Mantids from Amravati (M.S.)

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Abstract:-

Praying mantids (Mantodea Burmeister 1838) form an order of exclusively carnivorous insects. There are approximately 2300 species known worldwide (Ehrmann 2002), the majority of which occur in the tropics and subtropics. They play a valuable role in checking the harmful insects like aphids, grasshoppers, moth, flies, mosquitoes, larvae of various insects etc.

The objective of this study is to contribute to the knowledge of the biodiversity of praying mantids in Amravati SGBAU campus. The area has rich mantid fauna and some 16 species of mantids, belonging to 16 genera have been known from the area.

Among the diversity of mantids, Family Mantidae (4 genus) is dominant, Epusidae, (1 genus) are moderate while Amorphoscilidae (1 genus) and Liturgusidae, (1 genus) and Hymenopodidae single genus were recorded.

Key words-Diversity, mantidae, mantids

INTRODUCTION:

Phylum Arthropoda is the largest phylum of Animal kingdom including about 900,000 species in all habitats which constitute about 80% of all known species of animals.


Phylum Arthropoda includes a biggest class i.e. Insecta, which is again divided into 11 subclasses. Insects are air breathing mostly terrestrial and rarely aquatic arthropods. The

class Insecta comprises of 33 orders, in that the 9th order is of Mantodea. Mantodea is a small insect order represented by 2452 species on 446 genera and 14 families around the world. (Olte and spearman, 2005). The well known example of order Mantodea is Mantid.

Mantids were formerly placed under the Order Dictyoptera. Burmeister (1838) placed them in a separate Order Mantodea. The mantids have been existing from Paleocene period (Roy, 1996). The common name comes from the manner in which they hold up the forepart of the body, with its specialized front legs, in an attitude of prayer. They are also known as "Praying Mantids". These insects are carnivorous, with peculiar habits of prey capture, camouflage and reproductive behaviour. Mantids belong to the top predators of the arthropod community.

Praying mantids (Mantodea Burmeister 1838) form an order of exclusively carnivorous insects. They live solitarily in the vegetation or rarely, on the ground. They ambush insects, spiders and occasionally even small vertebrates (Prete et al. 1999). Some species wear cryptic colours and resemble leaves, flowers, sticks or bark. They are known to lay eggs in complex ootheca. These insects often remain motionless for hours, in search of prey, and only the head rotates about 180 degrees to watch any disturbances caused by flying insects.

There are approximately 2300 species known worldwide (Ehrmann 2002), the majority of which occur in the tropics and subtropics. Mantids are characterized by their highly specialised raptorial forelegs and a mobile head with powerful compound eyes that allow for binocular sight. An elongated prothorax is also typical. Phylogenetically, they are placed in the vicinity of termites and cockroaches, with which they form the superior taxon Dictyoptera (Prete



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et al. 1999). In spite of their close relationship to these long-established groups, mantids themselves do not appear in the fossil record in their modern form before the Cretaceous (Ehmann 2002).

African forests and savannahs contain the highest known species richness, followed by the rain forests of South East Asia. In spite of their size and often spectacular appearance, surprisingly little is known about the ecology of praying mantids. Mantodea (Order: Mantodea (mantis) is a small insect order represented globally 2300 species belonging to 434 genera and 15 families known to occur (Ehmann, 2002). of which, 184 species in 73 genera and 11 families exist in India (Ghate, H.V. and et.al.2009). The recent figures 2452 species on 446 genera and 15 families around the world. (Otte & Spearman-2005). Various workers of India done work on Mantodea has been compiled by Mukherjee et al.(1995), based on the available information, which include 162 species under 68 genera and 6 families. Mantids are distributed in temperate and tropical habitat across the world. They are also known as "Praying mantis" because of the typical "prayer like" stance. The term is often misspelled as "preying mantis" and this is an eggcorn since mantises are notoriously predatory. They play a valuable role in checking the harmful insects like aphids, grasshoppers, moth, flies, mosquitoes, larvae of various insects etc.

The objective of this study is to contribute to the knowledge of the biodiversity of praying mantids in Amravati SGBAU campus.

Table: 1. Mantodea, Global, Oriental and Indian diversity.

S.No.	Family	World	India	Amravati
1	Phoridae	10	0	0
2	Formicidae	20	0	0
3	Blattellidae	1	0	0
4	Blattellidae	1	0	0
5	Blattellidae	1	0	0
6	Blattellidae	1	0	0
7	Blattellidae	1	0	0
8	Blattellidae	1	0	0
9	Blattellidae	1	0	0
10	Blattellidae	1	0	0
11	Blattellidae	1	0	0
12	Blattellidae	1	0	0
13	Blattellidae	1	0	0
14	Blattellidae	1	0	0
15	Blattellidae	1	0	0
16	Blattellidae	1	0	0
17	Blattellidae	1	0	0
18	Blattellidae	1	0	0
19	Blattellidae	1	0	0
20	Blattellidae	1	0	0
21	Blattellidae	1	0	0
22	Blattellidae	1	0	0
23	Blattellidae	1	0	0
24	Blattellidae	1	0	0
25	Blattellidae	1	0	0
26	Blattellidae	1	0	0
27	Blattellidae	1	0	0
28	Blattellidae	1	0	0
29	Blattellidae	1	0	0
30	Blattellidae	1	0	0
31	Blattellidae	1	0	0
32	Blattellidae	1	0	0
33	Blattellidae	1	0	0
34	Blattellidae	1	0	0
35	Blattellidae	1	0	0
36	Blattellidae	1	0	0
37	Blattellidae	1	0	0
38	Blattellidae	1	0	0
39	Blattellidae	1	0	0
40	Blattellidae	1	0	0
41	Blattellidae	1	0	0
42	Blattellidae	1	0	0
43	Blattellidae	1	0	0
44	Blattellidae	1	0	0
45	Blattellidae	1	0	0
46	Blattellidae	1	0	0
47	Blattellidae	1	0	0
48	Blattellidae	1	0	0
49	Blattellidae	1	0	0
50	Blattellidae	1	0	0
51	Blattellidae	1	0	0
52	Blattellidae	1	0	0
53	Blattellidae	1	0	0
54	Blattellidae	1	0	0
55	Blattellidae	1	0	0
56	Blattellidae	1	0	0
57	Blattellidae	1	0	0
58	Blattellidae	1	0	0
59	Blattellidae	1	0	0
60	Blattellidae	1	0	0
61	Blattellidae	1	0	0
62	Blattellidae	1	0	0
63	Blattellidae	1	0	0
64	Blattellidae	1	0	0
65	Blattellidae	1	0	0
66	Blattellidae	1	0	0
67	Blattellidae	1	0	0
68	Blattellidae	1	0	0

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Families not represented in India
Source for World and Oriental Mantodea, Ehmann (2002)

Table: 2. Diversity of mantis in India (State wise)

S.No.	State	Genera	Species
1	Andhra Pradesh	17	39
2	Andhra Pradesh	5	7
3	Assam	21	20
4	Assam	21	18
5	Bihar	12	17
6	Bihar	12	16
7	Goa	12	14
8	Goa	1	5
9	Goa	19	25
10	Goa	0	6
11	Goa	23	27
12	Goa	31	49
13	Goa	1	3
14	Goa	17	25
15	Goa	43	46
16	Goa	17	19
17	Goa	7	18
18	Goa	24	27
19	Goa	3	5
20	Goa	8	9
21	Goa	12	18
22	Goa	36	44
23	Goa	2	2
24	Goa	29	55
25	Goa	26	40

Source: Check list of Indian Mantodea (Ghate, H.V. and et.al.)

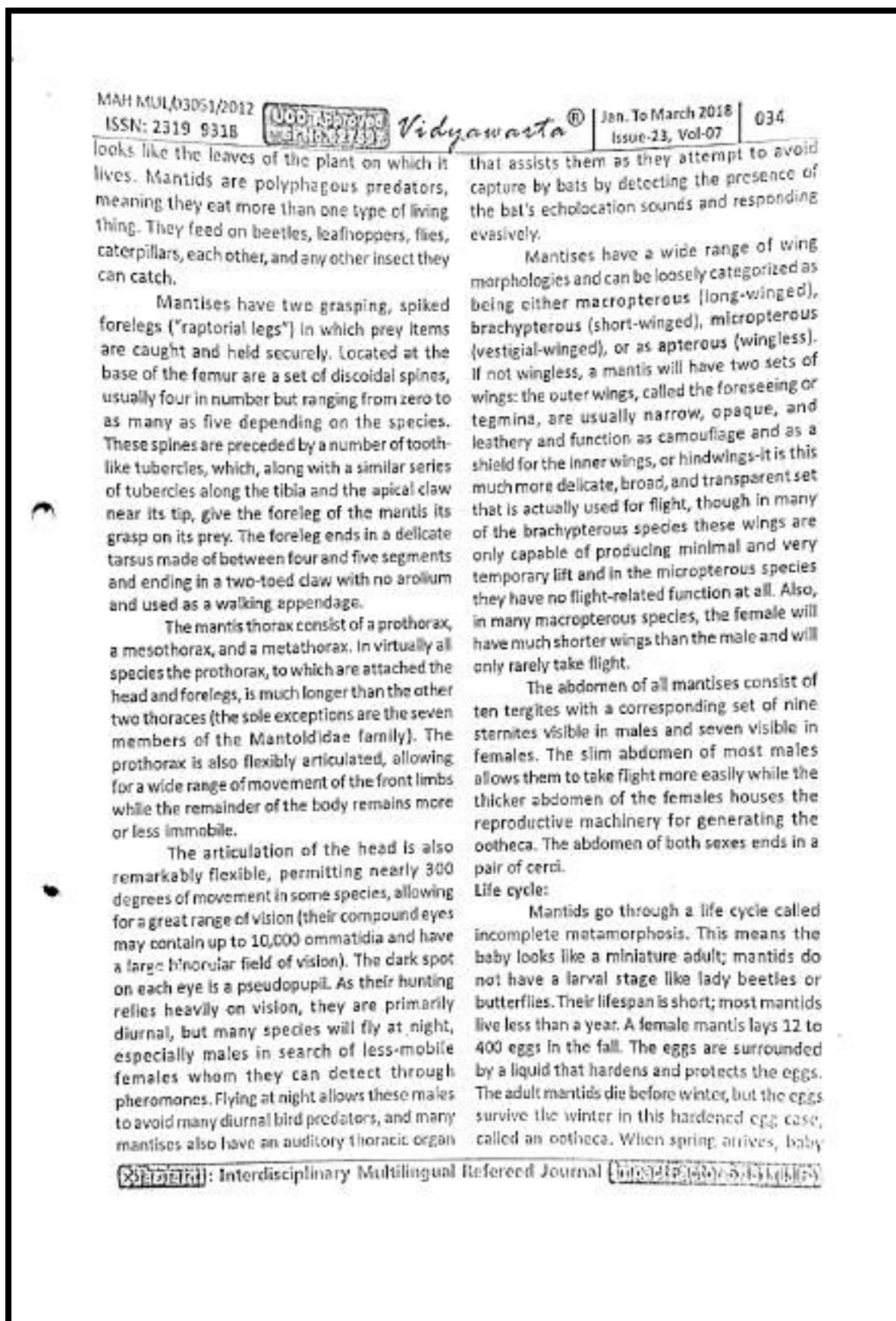
Table: 3. Faunal Diversity of Mantis in Melghat (Amravati) Sanctuary

S.No.	Family	No. of	No. of
1	Amorphoceridae	1	1
2	Amorphoceridae	2	3
3	Amorphoceridae	2	2
4	Amorphoceridae	2	1
5	Amorphoceridae	2	2
6	Amorphoceridae	2	2
7	Amorphoceridae	2	2
8	Amorphoceridae	2	2
9	Amorphoceridae	2	2
10	Amorphoceridae	2	2
11	Amorphoceridae	2	2
12	Amorphoceridae	2	2
13	Amorphoceridae	2	2
14	Amorphoceridae	2	2
15	Amorphoceridae	2	2
16	Amorphoceridae	2	2
17	Amorphoceridae	2	2
18	Amorphoceridae	2	2
19	Amorphoceridae	2	2
20	Amorphoceridae	2	2
21	Amorphoceridae	2	2
22	Amorphoceridae	2	2
23	Amorphoceridae	2	2
24	Amorphoceridae	2	2
25	Amorphoceridae	2	2
26	Amorphoceridae	2	2
27	Amorphoceridae	2	2
28	Amorphoceridae	2	2
29	Amorphoceridae	2	2
30	Amorphoceridae	2	2
31	Amorphoceridae	2	2
32	Amorphoceridae	2	2
33	Amorphoceridae	2	2
34	Amorphoceridae	2	2
35	Amorphoceridae	2	2
36	Amorphoceridae	2	2
37	Amorphoceridae	2	2
38	Amorphoceridae	2	2
39	Amorphoceridae	2	2
40	Amorphoceridae	2	2
41	Amorphoceridae	2	2
42	Amorphoceridae	2	2
43	Amorphoceridae	2	2
44	Amorphoceridae	2	2
45	Amorphoceridae	2	2
46	Amorphoceridae	2	2
47	Amorphoceridae	2	2
48	Amorphoceridae	2	2
49	Amorphoceridae	2	2
50	Amorphoceridae	2	2
51	Amorphoceridae	2	2
52	Amorphoceridae	2	2
53	Amorphoceridae	2	2
54	Amorphoceridae	2	2
55	Amorphoceridae	2	2
56	Amorphoceridae	2	2
57	Amorphoceridae	2	2
58	Amorphoceridae	2	2
59	Amorphoceridae	2	2
60	Amorphoceridae	2	2
61	Amorphoceridae	2	2
62	Amorphoceridae	2	2
63	Amorphoceridae	2	2
64	Amorphoceridae	2	2
65	Amorphoceridae	2	2
66	Amorphoceridae	2	2
67	Amorphoceridae	2	2
68	Amorphoceridae	2	2

Source: Check list of Melghat Mantis (Sangve, K.B.2010)

Anatomy and morphology:

Mantids are insects and are diurnal, which means they are active during the daytime. Praying mantids usually are between 2 and 2½ inches (50 to 65 mm) long from head to wingtip, but some are larger. They have large eyes. The body is long and green to brown in color, depending on the species and location. Praying mantids have six legs and two antennae. The front legs are spiny, making it easy for mantids to hold onto their prey. A mantis's body often





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For instance, one such case has been the assumption that basal mantids possess a short prothorax, with the elongation of the thorax occurring only in the more derived taxa (Roy, 1999). Consequently, five mantid families with a short prothorax are grouped together as the most 'primitive' lineages (Chaeteessidae, Mantoididae, Amorphoscelidae, Eremiaphilidae, and Metallyticidae). Roy (1999) proposed that prothoracic elongation progressed gradually in different lineages with possible secondary shortening in some groups. Roy (1999) placed the three families Mantidae (sensu Beier, 1968), Hymenopodidae and Empusidae within the superfamily Mantoidea, based on the presence of a relatively elongate pronotum and a clear supracoxal enlargement.

MATERIALS AND METHODS

Collection: As per the proposed objectives of the project, surveys were conducted to explore the Mantids fauna of SGB Amravati University Campus.

Mantids were collected from different areas of University Campus by using sweeping net and inverted umbrella method. The most important features for identification are the head, thorax, forelegs, wings, and the male genitalia. The head and thorax are not usually a problem but the forelegs need to be opened out so that all the surfaces of each part of the legs are available for examination; the spines on these legs are particularly important.

In most groups the wings do not matter, but in a few it is important to be able to examine both the forewing and hindwing, so it is best to spread the wings on one side of the body in all specimens.


The specimens were collected and photographs were taken when was fresh. (Fugifilm, FinePix S1800 and SONY cyber shot DSC55).

Measuring mantids

The pronotum length of mantids was recorded, whereas body mass was measured immediately preceding.

Measuring mantids- Examination of each specimen focused on morphological characters of pronotum, head, fore legs (full winged, mildly brachypterous, strongly brachypterous, apterous).

External morphology fore femur (inner and outer row of spines), fore tibia (inner and outer row of spines), shape of mid-femur in cross-section, presence of setal patch on fore tibia, length of hind femur in relation to abdomen, hindwing venation, shape of posterior margin of metanotum, form of the last sternite of the abdomen, left/right orientation of male genitalia and presence of male abdominal spines were studied. Classification above the species level was conducted Mantis Study Group Newsletter (Vol.1-27), Identification keys by Giglio-Tos and Beier, and Ehrmann & Roy (2002).



Collection of Mantis by sweeping net and inverted umbrella method.

OBSERVATION AND RESULTS:-

Family :- Empusidae

Kingdom :- Animalia

Phylum :- Arthropoda


Class :- Insecta

Order :- Mantodea

Family :- Empusidea

Genus :- Empusa

Species :- *Empusa guttula*
(Cone headed mantis)




Empusa guttula

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Family description: - Empusidae
 The largest mantids are found in the family Empusidae.
 Empusids are slender and are identified by the spines on their protibia which have alternately one long spine and two to four shorter spines.
 They also have leaf like lobes on the femora.
 The antennae of the males are elongate and doubly pectinate (comb – like) rather than thin and bare as usually found in the mantids.
 The Empusidae is made up of eight genera with a small no. of Species scattered across Africa, the Mediterranean region and Asia.
General characters of Empusa Guttula:-
 Empusa Gutulla is the cone headed mantis.
 Male are unusual in having pectinate antennae, the kind of usually seen in the moth and other insects with other isects with well developed pheromonal communication.
 In case of female, emits sex pheromones and males follow the faint scent trail.
 Such behaviour was recently demonstrated to be present in empusides.
 Two main body types are common, they are either thin or stick like, while still being rather spindly, the body is covered with large lobes and flaps, making them excellent mimics of dried, shriveled leaves.
Family: - Liturgusidae
 Kingdom :- Animalia
 Phylum :- Arthropoda
 Class :- Insecta
 Order :- Mantodea
 Family :- Liturgusidae
 Genus :- Humbertiella
 Species :- Humbertiella ceylonica
 (Bark Mantis)



Family description: - Liturgusidae
 Humbertiella ceylonica
 Brownish in colour, wings longer than abdomen, with brown spots.
 Eyes rounded. Pronotum in form of heraldic shield, edges more or less dilated anteriorly.
 Pronotum much longer than wide.
 Female elytra at least as long as abdomen.
 Coxa of fore legs has black line externally, and one black spot near trochanter, femora externally brown, internally with black longitudinal line, often divided into two black patches present on claw groove and inside of first external spine, longer internal spines black at their apical halves only in the distal one or two internal spines only.
General characters of Humbertiella ceylonica:-
 Humbertiella ceylonica is a bark limiting genus.
 They are small to middle sized.
 Mantids from this genus are very aggressive so they should not be kept together, even the nymphs.
 Both genders should should be single kept.
 They are well camouflaged on a tree in monsoon forest India.

Family: - Mantidea
 Kindom :- Animalia
 Phylum :- Arthropoda
 Class :- Insecta
 Order :- Mantodea
 Family :- Mantidae
 Genus :- Rhombodera
 Species :- Rhombodera butleri
 (Green Mantis)



Rhombodera butleri
 Family description: - Mantidea

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Mantidae is largest family of the order Mantodea, commonly known as praying mantises; most tropical or subtropical.

Historically, this was only the family in the order, and many references still use the term "mantid" to refer to any mantis.

It contains 263 genera and vast array of species.


It also showing high degree of diversity in shape and form.

Most typical are the green/ brown and grey mantids, as well as most of the species which mimic tree bark or grass.

The inner margin of the grasping legs has a row of alternating short and long spines with the eyes usually very large and the wings often reduced, at last in the female.

General characters of Rhombodera butleri:-
Rhombodera butleri is a species of praying mantis of the genus Rhombodera.
It is native to Asia.
It possessing the common names such as Shield mantis, Hood mantis, and leaf mantis, because of their extended leaf like thorax.

Family: - Mantidea
Kindom :- Animalia
Phylum :- Arthropoda
Class :- Insecta
Order :- Mantodea
Family :- Mantidea
Genus :- Schizocephala
Species :- Schizocephala bicornis



Schizocephala bicornis
(Grass Mantis)

Family description: - Mantidea
Mantidae is largest family of the order Mantodea, commonly known as praying mantises; most tropical or subtropical.
Historically, this was only the family in the order, and many references still use the term "mantid" to refer to any mantis.

Most typical are the green/ brown and grey mantids, as well as most of the species which mimic tree bark or grass.

The inner margin of the grasping legs has a row of alternating short and long spines with the eyes usually very large and the wings often reduced, at last in the female.

General characters of Archimantis latistyla:-

the order, and many references still use the term "mantid" to refer to any mantis.

It contains 263 genera and vast array of species.


It also showing high degree of diversity in shape and form.

Most typical are the green/ brown and grey mantids, as well as most of the species which mimic tree bark or grass.

The inner margin of the grasping legs has a row of alternating short and long spines with the eyes usually very large and the wings often reduced, at last in the female.

General characters of Schizocephala bicornis
Schizocephala bicornis generally called as "Indian Grass Mantis"

Family: - Mantidea
Kingdom :- Animalia
Phylum :- Arthropoda
Class :- Insecta
Family :- Mantidae
Genus :- Archimantis
Species :- Archimantis latistyla



Archimantis latistyla

Family description: - Mantidea
Mantidae is largest family of the order Mantodea, commonly known as praying mantises; most tropical or subtropical.
Historically, this was only the family in the order, and many references still use the term "mantid" to refer to any mantis.

Most typical are the green/ brown and grey mantids, as well as most of the species which mimic tree bark or grass.

The inner margin of the grasping legs has a row of alternating short and long spines with the eyes usually very large and the wings often reduced, at last in the female.


General characters of Archimantis latistyla:-

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Archimantis latistyla commonly known as large brown mantis.
 Because of its appearance it is also called as Stick mantis.
 The Stick mantis ghosts are not as aggressive as original species but have a defence display used to make mantis appear large flinging its front legs into the air and putting its head down along with its antennae.
 The large brown mantis female called 'short winged' because the pair of wings reach only half of her abdomen and she is not able to fly.
 Family: - Amorphoscelididae
 Kingdom: - Animalia
 Phylum: - Arthropoda
 Class: - Insecta
 Order: - Mantodea
 Family: - Amorphoscelididae
 Genus: - Amorphoscelis
 Species: - annulicornis
 (Jumping Mantis)



Amorphoscelis annulicornis
 Family description: -Amorphoscelididae
 Amorphoscelididae family recognised by front tibia with two rows of spines.
 Small and delicate, both sexes usually with normal wings. (Female rarely brachypterous).
 Anterior femur much expanded inferiorly.
 Inferior face much wider than exterior face.
 General characters of Boxer bark mantid :-
 Insects reach 2-3 cm long as adults and nymphs 3 mm.
 This genus give its name from the unusual way it acts like and resembles as a boxer.
 Boxer bark mantids are black with hints of grey and white.

They can mimic as ant due to its small size and it's ant like abdomen and small bumpy thorax.
 It does this to avoid predators and is excellent at camouflage.
 Family: - Mantidea
 Kingdom :- Animalia
 Phylum :- Arthropoda
 Class :- Insecta
 Order :- Mantodea
 Family :- Mantidae
 Genus :- Statilia
 Species :- maculata



Statilia maculata (Thunberg)
 Family description: - Mantidea
 Mantidae is largest family of the order Mantodea, commonly known as praying mantises; most tropical or subtropical.
 Historically, this was only the family in the order, and many references still use the term "mantid" to refer to any mantis.
 Most typical are the green/ brown and grey mantids, as well as most of the species which mimic tree bark or grass.
 The inner margin of the grasping legs has a row of alternating short and long spines with the eyes usually very large and the wings often reduced, at last in the female.
 General characters of S.maculata: -
 Statilia is a genus of praying mantis that resembles dead or living grass.
 45-65 mm in length as adult.
 The common name "Asian jumping mantis".
 It is native to Asia, Australia, Africa
 The adults male fly well. Adults males are small about 45mm long.
 The adult females are not very aggressive, but they will do threat pose if provoked enough.

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They lay several ootheca, they are hard as compared to Chinese mantids oothecae.

Family: Hymenopodidae
Kingdom :- Animalia
Phylum :- Arthropoda
Class :- Insecta
Order :- Mantodea
Family :- Hymenopodidae
Genus :- *Hestiasula*
Species :- *brunneriana*
(Flower mantis, Ant mantis, Boxer mantis)



Hestiasula brunneriana

Family description: - Hymenopodidae
Hymenopodidae are distinguished from other Mantodea by the external spines on the anterior tibia which are reccinate and very closely spaced.
The head is frequently adorned with spines and the tips of the wings are usually abruptly terminated.
Ventrolateral spines of anterior tibia more or less decumbent, close together and overlapping. Tegmina often with bicoloured transverse band or spiral marking. Pronotum with a markedly toothed edge. 3rd discoidal spine of anterior femur markedly lengthened.
Frontal sclerite may have lateral tubercles, or slightly raised lateral strips, but does not have raised lateral wing-shaped keels; the central portion is not depressed; the dorsal edge never with two small teeth.
Eyes within outline of head.
General characters of *Hestiasula brunneriana*:
These are sometimes referred to as flower mantids, as they often appear like flowers and are found camouflaged among them.
22-28 mm in length as adult.
The common name "Boxer Mantis".
It is native to Asia, Australia, Africa

Families of order Mantodea found in SGB Amravati University Campus-

1. Amorphoscelidae
2. Empusidae
3. Liturgusidae
4. Mantidae
5. Hymenopodidae


SUMMARY AND CONCLUSION
A survey of Mantodea of SGB Amravati University campus has been carried out for the past one year. The topography of this area is suitable as green vegetation with semi dry deciduous plants are present. The area has rich mantid fauna and some 16 species of mantids, belonging to 16 genera have been known from the area up till now.

Among the diversity of mantids, Family Mantidae (4 genus) is dominant, Epusidae, (1 genus) are moderate while Amorphoscelidae (1 genus) and Liturgusidae, (1 genus) and Hymenopodidae single genus were recorded in during the year 2016-17.

Species checklist
Phylum Arthropoda
Class Insecta
Order Mantodea

1. Family Amorphoscelidae
Subfamily Amorphoscelinae
1. Genus *Amorphoscelis* Stal, 1871
1. *Amorphoscelis annuicornis* Stal, 1871
2. Family Empusidae
Subfamily Empusinae
Tribe Empusini
1. Genus *Empusa* (Empusa) Illiger, 1798
2. *Empusa* (E) *guttula* (Thunberg, 1815)
3. Family Liturgusidae
Subfamily Liturgusinae
Tribe Liturgusini
1. Genus *Humbertiella* Sausser 1871
3. *Humbertiella ceylonica* (Saussure 1859)
4. Family Mantidae
Subfamily Paramantinae
Tribe Paramantini

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1. Genus *Statila* Stal 1877
 4. *Statila* sp. (unidentified)
 Tribe Mantini

2. Genus *Rhombodera* Burmeister, 1838
 5. *Rhombodera butleri* Wood-Mason 1878
 Subfamily Schizocephalinae

3. Genus *Schizocephala* Audinet-Serville 1831
 6. Genus *Schizocephala bicornis* (Linnaeus, 1758)

4. Genus *Archimantis latistyla*
 7. Genus *Archimantis latistyla*

5. Family: Hymenopodidae
 1. Genus *Hestiasula* (Saussure 1871)
 8. *Hestiasula brunneriana* (Saussure 1871)

Study is done by the aim to collect and identify the praying mantis of different families in SGBAU campus. Mantis was collected from different areas of university campus. Dominance of particular family also checked. Following families were identified in campus.


Dr.No.	Name of the family	Name of the Genus	Common Name
1.	Empoidea	<i>Empoia juteba</i>	Tree-holed Mantis
1.	Ungulatae	<i>Ungulatae myrtilica</i>	Bark Mantis
1.	Mantodea	<i>Rhombodera butleri</i>	Green Mantis
		<i>Schizocephala bicornis</i>	Green Mantid
		<i>Archimantis latistyla</i>	Brown Mantid
		<i>Empoia juteba</i>	--
1.	Antiphonitidae	<i>Antiphonitella melleocincta</i>	Jungle mantis
5	Hymenopodidae	<i>Hestiasula brunneriana</i>	Brown mantis

Dominance of the family Mantidea in the SGBAU campus is observed. Four different species of the family Mantidea were found.

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स्त्री सक्षमीकरणात गृहअर्थशास्त्राची भूमिका

प्रा. प्राची मांडुरकर, विधळे
यातोशी विमलबाई देशमुख महा.
अमरावती,

प्रस्तावना :

गृहअर्थशास्त्राच्या शिक्षणाकडे गृहिणीच्या ज्ञानाच्या फळा विस्तारानत त्याचा लाभ गृहिणीला जीवनात विविध क्षेत्रातील निर्णय घेतांना होतो. पूर्वी स्त्री ही 'मूल आणि मूल' यापुरती मर्यादित होती परंतु आज विवेक क्षेत्र मूल व मूल एवढेच मर्यादित राहिलेले नाही. विविध क्षेत्रात तिने आपल्या यशाचे ठसे उमटविले आहेत. प्रत्येक क्षेत्रात तिने जिद्दीने उभी राहून ते क्षेत्र बळकाविले आहे. स्त्री सक्षमीकरणात गृहअर्थशास्त्राचे शिक्षण अत्यंत महत्त्वाची कामगिरी बजावत आहे. तिला विविध क्षेत्राचे शिक्षण गृहअर्थशास्त्रात मिळत आहे. यापुढी गृहिणी स्वतंत्रपणे स्वयंरोजगार निर्मितीमध्ये सहभागी नव्हत्या त्या शेतातील व कुटुंबातील कामे करून अप्रत्यक्षरीत्या उत्पादनात सहभागी होत्या परंतु त्यांच्या श्रमान्ना मूल्याच्या संदर्भात विचार करण्यात आलेला नव्हता अशा मान गृहिणी उदयोग क्षेत्रात पुढे जाऊ लागल्यामुळे एक उदयोजक म्हणून त्यांची नवीन वैशिष्टपूर्ण ओळख समाजाला होऊ लागली आहे. गृहअर्थशास्त्राच्या शिक्षणामुळे स्वयंरोजगारला वांगलेच पाठबळ मिळाले आहे.

गृहअर्थशास्त्र गृहिणीला विविध क्षेत्राचे शिक्षण देतो: वर्तमान परिस्थितीमध्ये गृहिणींना स्वयंरोजगाराची विशेष गरज भासू लागली. जेव्हा तोला जीवन जगण्याचे शिक्षण मिळेल तेव्हाच ती सक्षमपणे उभी राहील. डॉ. राधाकृष्णन यांनी म्हटले आहे 'जेवढे बौद्धिक भारती म्हणजे शिक्षण नव्हे' तर विविध प्रवृत्ती व भावना माणूस' निर्माण व्हायला ह्या. हेच काम गृहअर्थशास्त्र करते हे कोणत्याही न्यायला सुरवात करण्यापूर्वी त्या कार्याचे शिक्षण असणे गरजेचे आहे. शिक्षण व प्रशिक्षण मिळणे तितकेच गरजेचे आहे. काम करण्याची एक पध्दत असावी ते काम कस करावं, का करावं, त्यातले अडथळे कसे ओलंडावेत, ह्याचे प्रशिक्षण गृहअर्थशास्त्राच्या अभ्यासातून गृहिणीला मिळते.

अ. मानसिक पाठबळ :-
गृहिणींना मानसिक पाठबळ देण्याचे काम गृहअर्थशास्त्र करीत आहे. गृहअर्थशास्त्राच्या शिक्षणाने तिला सक्षमीकरणाकडे जाण्याचे बळ मिळत आहे. अर्थाजनासाठी आवश्यक असलेले शिक्षण तिला मिळत आहे. त्यामुळे तिचे मनोवैय्य

वाढत आहे. गृहिणीच्या अंगी असलेल्या गुणांना वाव देणे त्यांच्या जवळ असलेल्या ज्ञानाचा, पैसेचा सदउपयोग करणे त्यांना आत्मनिर्भर बनविण्यासाठी स्वयंरोजगाराचे प्रशिक्षण यातून मिळत आहे. स्वयंरोजगारामुळे त्यांच्यासाठी उद्योगाचे नवे दारून खुले झाले आहे. आणि गृहअर्थशास्त्रा सारख्या विषयाच्या अध्ययनामुळे त्यांचा स्वयंरोजगार मिळविण्याचा विश्वास वाढलेला आहे. यातून त्यांना मानसिक पाठबळ मिळत आहे.

ब. कुटुंबाशी संबंध:-
कौटुंबिक व माणवी संबंध ह्या विषयाचे गृहअर्थशास्त्रात अध्ययन केले जाते. कौटुंबिक संबंधात पती-पत्नी, माता-पिता, मुले, भाऊ, बहिणी यांच्या संबंधांना समावेश होतो. त्यांच्याशी संबंध कसा साधावा ह्या विषयाचे शिक्षण गृहअर्थशास्त्र गृहिणीला देते. ह्याचे शिक्षण घेतलेली गृहिणी कुटुंबातील संबंधात ताणतणाव उद्भवल्यास त्याचे निराकरण करण्याचे सामर्थ्य तिच्यात येते.

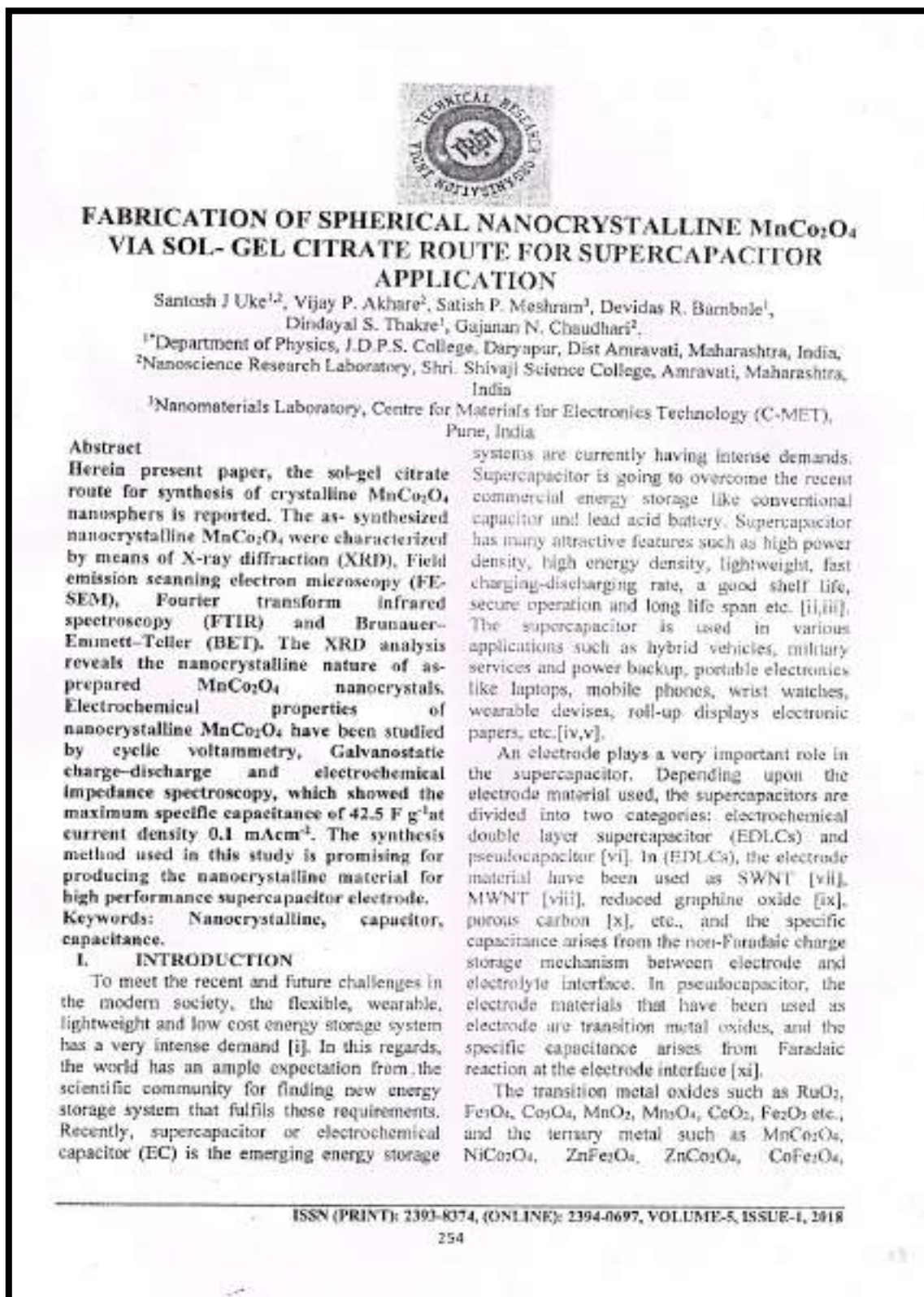
क. आहार विषयक ज्ञान :-
गृहअर्थशास्त्राच्या अभ्यासातून गृहिणीला आहार विषयक माहिती प्राप्त होते. आहार आणि आरोग्य यांचा घनिष्ठ संबंध आहे. व्यक्तीचे वय आहार आणि क्रतुमानानुसार आहार कसा घ्यावा त्याचे आयोजन कसे करावे अन्नातील खरेदी, संग्रह, अन्न टिकविणे, शिजविण्याच्या पध्दती, विषयाचा, अन्न समस्या असया विविध विषयाचे ज्ञान गृहिणीला ह्या विषयाच्या शिक्षणाने होते.

ड. बालमानसशास्त्राचे अध्ययन:-
कुटुंबात बालकांचे संगोपन केले जाते मग ते कुटुंब सुरीक्षीत असो वा अशिक्षित परंतु संगोपनात भिन्नता आढळो. यात बालकांच्या जन्मपूर्वकाळापासून तर किशोरावस्थेपर्यंत बालकांच्या सर्वांगीण विकासाचे अध्ययन केले जाते. गृहिणीला ह्या विषयाच्या शिक्षणाची अत्यंत गरज असते. तेच शिक्षण गृहअर्थशास्त्रावर मिळते. गृहअर्थशास्त्र नुसते पुस्तकी ज्ञान न देता गृहिणीला मानसिक धैर्य मिळवून तिला सक्षमीकरणाकडे नेण्याचे कार्य करते.

संदर्भ:-
१. गृहव्यवस्थापन आणि गृहकला- डॉ. इंदिरा खडसे
२. गृहअर्थशास्त्र व गृहव्यवस्थापन - डॉ. ज्योती पायकवाड
३. दैनिक वर्तमान पत्र - लोकमत

Fabrication of Spherical Nanocrystalline $MnCO_2O_4$ Via Sol- Gel Citrate Route for Supercapacitor Application”

Dr.D.R.Bambole



CuFe_2O_4 and NiFe_2O_4 etc., has been widely studied and employed as promising electrode material for pseudocapacitors [xii].

Among these ternary metal oxides, the MnCo_2O_4 is the most explored potential candidate in view point of electrode material for supercapacitor owing to its excellent electrochemical properties, natural abundance, cost effectiveness and environmentally compatible nature. In this context several researchers have reported the remarkable results. Sun *et al.* [xiii] have reported the hydrothermally synthesized $\text{MnCo}_2\text{O}_4/\text{C}$ electrode material for water splitting and all state solid supercapacitor application with high specific capacitance of 846 mFcm^{-2} at current density $20 \mu\text{A cm}^{-2}$.

Further, Yaun *et al.* [xiv] have reported the one step hydrothermal route synthesis of MnCo_2O_4 /reduced graphene oxide nanocomposites for supercapacitor with specific capacitance 334 Fg^{-1} at current density 1 Ag^{-1} . Sahoo *et al.* [xv] have reported the one-step electrodeposition approach for the synthesis of MnCo_2O_4 and reported the specific capacitance of 290 Fg^{-1} at scan rate 1 mVs^{-1} .

In the present report, we have synthesized the MnCo_2O_4 via sol-gel citrate method. The synthesized material was characterized using XRD, FE-SEM, FTIR, UV-visible spectroscopy, BET-BJH etc. The electrochemical investigations for supercapacitor application of fabricated MnCo_2O_4 electrode was carried out using cyclic voltammetry, galvanostatic charge discharge and impedance spectroscopy.

II. EXPERIMENTAL

A. MATERIALS AND METHOD

All reagents including KMnO_4 , $\text{Co}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$ and citric acid ($\text{C}_6\text{H}_8\text{O}_7$) were used as starting material and purchased from Qualigen Sd, fine chemicals Ltd, India. The chemical reagents were of analytical grade and used as received.

B. Synthesis of crystalline MnCo_2O_4 nanosphere

Synthesis of nanocrystalline MnCo_2O_4 was carried out by sol-gel citrate method. Initially, the stoichiometric amount of KMnO_4 and $\text{Co}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$ with the molar ratio 1:2 were dissolved in methanol. This solution was stirred for 1 hr using a magnetic stirrer followed by vigorous stirring at 80°C on

the hot plate for 3 hrs, which results in highly viscous homogenous thick gel. This gel was further transferred to a pressure bomb. The pressure bomb was sealed and heated up to 120°C for 12h and subsequently cooled to room temperature. The obtained dried samples were further ground and calcined at 550°C up to 6 h using alumina crucible in furnace.

C. FABRICATION OF ELECTRODE

The nanocrystalline MnCo_2O_4 material was loaded on stainless steel substrate following the standard protocol used for supercapacitor measurement [xvi,xvii]. For this, the 75 weight % of active material, 15 weight % acetylene black as a conductive additive and 10 weight % Poly vinylidene fluoride (PVDF) as a binder were mixed and ground in mortar to have a homogenous mixture. This mixture was further dispersed in a dimethyl formamide (DMF) to form slurry. This slurry was coated on stainless steel (SS) substrate using doctor blade and dried at 60°C . The electrochemical studies such as cyclic voltammetry, galvanostatic charge discharge and impedance spectroscopy were performed using the CHI 6002C and CHI 604E electrochemical workstation forming an electrochemical cell comprising fabricated electrode as working electrode, platinum as counter electrode and Ag/AgCl as a reference electrode in $1 \text{ M Na}_2\text{SO}_4$ electrolyte.

D. CHARACTERIZATION

The structural properties and phase identification of the samples was done by Philips X-ray diffractometer (XRD) with filtered $\text{Cu-K}\alpha$ radiation of wavelength $\lambda = 0.1541874 \text{ nm}$. The morphology was determined by Field emission scanning electron microscopy (FE-SEM) (Model: JSM 6701F, JEOL, Japan). The Fourier transform infrared (FTIR) spectra were recorded using Bruker vertex 70 FTIR spectrometer. The UV-Visible investigation of the material was carried out by using Perkin-Elmer Lambda 750, USA.

III. RESULT AND DISCUSSIONS

A. XRD analysis

To understand the lattice parameter and average crystallite size of the as-synthesized MnCo_2O_4 samples, the X-ray diffraction (XRD) analysis was carried out. Fig. 1 shows the typical XRD pattern of as-synthesized MnCo_2O_4 . From the XRD pattern, the sharp peaks appearing at two theta values 31° , 36.95° , 44.44° , 52.07° , 58.18° , 64.52° , 66.9° and 76.85°

can be assigned to (222), (311), (400), (422), (511), (440), (531) and (533) respectively, and are in well agreement to those of spinel fee structure with space group $Fd\bar{3}m$, (227), [JCPDF 23-1237] [xviii,xix]. Further, no impurity peaks were found in the XRD pattern which indicates the formation of well crystalline $MnCo_2O_4$. The average crystallite size D was calculated using the Deby-Scherrer formula [xx] equation (1), where λ is the characteristic wavelength of $Cu-K\alpha$ radiation, β is the full width half maxima of the diffraction line at half the maximum intensity and θ is the Bragg diffraction angle. The average crystallite size for the $MnCo_2O_4$ was found to be 32 nm.

$$D = \frac{0.9\lambda}{\beta \times \cos \theta} \quad (1)$$

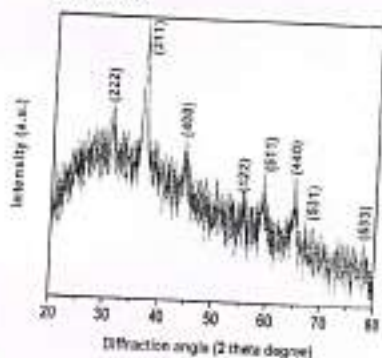


Fig. 1: XRD pattern of nanocrystalline $MnCo_2O_4$.

B. FE-SEM analysis

The morphology of as-synthesized nanocrystalline $MnCo_2O_4$ was studied by FE-SEM analysis and the results are shown in Fig. 2. (a) and (b). From high magnification FESEM images (Fig 2(a)-(b)), it can be seen that the as-synthesized product consists of nearly spherical morphology. The nanospheres are formed in large numbers and are separated from each other. The average size of the nanospheres ranges from 29-42 nm which are in close agreement with those of XRD results.

The crystalline nature with spherical morphology of as-synthesized $MnCo_2O_4$ material demonstrated here may exhibit greater surface area and may contribute to electrolyte ion exchange which is one of the prime requirements of high energy storage supercapacitor electrode material.

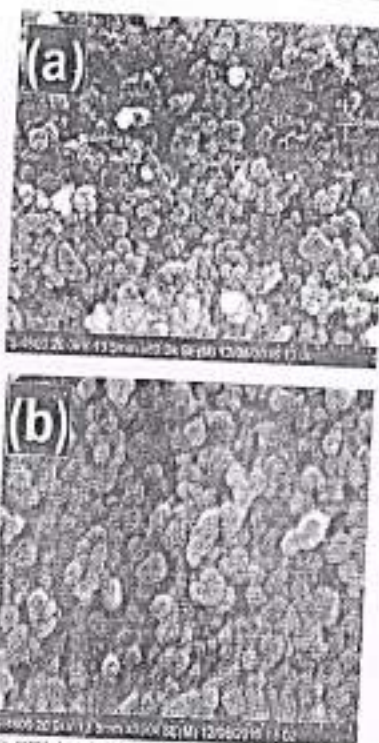


Fig. 2: FE-SEM micrograph of nanocrystalline $MnCo_2O_4$.

C. FT-IR analysis

To analyze the bonding and chemical composition of the as synthesized nanocrystalline $MnCo_2O_4$, the Fourier transform infrared spectroscopy (FT-IR) analysis was carried. Fig. 3 shows the FT-IR spectrum of nanocrystalline $MnCo_2O_4$. The broad absorption peak appearing at 2922.59 cm^{-1} and 1609.7 cm^{-1} can be assigned to the O-H of adsorbed water molecule in $MnCo_2O_4$ [xxi,xxii]. The absorption band observed at 1348 cm^{-1} can be ascribed to NO_2 symmetrical stretching in the citrate molecule. The absorption bands at $750\text{--}600\text{ cm}^{-1}$ and $600\text{--}450\text{ cm}^{-1}$ are due to Mn-O stretching and bending vibrations in the nanocrystalline $MnCo_2O_4$ [xxiii]. The band at 720 cm^{-1} is due to NH_2 wagging from the citrate molecule [xxiv]. The band at 680 cm^{-1} can be attributed to the metal oxide bonding [xxv].

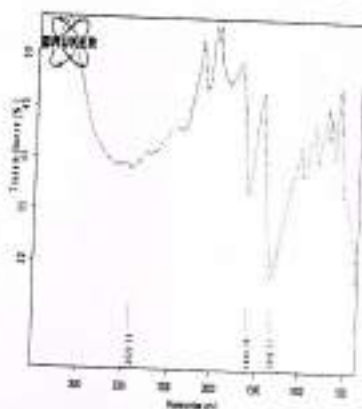


Fig. 3: FTIR spectrum of nanocrystalline MnCo₂O₄

D. UV- visible spectroscopy analysis

To investigate the optical band gap in the nanocrystalline MnCo₂O₄, the optical study of the as-synthesized nanocrystalline MnCo₂O₄ was carried out by using UV-vis spectrophotometer in the wavelength ranges 350–950 nm. The variation in absorption intensity with different wavelengths of nanocrystalline MnCo₂O₄ is shown in Fig. 4 (a) and corresponding plot of $(\alpha h\nu)^2$ versus $(h\nu)$ shown in the Fig. 4 (b). The electronic structure and band gap strongly influences the electrochemical properties of the composite material. Fig. 4 (b) shows the strong absorption of nanocrystalline MnCo₂O₄ in the 220-250nm⁻¹ region. The plot $(\alpha h\nu)^2$ versus $(h\nu)$ (Fig. 4 (b)), which is linear at the absorption edge, further confirms that the material has a direct band gap. The extrapolations of straight line to the energy axis for zero absorption coefficient value give the band gap which was observed to be 4.91 eV. These values are comparable with the theoretical values previously reported in literature [xxvi].

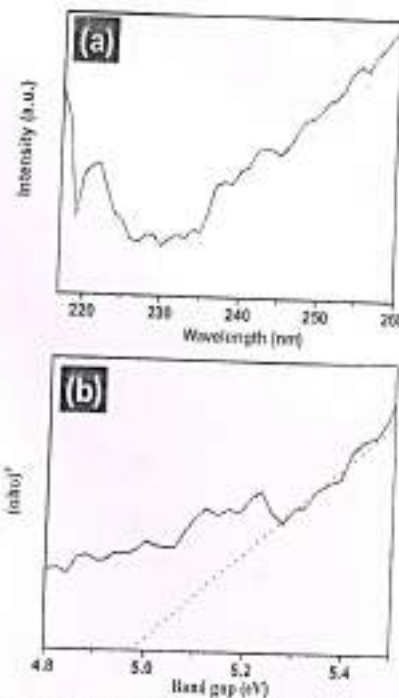


Fig. 4. (a) UV-Visible spectrum and (b) band gap of nanocrystalline MnCo₂O₄

E. BET surface area analysis

The Brunauer-Emmett-teller (BET) surface area analysis was carried out to explore the specific surface area of nanocrystalline MnCo₂O₄. For this, the N₂ adsorption-desorption isotherm has been carried out. The corresponding results are demonstrated in Fig. 5. From figure, the isotherm with a distinct hysteresis loop in the range of 0 to 1 and at relative pressure P/P_0 can be clearly seen. The pore size distribution and pore volume of nanocrystalline MnCo₂O₄ are estimated using the Barrett-Joyner-Halenda (BJH) method. The pore size distribution of nanocrystalline MnCo₂O₄ at the amount of nitrogen absorbed at $P/P_0=0.98595$ are shown in inset of Fig. 5. The BET surface area and a corresponding pore volume of the nanocrystalline MnCo₂O₄ were found out to be 10.45 m²g⁻¹ and 0.0213 cm³g⁻¹ respectively.

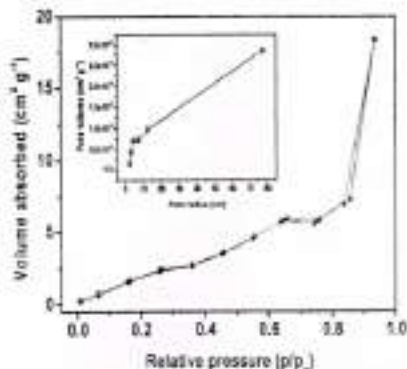


Fig. 5. N₂-adsorption-desorption isotherm and the inset shows the corresponding pore size distribution of nanocrystalline MnCo₂O₄

F. Electrochemical characterization analysis

To understand the electrochemical nature of nanocrystalline MnCo₂O₄ electrode, the cyclic voltammetry (CV), galvanostatic charge discharge (GCD) and Electrochemical impedance spectroscopy (EIS) has been carried out in 1 M Na₂SO₄ as electrolyte. The Fig. 6 (a) shows the CV curves of nanocrystalline MnCo₂O₄ in the different scan rates of 5 mVs⁻¹, 10 mVs⁻¹, 50 mVs⁻¹ and 100 mVs⁻¹ in the potential window 0 to 0.6V. The rectangular shape of CV reveals that the specific capacitance is originated from the redox reaction [xxvii]. From CV curves, the values of specific capacitance of nanocrystalline MnCo₂O₄ samples at different scan rate are calculated using the equation (2).

$$C_s = \frac{1}{m(V_c - V_d)} \int_{V_c}^{V_d} I(V) dV \quad (2)$$

Where *m* is the mass in (gcm²) deposited, *I*(*v*) is the response current in (mA) of the MnCo₂O₄ electrode for unit area, *V* is the scan rate, (*V_c* - *V_d*) is the operational potential window in (V), *V_c* anodic current and *V_d* cathodic current.

Galvanostatic charge-discharge study of the electrodes of MnCo₂O₄ electrode at different current densities 0.1 to 0.5 mAcm⁻² has been studied using 1M Na₂SO₄ as electrolyte. Fig.6 (b) shows the galvanostatic charge discharge behaviour of the nanocrystalline MnCo₂O₄ electrode. The discharge specific capacitance was calculated by galvanostatic charge discharge curves using the equation (3). Additionally, the galvanostatic charge discharge

curve is used to measure the energy density and power density of the electrode material, an equation (4) and equation (5) were used to calculate the energy density *E* (W h Kg⁻¹) and power density *P* (W Kg⁻¹) respectively,

$$C_s = \frac{I_d \times T_d}{m \times \Delta V} \quad (3)$$

$$E = \frac{0.5 \times C_s \times (V_{max}^2 - V_{min}^2)}{3.6} \quad (4)$$

$$P = \frac{E \times 3600}{T_d} \quad (5)$$

Where *C_s* (Fg⁻¹) is the specific capacitance, *I_d* (A) is the current used for Galvanostatic discharge, *T_d* (s) discharging time, Δ*V*(V) potential window used for galvanostatic charge discharge and *m*(g) is the active mass of the electrode [xxviii]. From GCD, the maximum specific capacitance, energy density and power density of MnCo₂O₄ electrode at current density 0.1mAcm⁻² has obtained as 42.5 Fg⁻¹, 2.125W h Kg⁻¹ and 137.1kW Kg⁻¹, respectively. Adekunle *et. al.* [xxix] have reported the specific capacitance 11.76 Fg⁻¹ for the MWCNT-Co₃O₄/MWCNT asymmetric supercapacitor assembly in 1 M Na₂SO₄. In present reports, the specific capacitance for MnCo₂O₄ electrode at current density 0.1mA cm⁻² was found out to be 42.5 Fg⁻¹, which is high in comparison with the specific capacitance reported in the literature.

Further, the retention of specific capacitance of the MnCo₂O₄ electrode was examined at the current density 0.3 mAcm⁻² over 1000 cycles. Fig 7 (a) shows the curve for cycle number versus percentage capacity retention for MnCo₂O₄ electrode. From figure, it can be seen that the MnCo₂O₄ electrode shows the 95.23% retention of specific capacitance over 1000 cycles.

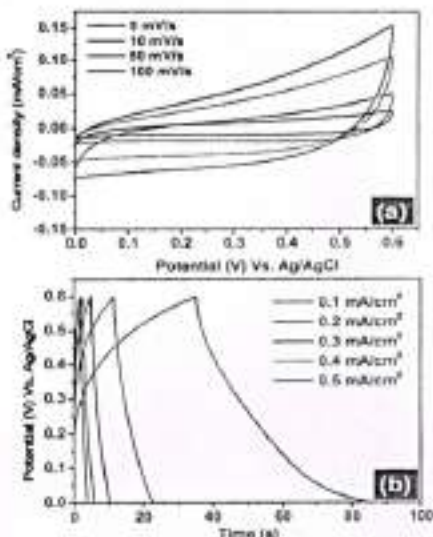


Fig. 6. (a) Cyclic voltammogram (CV), (b) Galvanostatic charge discharge (GCD) of nanocrystalline MnCo₂O₄

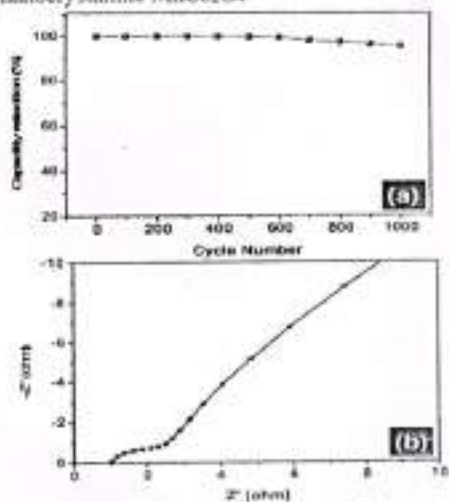


Fig. 7. (a) Capacity retention vs. cycle number at 0.3 mA/cm² and (b) Nyquist plot of nanocrystalline MnCo₂O₄

The electrolyte resistance (R_s), the charge-transfer resistance (R_{ct}), the ion transport properties within the interface between the electrode and electrolyte was investigated with the help of electrochemical impedance spectroscopy (EIS). The EIS was investigated within the frequency range 1 Hz to 1 MHz at AC amplitude of 5 mV in 1 M Na₂SO₄ electrolyte.

The typical Nyquist plot for the MnCo₂O₄ nanostructure is shown in Fig. 7 (b). The high-frequency intercept of the semi-circle on the real axis yields the electrolyte resistance (R_s) or equivalent series resistance, and the diameter provides the charge-transfer resistance (R_{ct}) over the interface between the electrode and electrolyte [xxx]. The electrolyte resistance (R_s), the charge-transfer resistance (R_{ct}), of the nanostructure MnCo₂O₄ was found out to be 2 Ω cm² and 1.24 Ω cm² respectively. The low electrolyte resistance (R_s) and the charge-transfer resistance (R_{ct}) of the electrode material are mostly responsible for the result of ion exchange between electrode and electrolyte interface [xxxi]. Fig.8 (a) shows the Bode plot (Phase (Ω cm²) vs. Frequency (Hz)) of as-synthesized MnCo₂O₄ nanostructure.

At low frequency, the phase angle of the electrodes reached to the 45° implies the idea capacitive behavior of the electrode. The characteristic frequency f_c of a phase angle of 45° is ~100 Hz for the MnCo₂O₄ nanostructure. The relaxation time constant τ_c , is calculated from the equation $\omega_c = 1/\tau_c$, it was found out to be ~0.01. Thus, ESI analysis of nanostructure MnCo₂O₄ is in good agreement with the results obtained from CV and GCD.

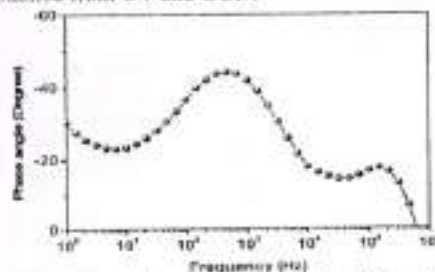


Fig.8 (a) shows the Bode plot (Phase (Ω cm²) vs. Frequency (Hz)) for nanostructure MnCo₂O₄

IV. CONCLUSION

In conclusion, we have successfully synthesized the nanocrystalline MnCo₂O₄ via cost effective sol-gel citrate method. The nanocrystalline MnCo₂O₄ shows the excellent electrochemical performance in 1M Na₂SO₄ electrolyte. The electrochemical impedance spectroscopy reveals that the nanocrystalline MnCo₂O₄ is promising electrode material for high performance supercapacitor. Moreover, the present study demonstrates simple, cost effective sol-gel citrate method for fabrication

of uniform nanocrystalline $MnCo_2O_4$ with very high potential as the electrode for supercapacitor.

V. ACKNOWLEDGMENT

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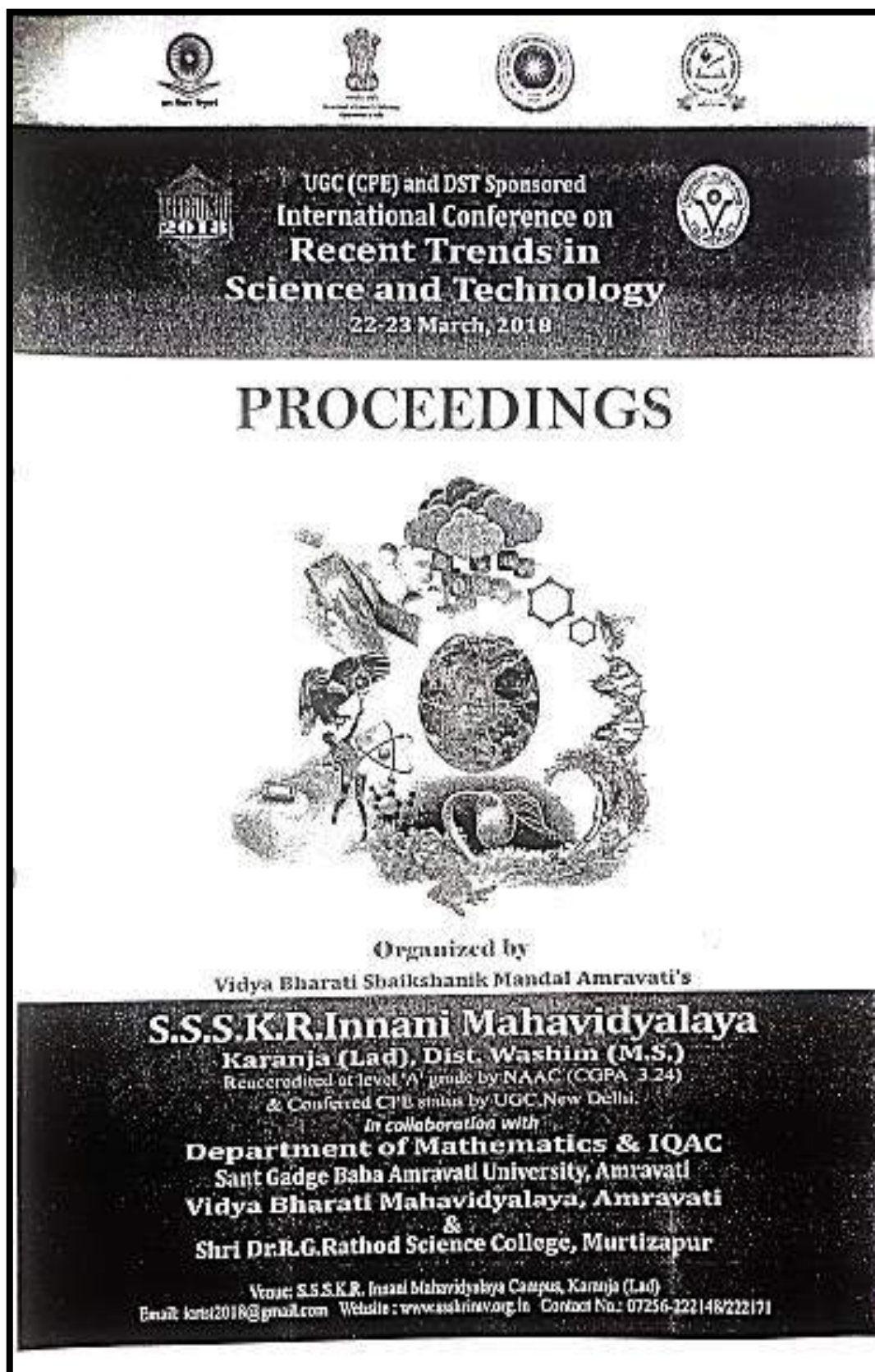
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Spend mushroom Substrate: Animal Feed
Dr.A.S. Deshmukh



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

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SPENT MUSHROOM SUBSTRATE: ANIMAL FEED

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ABSTRACT

SMS is a bulky waste product of mushroom industry. Its disposal creates environmental problems. SMS is a treasure of nutrients. The four varieties of mushroom viz. *P. florida*, *P. sajorcaju*, *P. ease*, *H. marmoratus* were cultivated on five different substrates viz. Soybean straw, Sugarcane baggasse, Rice bran, Forest waste and their combination. This paper deals with the estimation of nutrient contents such as protein, crude fibre, minerals like Na, K, Ca in stored SMS as well as in control substrates without mushroom treatment. The results show increase in protein, Na, Ca contents and decrease in crude fibre, K contents as compared to control substrates. In conclusion, the general feed-nutritional value of spent mushroom substrates appear to improve after cultivation of mushroom and can be a better option as animal feed in combination with agricultural wastes.

Keywords: Spent Mushroom Substrate, Animal Feed Nutrition

INTRODUCTION

Lignocellulose is the major structural component of woody plants and non woody plants such as grass and represents a major source of renewable organic matter. Large amounts of lignocellulosic wastes are produced from agricultural residues and forest wastes. The chemical properties of components of lignocellulosics make them a substrate of enormous biotechnological value (Malherb and Cloete, 2003). Unfortunately, the low protein, high content of biogenic silica in the wall of the epidermal cell layer and vascular bundle and poor digestibility of rice straw limits its use in the diets of lactating and growing ruminants (Baldrin and Gabriel, 2003). An alternative method for improving the nutritive value of straw could be the application of biotechnology. Fungal treatment as a biological method has been recently considered as a promising method for improving the nutritive value of straw (Zadrzil, 1997). Edible mushrooms can be used for increasing the nutritive value of the straws.

The present study was conducted to determine whether the mushrooms have potential to increase the feeding values particularly proteins, crude fibers and minerals of spent mushroom substrate compared to agricultural and forest waste.

MATERIALS AND METHODS

1) Spent Mushroom Straw preparation :

The spawns of different varieties of mushrooms viz. *Pleurotus florida*, *Pleurotus sajorcaju*, *Pleurotus ease* and *Hypsizygous marmoratus* were obtained from Agriculture College, Pune. The different agrowastes viz. Soybean straw, Sugarcane baggasse, Rice bran, Forest waste were collected locally from farms and forest. The substrate straw and beds were prepared according to the procedure described by Bano and Nagarajan (1976). The spent mushroom substrate (SMS) was collected after each flush. It was sun dried and oven dried for further estimations

2) Estimation of Crude Fibre :

Crude fibre contents in SMS were estimated according to Maynard (1970).

3) Estimation of Proteins :

Protein content in SMS was measured by Bradford Method (Bradford, 1976).

4) Estimation of Minerals (Na, K, Ca) :

Estimation of sodium, potassium and calcium was done by flame photometric method (Kapur and Govil, 2000).

RESULTS AND DISCUSSIONS

Table 1 : Nutritional Contents in Control Substrate.

Control Substrate	Crude Fibre(%)	Protein (%)	Minerals %		
			Na	K	Ca
Soybean (S)	49	1.155	0.0127	0.0267	0.164
Sugarcane baggase (SB)	42.3	1.315	0.0186	0.2017	0.1748
Rice bran (RB)	32.5	1.137	0.0113	0.368	0.134
Forest Waste (FW)	52.0	2.44	0.0169	0.0733	0.418
S + SB + RB + FW (1:1:1:1)	35.0	1.11	0.014	0.362	0.1748

Table 2 : Nutritional Contents in *P. florida* SMS

SMS	Crude Fibre (%)		Protein (%)		Minerals (%)					
	I	II	I	II	Na		K		Ca	
					I	II	I	II	I	II
Soybean (S)	42.5	40.0	1.315	2.48	0.02131	0.02326	0.02839	0.02197	0.2155	0.2765
Sugarcane baggase (SB)	40.0	39.0	1.32	1.45	0.0203	0.0257	0.02839	0.0219	0.2358	0.2358
Rice bran (RB)	30.0	32.5	1.155	1.20	0.0179	0.01765	0.0348	0.0155	0.185	0.195
Forest waste (FW)	34.5	28	2.54	3.12	0.0203	0.02424	0.0318	0.0155	0.4595	0.06298
S+SB+RB+FW (1:1:1:1)	33.0	31.0	1.137	2.05	0.01934	0.02326	0.04123	0.0286	0.2013	0.2765

Table 3 : Nutritional Contents in *P. sajorajju* SMS

SMS	Crude Fibre (%)		Protein (%)		Minerals (%)					
	I	II	I	II	Na		K		Ca	
					I	II	I	II	I	II
Soybean (S)	42.5	36.0	1.2	1.39	0.0179	0.023	0.0412	0.0283	0.1748	0.246
Sugarcane baggase (SB)	38.0	35.5	1.43	2.0	0.022	0.0269	0.0412	0.0476	0.164	0.215
Rice bran (RB)	29	27.1	1.30	1.90	0.0171	0.0172	0.021	0.022	0.154	0.176
Forest waste (FW)	33.3	30.0	2.59	2.67	0.0225	0.0236	0.0283	0.0285	0.347	0.391
S+SB+RB+FW (1:1:1:1)	32.0	28.0	1.422	2.177	0.0191	0.0249	0.0348	0.0155	0.195	0.307

Table 4 : Nutritional Contents in *P. ewse* SMS

SMS	Crude Fibre (%)		Protein (%)		Minerals (%)					
	I	II	I	II	Na		K		Ca	
					I	II	I	II	I	II
Soybean (S)	43.0	40.50	2.48	2.63	0.0196	0.0257	0.0733	0.1118	0.144	0.215
Sugarcane baggase (SB)	40.0	39.5	1.90	2.32	0.022	0.0296	0.0629	0.0733	0.154	0.2155
Rice bran (RB)	28.0	21.0	1.28	2.0	0.0186	0.0191	0.0669	0.0671	0.195	0.1961
Forest waste (FW)	23.5	20.50	2.50	3.12	0.0179	0.0266	0.04764	0.0540	0.286	0.3477
S+SB+RB+FW (1:1:1:1)	27.5	26.0	1.573	1.60	0.01717	0.0211	0.04765	0.0669	0.185	0.246

Table 5 : Nutritional Contents in *H.marmoratus* SMS

SMS	Crude Fibre (%)		Protein (%)		Minerals (%)					
	I	II	I	II	Na		K		Ca	
					I	II	I	II	I	II
Soybean (S)	35.0	15.5	1.25	1.90	0.01887	0.01890	0.02839	0.0250	0.2155	0.36806
Sugarcane baggase (SB)	36.5	34.5	1.56	1.93	0.0205	0.0249	0.0283	0.0604	0.1748	0.1968
Rice bran (RB)	30.0	22.8	1.497	1.790	0.0174	0.0176	0.265	0.245	0.183	0.190
Forest waste (FW)	23.5	18.5	2.60	2.88	0.0213	0.02643	0.02197	0.05407	0.4087	1.181
S+SB+RB+FW (1:1:1:1)	32.0	30.2	1.33	1.50	0.01887	0.0235	0.0476	0.0476	0.3172	0.8115

It was observed the maximum decrease in crude fibre (%), the maximum increase in protein content (%) in SMS of *P.florida*, *P.sajoreaju*, *P.ense*, *H.marmoratus* were recorded as [46.15% (FW), 53.42% (S)], [42.30 % (FW), 49.01 % (S + SB + RB + FW)], [60.57% (FW), 56.08 % (S)], [68.36 % (S), 39.21 % (S)] respectively.

The high protein content and less crude fibre content may be due to reduction of cell wall components and due to lignocellulolytic enzymes in mushrooms. In contrast to plain untreated control substrate, mushroom inoculation by *P.florida*, *P.sajoreaju*, *P.ense*, *H.marmoratus* increased crude protein content [(15.25% to 53%), *P.florida*; (3.61 % to 49.01%), *P.sajoreaju*; (21.79% to 56.08 %), *P.ense*; (15.27 % to 39.21 %), *H.marmoratus*] and decreased crude fibre content [(7.80 % to 46.15 %), *P.florida*; (16.07 % to 42.30 %) *P.sajoreaju*; (6.61 % to 60.57 %) *P.ense*; (13.71 % to 68.36 %) *H.marmoratus*].

SMS also contains an abundance of the inorganic cations (K^+ , Na^+ , Ca^{+2} and Mg^{+2}) anions (Cl^- , SO_4^{2-} , NO_3^-) all of which are essential for optimal plant growth.

Increase in mineral contents viz Na, Ca is observed in the SMS, whereas, K content is decreased in the SMS. According to the above mentioned tables, it was observed that maximum increase in Na, Ca and maximum decrease in K is recorded in *P.florida* [45.14 % (S) 40.68 % (S), 95.78 % (RB)]; *P.sajoreaju* [44.78% (S)], 43.06 % (S + SB + RB + FW), 95.71 % (S + SB + RB + FW); *P.ense* [57.51 % (FW), 31.66 % (RB), 81.76 (RB)]; *H.marmoratus* [40.42 % (S + SB + RB + FW), 78.45 % (S + SB + RB + FW), 86.85 (S + SB + RB + FW)].

The study by Kim *et al.* (2011) reported much higher values of *A. bisporus* substrates for Ca

(32.2 g/kg), Na (2.4 g/kg), K (21.9 g/kg) Jafri *et al.* (2007) reported higher value of increased CP content of *Pleurotus* varieties (5.22 to 6.75 g/10g) on rice straw. Kullu *et al.* (2000) reported the increase in crude protein content by 60% on wheat straw by *P.florida* inoculation, as well as in their study 16% crude fibres were reduced. The results are in correlation to our study. As per Fazeli (2007), the crude protein content of wheat straw treated with *P.florida* increased by 37.25% and that treated with *P.ostreatus* was increased by 41.81%. The in vivo and in vitro digestibility of nutrients was increased in experiments with sheep and cow. Treatment with *P.florida* showed the higher amounts of digestibility than that of *P.ostreatus* (Fazeli, 2007).

Marwaha *et al.* (1990) reported that in vitro DM digestibility of wheat straw fermented with *P.sajoreaju* have higher concentration of CP. The *P.ostreatus* SMC had not only increased crude protein (upto 16.34%), but it was also enriched in vitamins, amino acids, cellulases and used as feedstuff for animals such as beef, rabbits and pigs (Juan, 2000). Shiitake SMC along with cow manure, banana stems were used as food material to raise number of earthworms. A total of 1388 earthworms were produced from 50 earthworms (Zhuo, 2003). Li Hao – Bo reported feeding different percentage (20 %, 25%, 30%) of waste material from *Lentinus edodes* and *Pleurotus ostreatus* (WMLE) and normal diet to non pregnant sows, pregnant sows and sickling sows. Living piglet number, average weight of new born piglet, lactation ability of sows are all improved. Piglet mortality and diarrhea decreased (Li Hao – Bo, 2005). The fish feed stuff 3:7 of SMC and barley powder respectively increased fish production 35.91 % and reduced feed cost 23.7% compared with that of feeding barley powder alone (Oei Peter, 2007).

CONCLUSION

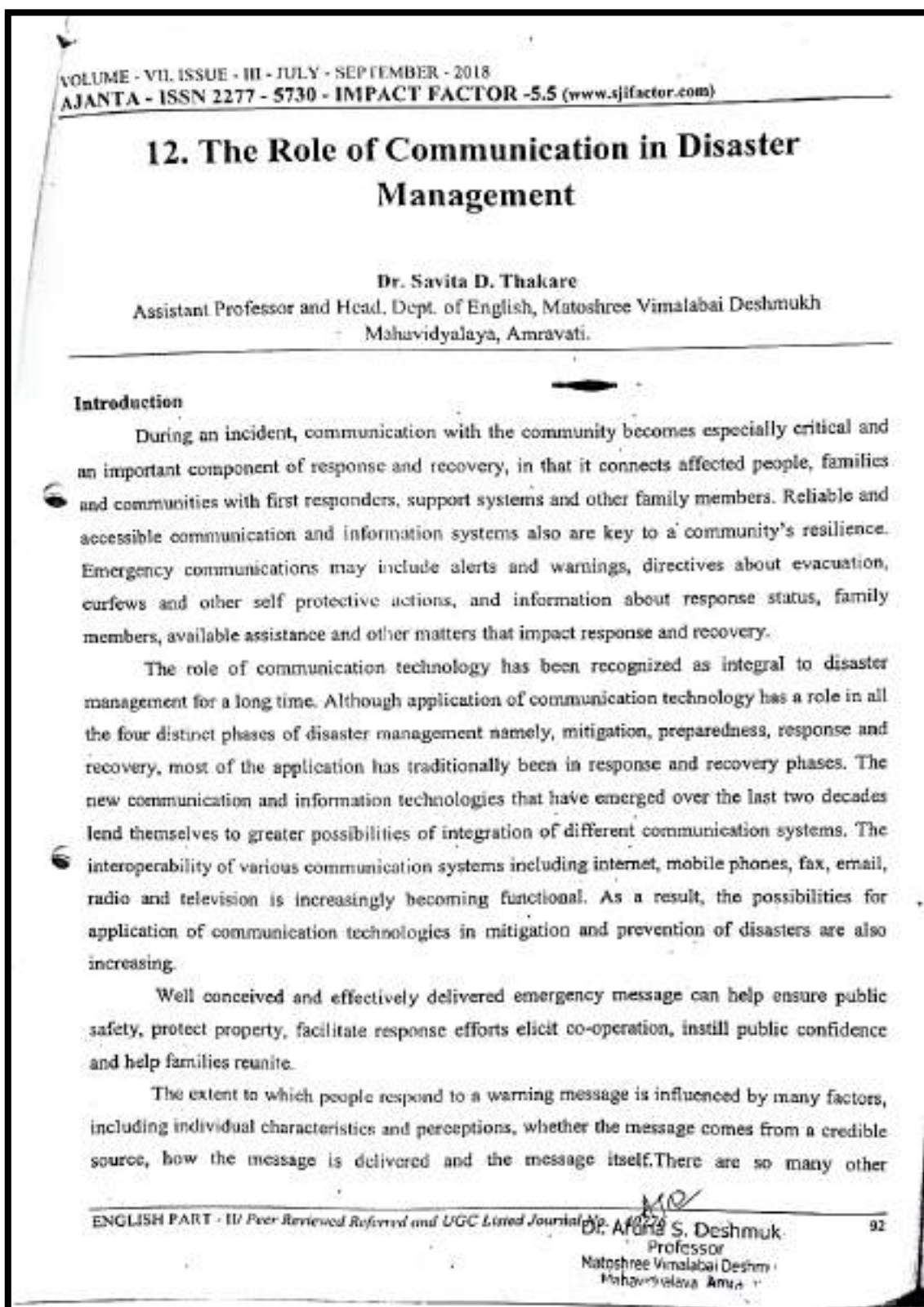
The study suggests that all the five substrates fermented by mushrooms can improve its nutritive value for animal utilization. Due to less palatability SMS can be combined with agricultural waste as good animal feed. So also it can be a solution to disposal problem. In developing countries, SMS can play a major role in decreasing the use of food grains and green fodder as animal feed.

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The Role of Communication in Disaster Management

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communication tools to choose from, including in-persons events, prints and broadcast media, and internet and social media. Each has advantage and limitations depending on the communication objective and the intended audience.

Whatever communication tools are used, be sure that emergency communication are clear, contain specific and adequate information, are in sync with other information being disseminated, and are accessible to the whole community.

Communication for disaster management

All disaster emergencies and crisis events are by nature chaotic and highly dynamic, creating physical, emotional, and social disorder. In such crisis events and emergencies, communications is critical at all phases of disaster management. Communications during emergencies incorporates a wide range of measures to manage risks to communities and the environment. Before disasters strike, telecommunications can be used as a conduit for disseminating information about the impending danger thus, making it possible for people to take the necessary precautions to mitigate the impact of these hazards. Other telecommunication applications, including remote sensing and global positioning system (GPS), have critical roles to play in tracking approaching hazards, alerting authorities, warning affected populations, coordinating relief operations, assessing damages and mobilizing support for reconstruction. It is clear therefore that telecommunications play a pivotal role in disaster prevention, mitigation, and management.

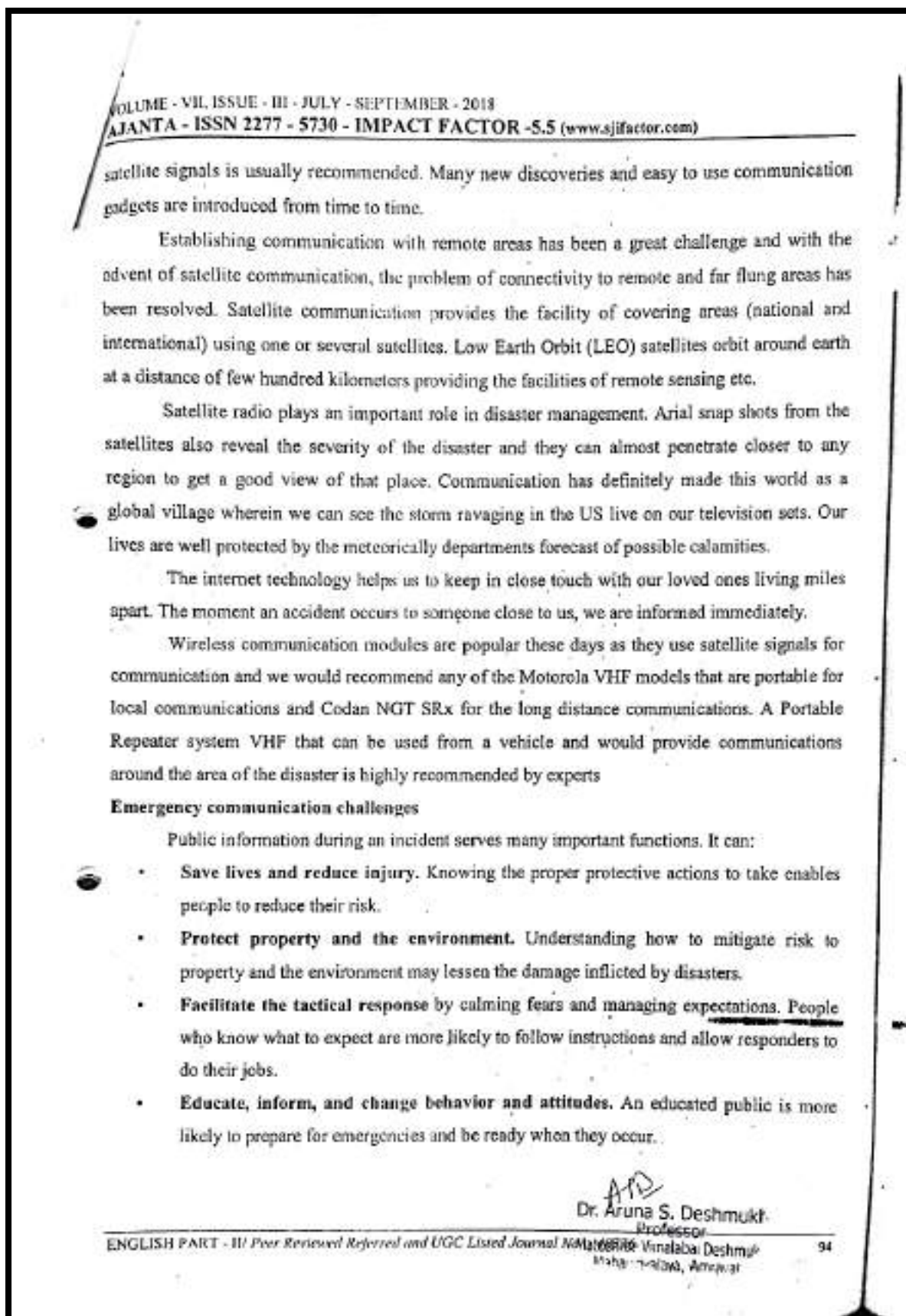
In times of natural calamity like floods, storms, cyclone, tsunami, fire etc. the usual mode of communication like phone, mobile etc might not work or might be lost in the calamity. The society at large must be well protected and the protection given by the police or disaster management forces must be instant and immediate. Thus the disaster management crew must be well trained and equipped with the best appliances which might help them to communicate the condition they are in and the status of the calamity in the region they work for.

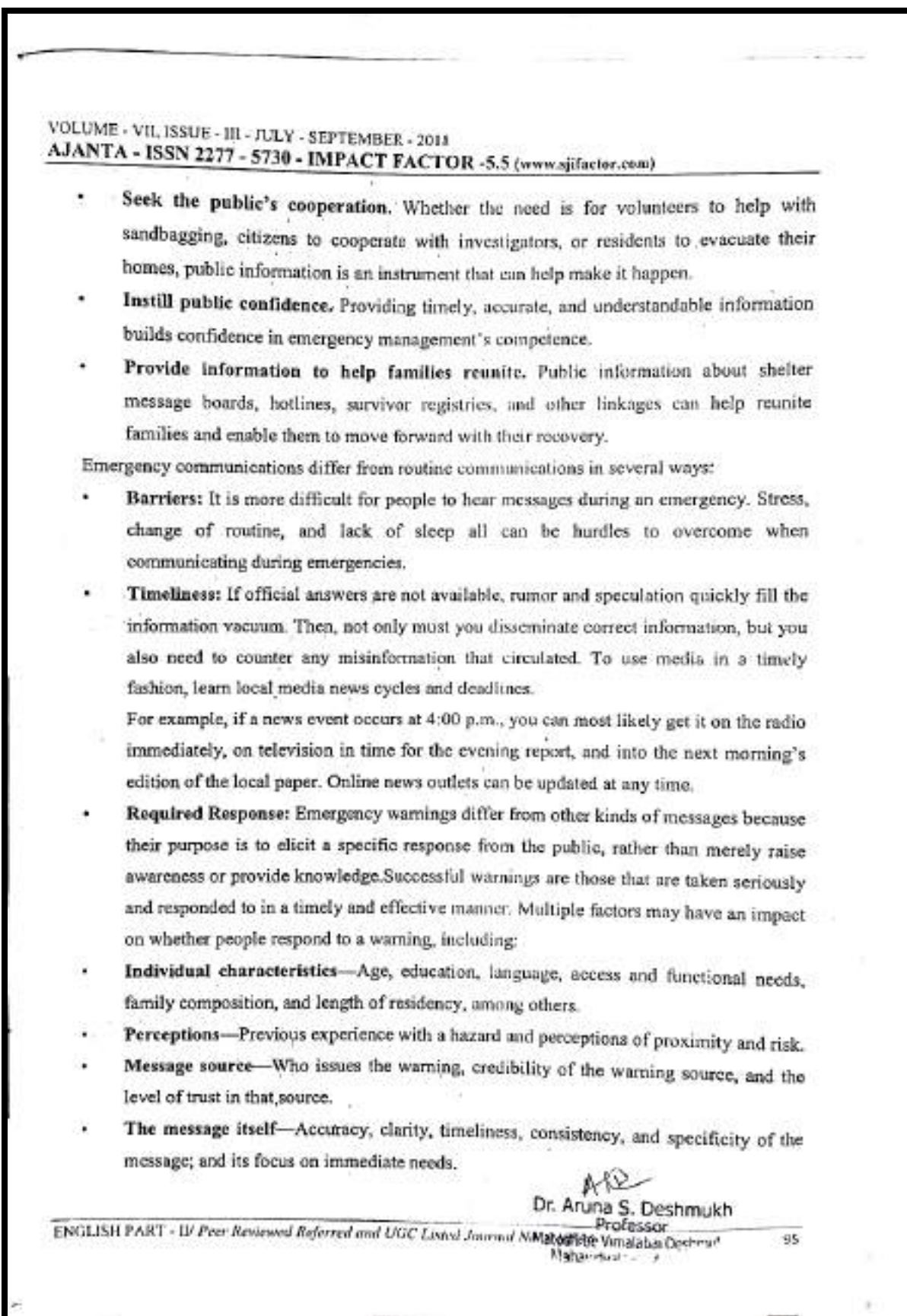
Communication technologies

Reliability is what these disaster management communication systems must focus on as the need for these systems might be more in remote parts and some time even inaccessible areas like deep seas and mountain tops. We see so many people getting lost while trekking in forests or mountains. Many accidents occur during avalanche and landslides. So a communication system must be reliable and must be in working condition at all times. Thus wide area network with

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Factors That Affect Response

Research has identified a number of community, experiential, and individual factors that influence the extent to which alerts and warnings are received, comprehended, and heeded.

Community Factors

- Type of community: Residents of rural communities may have more difficulty receiving warnings than those living in urban areas.
- Level of community interaction: People who have more contacts in the community will receive more warnings and are more likely to act; also, they are more likely to trust officials.
- Family composition: Families, more than individuals, tend to heed evacuation warnings. Research indicates that people tend to confer with family, extended family, and friends prior to making a decision. They do this to ensure that their loved ones are safe and also to determine whether they may need to provide protection for their loved ones. Their decisions are based on the following factors related to family composition:
- Family network: People are more likely to act if they have relatives nearby who may warn them and offer them short-term shelter.
- Presence of children: Concern for children's safety will elicit quicker response from parents.
- Presence of pets: People often view their pets as they would their children and will take action to protect them. However, whereas families with children usually act more quickly to take precautions, in emergencies requiring evacuation, people with pets may endanger their own lives by refusing to evacuate, because many public shelters do not allow pets.

Experiential Factors

- Interpretation of message: When different people listen to the same message, there may be a variation in what they hear, leading to different interpretation and response.
- Previous experiences: Often people will rely on their previous experiences with the hazard to determine what actions they initially take (or don't take).
- Observations: Individual responses to warnings vary, but most people will seek some form of confirmation. For example, some people will look for more information

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through environmental cues, while others will seek to contact other trusted sources. Optimism bias (thinking that "disasters happen to other people") is overcome with confirmation.

- Perception of risk/proximity: People tend to make a rapid assessment of the relative safety of their location, producing an emergent perception of risk. If their perception of personal risk is high, people will act quickly. When the perception is low, they will delay acting.

Policy and Institutional Framework for emergency Communication

Policy and regulations are important elements of emergency communications planning and management. One of the main hindrances to effective establishment of telecommunications for disaster mitigation is the lack of a legal and regulatory regime. Horizontal cooperation among specialized services at each level is as essential as the vertical lines of communication for emergency communications. This requires established links between disaster coordinators, telecommunications authorities and service providers at each level. Governments need to take important steps to eliminate the monopoly of public telecommunications enterprise and to undertake a review of current telecommunications legislation, including regulations incorporating emergency telecommunication systems and protocols to support emergency services.

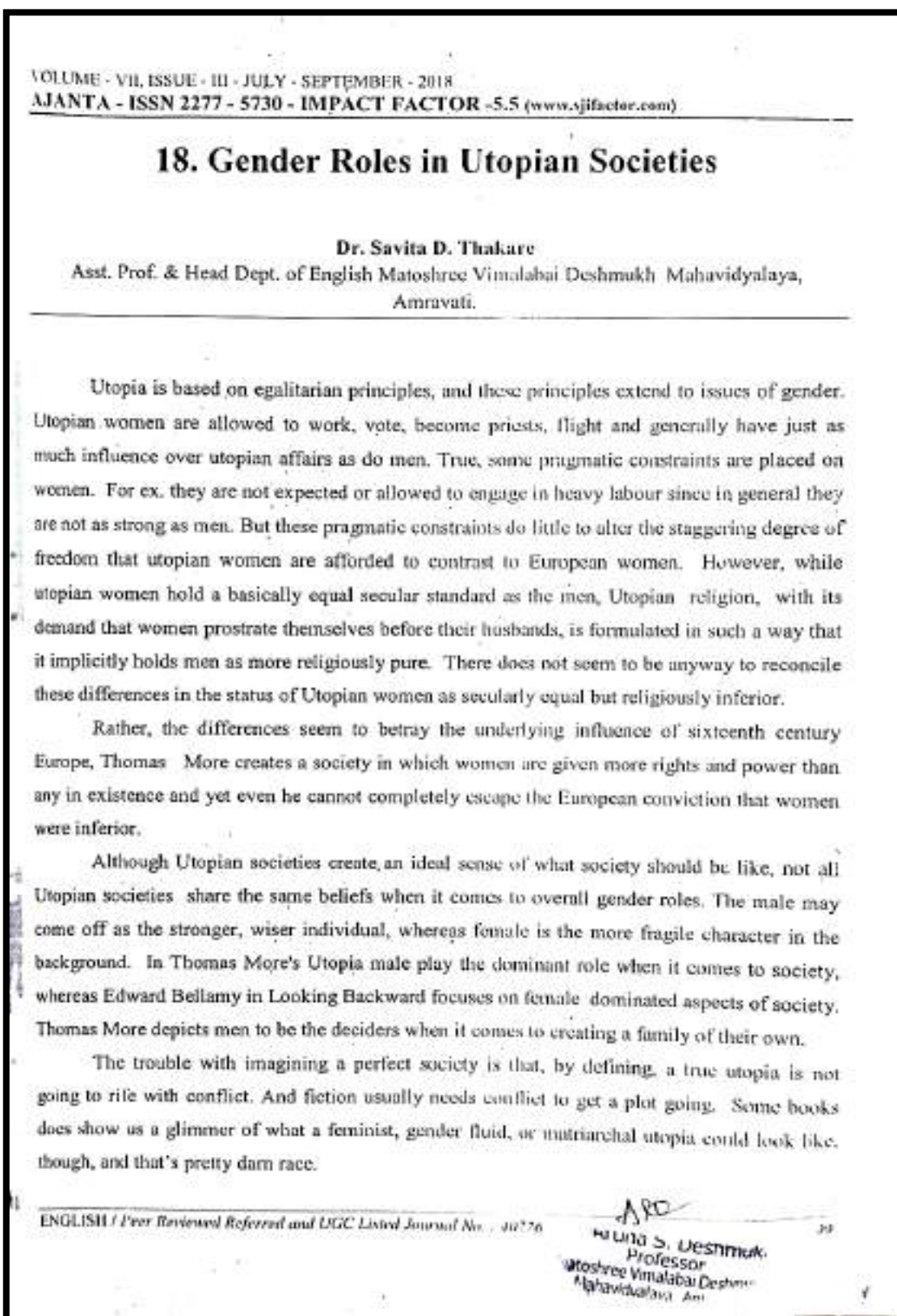
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Gender Roles in Utopian Societies

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don't divide neatly into 'boys' and 'girls'. Denying that simple truth hurts us all, in a million ways, and we need to meticulously unpick each and every one of them.

Conclusion


"Men would have to care for themselves on their own: food, laundry etc. No male above his age of puberty would be allowed to receive any kind of service from a female"

It is such a drain of women's resources to take care of males as if they were babies who are not capable of selfcare married women with young children often say that their husbands are just like another child, often worse.

Women will get to do the nice things such as reforestation, reintroduction of animals into the wild, taking care of wild animals affected by pollution etc. This is the huge responsibility and requires lots of empathy, thinking at different levels, lots of observation and genius. No women would leave this responsibilities to a man. Without the yoke of patriarchy, creativity and invention will go in lots of directions. Women from different cultures, in different environments etc will have diverse ideas that will grow and change overtime.

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Mushroom as s food and medicine for wellness and well being
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Article-45

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Mushroom as food and medicine for Wellness and Wellbeing

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ABSTRACT

Nutrition is the main living reason for all the societies of the world. Health and nutrition involve balanced and essential food components. *Mushroom* can be an alternative food source especially for sports persons as it has high nutritional and medicinal value. Nutrition and health are the two faces of the same coin. Functions of the body are mainly regulated by correct diet. This review summarises the nutritional and medicinal value of *mushrooms* explored by various authors.

Key words : Health, Nutrition, Medicinal, Mushroom.

Introduction

Billions of tones of lignocelluloses in the form of residues from crop and timber harvesting, wood processing and pulps manufacturing are produced as wastes every year (Steffen *et al.*, 2000). Disposal of this huge quantity of lignocellulosic wastes and their toxic effluents is an enormous and environmental challenge. In some countries, crop residues are burned in the fields to clear the subsequent crops. The burning of crop residues and wood for energy releases a number of toxic gases that causes environmental pollution (Toumela *et al.*, 2000). *Mushrooms* have the capacity to convert nutritionally valueless substrate into high protein content of food. Land is not a limiting factor for cultivation of *Mushrooms*. *Mushrooms* have become "attractive" as a functional food and as a source for development of drugs and nutraceuticals (Khatun *et al.*, 2012) responsible for their antioxidant, antitumour (Jones and Janardhanan, 2000) and antimicrobial properties.

Nutritional Aspects of Mushrooms

It is the quality of *mushrooms* which is more important than the quantity. *Mushroom* cultivation is a multistage wonder. The cultivation of edible *mushrooms* is a prime example of how the low cost of agro waste can be converted to a higher value or least commodity useful to mankind. *Mushrooms* are better source of essential vitamins such as niacin, riboflavin and vitamin C. They also contain folic acid, which is blood building vitamin and counteracts the pernicious anemia and is also highly rich in minerals such as calcium, phosphorous and potassium (Iqbal *et al.*, 2005). The nutritive values of four *Pleurotus* species viz. *P. florida*, *P. flabellatus*, *P. sapidus* and *P. sajor caju* on different agro wastes viz. wheat (*Triticum aestivum*), Mung (*Phaseolous radiatus*), Tur (*Cajanus cajan*) and Soybean (*Glycine max*) and their 15 combinations as reported by Deshmukh and Patil (2011), are as follows. The maximum protein, maximum carbohydrate, maximum crude fiber and minimum fat were recorded in *P. florida* [41.23% (W+M+T), 45.08 % (W), 15.25%

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(W + M), 2.53% (T + S + W), *P. sapidus* [43.23% (W+M+T+S), 67.08% (W+M+T+S), 21.25% (M), 1.16% (W+M+S)] *P. sajor-caju* [31.91% (W+M+S), 55.33% (W+M+S), 23.75% (W+M+T), 1.16% (W+M+S)], *P. flabellatus* [46.39% (T), 54.83% (W), 16.00% (W+M), 1.33% (T+S+W)] respectively, Chang *et al.*, (2009), cultivated edible Mushrooms *Pleurotus eryngii*, *Flamulina velutipes* and *Hypsizygus marmoratus* for the mineral contents in cultivation substrates, fruiting bodies of Mushrooms and the postharvest cultivation substrates. The major mineral elements both in the cultivation substrates and in the fruiting bodies were K, Mg, Ca and Na. Potassium was particularly abundant ranging 10-13 g/kg in the cultivation substrate and 26-30 g/kg in the fruiting bodies. On the contrary the calcium content in the fruiting bodies was very low despite high concentration in cultivation substrates. Among the minor mineral elements, Cu, Zn and Ni showed high percentage of transfer from the cultivation substrates to the fruiting bodies. Postharvest cultivation substrate did not have a significant change in calcium content. Kihumbu *et al.*, (2008), reported the nutritional composition of *P. sajor-caju* grown on water hyacinth, wheat straw and corncob substrates and 15 replicates. The protein content of the *P. sajor-caju* (hyacinth) is 10.8% (corn cobs). The crude fat ranged from 3.70% (water hyacinth), 3.85% (corn cobs), 3.90% (wheat straw). The crude fiber was 15.8% (wheat straw), 16.1% (corn cobs) and 18.2% (water hyacinth). Potassium was the most dominant as high as 11.5 mg/g from the water hyacinth substrate. Leucine, isoleucine, phenylalanine, alanine, glutamic acid, threonine, serine, glycine, aspartic acid, arginine, lysine, histidine, cystine were the reported amino acids. Methionine and tryptophan were present in traces. *Pleurotus sajor-caju* was cultivated on different agrowastes. Soybean straw showed significantly highest yield (84.56% B.E.) with maximum crude protein (25.33%) content. Significantly maximum moisture and crude fiber content of *Pleurotus* was recorded on sunflower stalk i.e. 89.35 and 7.82% respectively. Maximum total carbohydrate (56%) was recorded on wheat straw, while maximum fat and ash content of *pleurotus* was recorded on groundnut straw i.e. 2.85 and 7.00% respectively (Patil, 2012). *Pleurotus florida* (Mont) Singer was cultivated on different agrowastes. Soybean straw showed significantly highest yield (87.56% B.E.) with maximum crude protein (23.50%) and maximum phosphorous (920 mg/100 mg of dry

mushroom) content. Maximum moisture (92.45%) and crude fiber content (8.10%) in the fruiting bodies was recorded on paddy straw. The combination of Soybean straw + paddy straw showed significantly highest fat (2.60%), calcium (310 mg/100g) and iron (13.06 mg / 100g of dry mushroom) (Syed *et al.*, 2009). Development of fruiting bodies and protein content of *P. sajor-caju* as studied by Survase (2012) noted the number of fruiting bodies in the range of 27 to 40 in number with different sizes of 1-10 cm (14 to 18 no.), 11-15 cm (9 to 12 no.), 16 and more (4 to 10 no.) and protein content of 26.25% to 29.45% in substrate pigeon pea, soybean, green gram, wheat, paddy and combination.

Medicinal Aspects

Mushrooms are the miniature pharmaceutical units of nature. The bioactive compounds of mushroom include polysaccharides, proteins, fats, ash, glycosides, alkaloids, volatile oils, tocopherols, phenolics, flavonoids, carotenoids, folates, ascorbic acid, enzymes and organic acids. Methanolic extract of *P. florida* and *P. pulmonarius* fruiting bodies reduced solid tumours in mice (Jose *et al.*, 2002). *P. ostreatus* mycelium extract, alone and combined with the chemotherapeutic agent cyclophosphamide decreased the degree of leucopenia compared to the administration of cyclophosphamide (Meerovich *et al.*, 2005). A water extract of *P. ostreatus* exhibited the most significant cytotoxicity by inducing apoptosis of human carcinoma cells, when compared to many other mushroom extracts. It has been suggested that the active compounds in the extract were water soluble proteins or polypeptides (Gu *et al.*, 2006). From the components of mushroom extracts, polysaccharides are well documented as potent anti-tumour and immunomodulating substances (Wasser *et al.*, 2002). *P. tuber-regium* polysaccharides, extracted from mycelium and fruiting bodies, effectively inhibited solid tumour proliferation in mice. Antitumour effects have also been shown on different human tumour cell lines (Zang *et al.*, 2004). Wong *et al.*, (2007) showed that *P. tuber-regium* polysaccharides exerted antitumour activity, through cytotoxicity and antiproliferative activity against human leukemia cells in vitro. These polysaccharides induced apoptosis and caused cell cycle arrest. Compared to native *P. tuber-regium* polysaccharides, their corresponding carboxymethylated or sulphated derivatives showed higher antitumour activities, presum-

ably because of their higher water solubility and relatively extended flexible chains (Zang *et al.*, 2003). A novel β -glucan from *P. ostreatus* mycelium induced apoptosis of colon cancer cells in vitro (Lavi *et al.*, 2006) and water soluble polysaccharide extracted from *P. citrinopilentus* fermentation broth have been shown to reduce the number of metastatic tumour nodules in tumour-bearing mice (Wang *et al.*, 2000). Mushrooms that contain antioxidant activity may be used to reduce the oxidative damage in humans (Yang *et al.*, 2002). Methanol extract of *P. ostreatus* and *P. cystidiosus* fruiting bodies possessed antioxidant, reducing power, radical scavenging and iron chelating activities that were higher than those of other commercial mushrooms (Yang *et al.*, 2002) Wang *et al.*, (2004) reported the activity of *P. eryngii* as antifungal agent against *Fusarium oxysporum* and *Mycosphaerella anachidicola*.

Conclusion

Mushrooms are highly nutritive, low calorie food with good quality proteins, vitamins and minerals. Mushrooms represent a major and untapped source of potent new pharmaceutical products. A wide range of activities including antitumour, cardiovascular and antimicrobial are reported in mushrooms. Mushrooms are having high fiber, low fat, low starch. Thus, they are considered as ideal food for obese persons and for diabetics to prevent hyperglycemia. They are also known to possess promising antioxidative, cardiovascular, antimicrobial, hepatoprotective and anticancer effects. In developing countries like India mushroom progress is a boon in the field of food, medicine and in generating employment.

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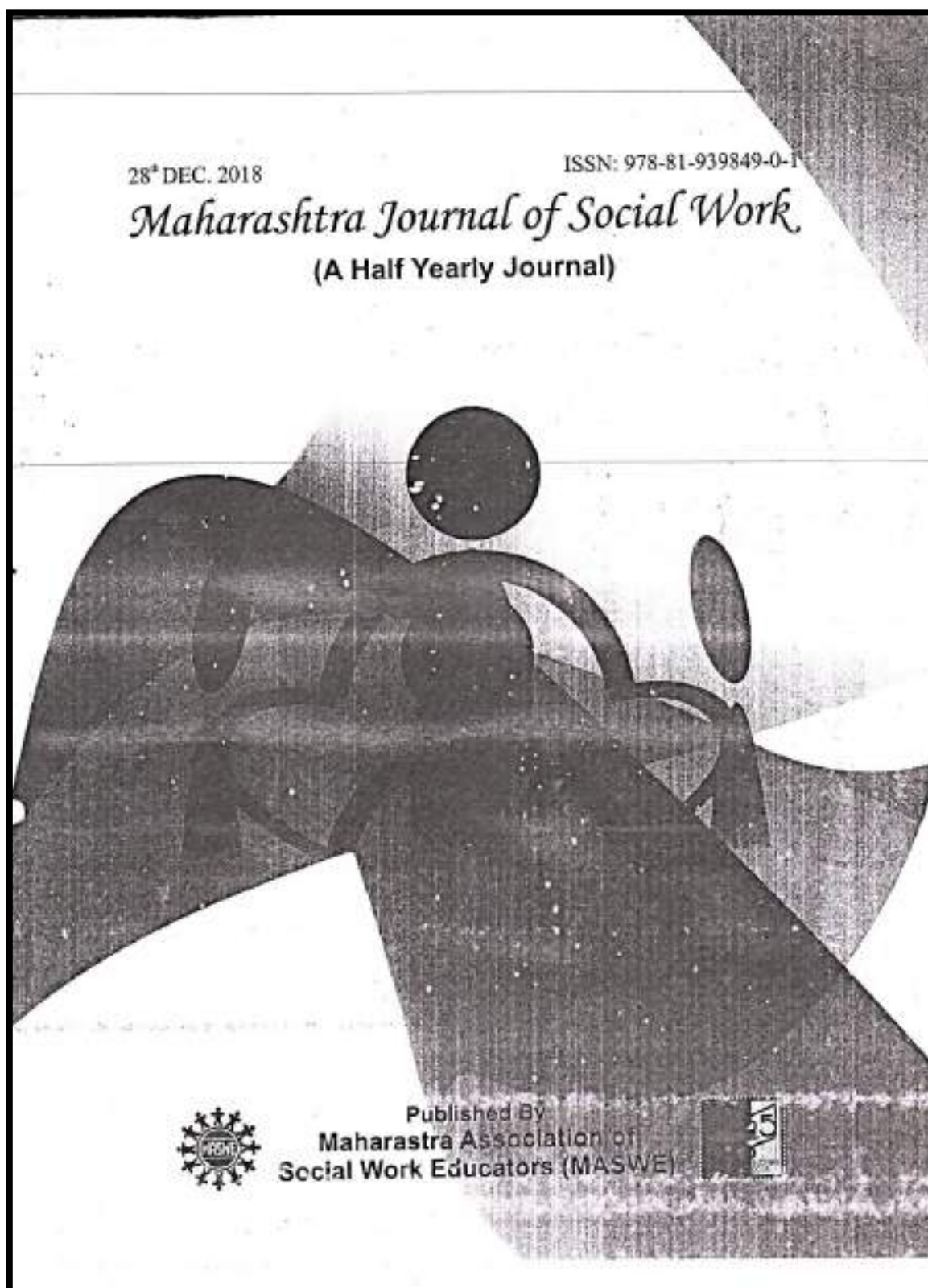
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Water Crises and Management

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INTRODUCTION

Water is a key natural resource for human survival. Water plays a vital role in sanitation for rural and urban communities. Water is also an important economic resource. It is necessary for all forms of agriculture and most of the industrial production processes (Merrett 1997; Kay et al. 1997). Water also provides a wide range of ecosystem and environmental services (Frederick 1993; Seckler et al. 1998). It is essential for assimilation of pollution caused by industrial effluents and domestic sewage. Most of the world countries are facing the problem of fresh water crisis mainly due to increasing population and climatic variation in rainfall is driven by climate change. About two-third of world countries mainly developing countries will face moderate to high water stress water and half of the total world population will face real water constraints by 2025 (United nations environmental programme 2002). Many of the European countries in the temperate zone having plentiful of fresh water resources are also facing the shortage of water supply due to successive water droughts driven by climate variations lead to drying of many water resources and water level in aquifers have reached to the critical point (V. Lazareva et. al. 2001). Large part of India also fall under the category of physical water crisis where availability of natural water resources is not enough to secure their future water needs hence they need to increase their efficiency of water use and wisely maintain their available water resources (Seckler et al. 2008; Christine L. Moe et. al. 2006). In India, right to fresh water for personal and domestic uses is not mentioned explicitly in Indian constitution but clean

and affordable water is essential to life and one of the fundamental human rights protected under international human rights law. Freshwater is a finite resource and is also a basic requirement for human body.

WATER CRISIS IN THE WORLD

Water crisis already affects every continent. Around 1.2 billion people, or almost one-fifth of the world's population, live in areas of physical crisis, and 500 million people are approaching this situation. Another 1.6 billion people, or almost one quarter of the world's population, face economic water shortage (where countries lack the necessary infrastructure to take water from rivers and aquifers).

Water crisis is among the main problems to be faced by many societies and the World in the 21st century. Water use has been growing at more than twice the rate of population increase in the last century, and, although there is no global water crisis as such, an increasing number of regions are chronically short of water.

Water crisis is both a natural and a human-made phenomenon. There is enough freshwater on the planet for seven billion people but it is distributed unevenly and too much of it is wasted, polluted and unsustainably managed.

- Around 700 million people = 43 countries suffer today from water crisis.
- By 2025, 1.8 billion people will be living in countries or regions with absolute water crisis, and two-thirds of the world's population could be living under water stressed conditions.

- With the existing climate change scenario, almost half the world's population will be living in areas of high water stress by 2030, including between 75 million and 250 million people in Africa. In addition, water crisis in some arid and semi-arid places will displace between 24 million and 700 million people.
- Sub-Saharan Africa has the largest number of water-stressed countries of any region.
- The United Nations World Water Development Report, Nature-based Solutions for Water, launched 19 March 2018 during the 8th World Water Forum, and in conjunction to the World Water Day, demonstrates how nature based solutions (NBS) offer a vital means of moving beyond business as usual to address many of the world's water challenges while simultaneously delivering additional benefits vital to all aspects of sustainable development.
- NBS use or mimic natural processes to enhance water availability (e.g., soil moisture retention, groundwater recharge), improve water quality (e.g., natural and constructed wetlands, riparian buffer strips), and reduce risks associated with water related disasters and climate change (e.g., floodplain restoration, green roofs).
- Currently, water management remains heavily dominated by traditional, human built (i.e. 'grey') infrastructure and the enormous potential for NBS remains under utilized. NBS include green infrastructure that can substitute, augment or work in parallel with grey infrastructure in a cost effective manner. The goal is to find the most appropriate blend of green and grey investments to maximize benefits and system efficiency while minimizing costs and trade offs.

Issues Related To Water Supply in India

Demographic, social and economic developments are the factors which increase pressure on water resources. Water availability, management and waste water disposal are three major issues related to water supply.

Water availability

Only 1% of the total water available can be used for human consumption. Most of the Indian cities depend upon underground water to meet their urban water demand. All the cities with pumping locations around the city face steep decline in water table. Chennai in 2005 faces severe drought so large amount of underground water extracted to cope up their urban area water demands so water table fall to 8 to 10 meters (Veena Srinivasan et al, 2010). The fall in ground water table has been recorded for the pumping location on seasonal and perennial rivers e.g. water table in Haryana, along Yamuna river, is also going down speedily due to intensive use in agriculture and supply for urban areas. There are many such examples in Punjab and across India. Cities, the concrete jungle, are characterized by impervious surfaces or surfaces with very high runoff coefficient. So, water which should percolate in earth in form of rain also get drained off very fast which increases the depletion of available water resources. Due to climatic variation, there is change in rainfall pattern and also rainfall availability is reducing.

Water Supply infrastructure

It is expected that majority of urban growth in India will take place in small and medium sized towns. Such towns do not have enough revenue to maintain the speed of infrastructure development with increasing demand and least capacity to manage such services. Unplanned Peri-urban areas are most prone to it having low pace of infrastructure development (Anna Norstrom et al, 2009; UN Habitat, 2006).

Waste Water Disposal

Indian cities lack sewerage treatment plants. Industrial and domestic waste water is discharged in rivers, ponds and in wells resulting in pollution of natural water resources. There are few examples of waste water reclamation and water reuse in Indian cities but people still hesitate to use reclaimed water for potable uses hence need to make some effort to

aware people about the benefits of water reuse. Water reuse also helps in underground water recharge, restore water cycle and protect natural ecological environment.

Challenges Associated with Water Supply

Water Quality

Like water quantity, water quality also has been a matter of political agenda across the world and India, Delhi is the best example of the same. In the absence of strong regulation, industrial and domestic waste water is discharged in rivers, canals and underground water sources. About 70% of underground and surface water resources in India have been contaminated (SudhakarM.Rao et al, 2004). High levels of pollution of the groundwater has been caused by the printing and dyeing units in Pali and Jodhpur in Rajasthan, Jetpur and Rajkot in Gujarat, Tannery industry in North Arcot district in Tamil Nadu. Printing and dyeing units in Panipat and Sonipat in Haryana are among other examples.

Financing of Infrastructure for Water Supply

Lack of finance in the urban water supply system is one of the biggest challenges in Indian urban water supply system. In India, most of urban local bodies/ municipalities have to depend on the state government to get investment in water supply system. They do not have enough sources for revenue generation to maintain water supply infrastructure. In India, water supply is responsibility of both state government and urban local bodies. Unequal distribution system is also a big challenge where poor people do not have access to potable water system so effort should be done for equitable distribution of water.

Lack of Regulatory Framework

There are no clear-cut distribution of responsibilities to different urban agencies in different urban areas and most of time they overlaps causing in the delay of almost all water projects. Lack of accountability and regulatory framework for core

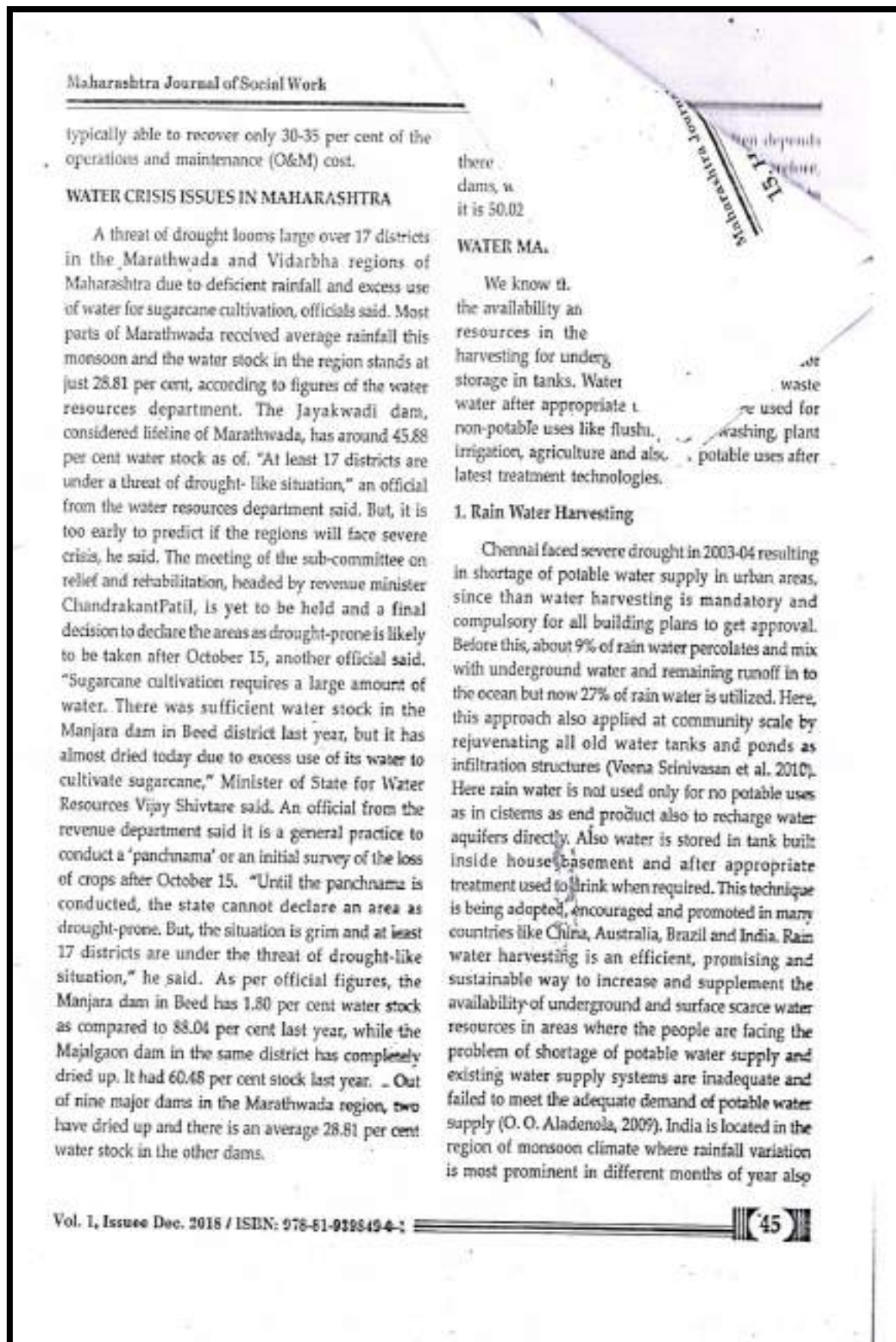
and peri-urban areas is not proper so each responsible agency can't do their duty properly. Lack of initiative taken for public participation in decision making to improve water supply system is also a major hindrance for its improvement.

Increasing Competition and Growing Conflicts

One of the major challenges India is facing in the water management sector today is the growing competition between demand sectors (World Bank 1998; Kumar et al. 1999; Ballabh and Singh 1997). Since Independence, the demand of water has grown in all sectors of use. However, the growth in demand in sectors such as industrial use and urban domestic use has been phenomenal. Though, at the national level, irrigation still constitutes lion's share of the consumptive use of water (83 percent), the demand pattern is changing fast with increasing occurrence of multiple demands and uses. This apart, the demand pattern is becoming less and less uniform across geographical locations. The reasons being the overall growth in urban population, concentration of existing urban populations in a fewer urban locations and dispersed industrial growth.

Water Utilization and Infrastructure Management

Intermittent water supply is faced by almost all Indian cities in India. No Indian city provides 24x7 water supplies except some public private partnership systems. Inadequate water supply is a big problem in India as only 64 % of households are connected and stand posts. Average duration of water supply is found between 1-6 hours (I. J. Ahluwalia, 2011). A large fraction of population does not have access to public water facilities hence they have to depend upon the private water suppliers and have to pay more charges in comparison to public water supply. Poor people are more vulnerable to this system because they have least participation in public water system management. The brunt of the burden of poor quality of water delivery is borne by the poor. Lower-income households without access to public networks typically have to rely on market sources to access water at a higher price. Water utilities in India are



Imbalanced by climate change. Most of rainfall in Indian subcontinent occurs in monsoon months. Also there are many regions in world are facing variation in rainfall, more rainfall in some specific months. Due to increase in water demand rainwater collection has become an important technique to collect water for agriculture, underground water recharge and non-potable uses (Leggett and Shaffer 2002; 2006; Peters 2006). In New Delhi, Chennai and some parts of Haryana (India), it is mandatory and compulsory to have a rainwater harvesting system in building plan for its approval and clearance from local authority.

2. Water Reuse or Water from Waste Water

Many of the urban settlements in world are facing inadequate water supply and crisis of water resources in the absence proper water management techniques and policies. To overcome this short water supply, reclaimed has become a prominent reliable alternative water source, which can be sold as new product. Recycling of water is also an important aspect of water resource and environment management policies which help in the reduction of environmental pollution and help in achieving a more sustainable form of development especially in urban areas (Lazarova et al, 2001).

Water reclamation is the process of make waste water useable and water use is the process of using treated water for beneficial purposes such as landscape irrigation and industrial cooling. Direct water use requires the development of pipe water supply infrastructure or other water conveyance facilities to deliver reclaimed water on indented location while indirect water reuse is discharge of an effluent to receiving water for assimilation and withdraws downstream is important but not a planned direct water reuse. In contrary to direct water use, water recycling is the process where water is used for single use and effluent from the user is captured again and redirected back in the water use scheme. (Asano, 1998)

3. Conservation of Supplied Water

It is also an important strategy to improve

efficiency of water supply system. In large urban settlements, a large fraction of supplies potable water is used for landscape and plant irrigation. Also the water demand increases in dry season when there is need for more irrigation like playground, golf course, parks etc. By reclaiming waste water, the demand of potable water can be reduced because recycled water can be used for landscape and plant irrigation in big urban settlements. Water metering with slab system has been identified as an effective tool for encouraging public for conservation of water.

4. Improving Water Distribution System and its use

By reducing water loses in pipe distribution system, low flush, dual flush or vacuum flush toilets water can be conserved in urban areas. With the help of efficient irrigation system like drip irrigation water can also be conserved in urban settlements. Recycled water can be used in industries instead of potable water.

5. Ground Water Recharge

By replenishing underground fresh water aquifer we can improve water supply efficiency. Bio swales creation along transportation corridor for underground recharge is being applied in many countries. Reclaimed water can be directly percolated in natural water aquifer to improve water level. Rainwater harvesting is also technique by with underground is charged and termed as artificial aquifer recharge.

6. Public private partnership

There are some examples in India where private water suppliers with contract with municipalities are working well and the revenue collection is about 100% of total investment and expenditure and also they are earning profit. A pilot project for supplying water 24x7 in the three cities of Hubli-Dharwar, Belgaum, and Gulbarga covering a population of 200,000 (about 10 per cent of total population in each city) has successfully transformed the water supply scenario in the five demonstration zones of these cities from about one to two hours every five days to water round the clock (I. J. Ahluwalia et al, 2011).

The word "watershed" introduced in 1920 was used for the "water parting boundaries". Watershed is that land area which drains or contributes runoff to a common outlet. Watershed is defined as a hydrological unit draining to a common point by a system of drains. All lands on earth are part of one watershed or other. Watershed is thus the land and water area, which contributes runoff to a common point.

A watershed is an area of land and water bounded by a drainage divide within which the surface runoff collects and flows out of the watershed through a single outlet into a larger river or lake. Watershed technology is used in Rainfed areas.

Objectives of Watershed Management:

Production of food, fodder, fuel Pollution control, Over exploitation of resources should be minimized, water storage, flood control, checking sedimentation, wild life preservation, erosion control and prevention of soil, degradation and conservation of soil and water, employment generation through industrial development dairy fishery production, recharging of ground water to provide regular water supply for consumption and industry as well as irrigation, recreational facility.

Watershed Management Programmes:

(i) Drought Prone Area Programme (DPAP):

Year of start: 1970-71:- Area development programme through restoration of ecological balance and optimum utilization of land, water, livestock and human resources to mitigate the effect of drought.

(ii) Desert Development Programme (DDP):

Year of start: 1977-78:-Mitigate the effect of drought in the desert area and restore ecological balance.

(iii) National Watershed Development Programme for Rain fed Agriculture (NWDFA):

Year of start: 1986-87:- To conserve and utilize rain water from both arable and non-arable lands on

and to increase the fuel, fodder and fruit resources through appropriate alternate land use system.

(iv)Control of Shifting Cultivation:

Year of start: 1986-87:- Restoring ecological balance in hilly areas and improving socio-economic conditions.

(v) World Bank Assisted Integrated Watershed Development Project:

Year of start: 1990:-To arrest the problems of environmental degradation and promote sustainable increase in agriculture production and to enhance vegetative technology of soil and water conservation for rain water conservation and for increasing crop, forage, fuel wood and timber yield of the area.

CONCLUSIONS

We need to realize that it is not too late to make the necessary changes and that even in our own personal capacity, we have the ability to change the world. This paper included issues related to water crisis, challenges, and its management in detail. First of all, wide gaps exist in our understanding of the physical problems and management solutions. Management solutions that are technically and economically feasible and socially and politically viable are not forthcoming. Over and above, the government policies and programmes are largely tuned to develop water resources rather than manage it. The nonavailability of adequate scientific information regarding availability and quality of water, demand for water in different sectors, nature and extent and causes of water problems become major hindrances to developing sustainable water management strategies. The root of the problem also lies in the lack of co-ordination among agencies for data collection, processing and retrieval, and the lack of integration of social, economic and environmental factors in assessment of resource condition. We have to work hand in hand to manage the water to its natural form free from parasites and bacteria.


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जागतिकीकरण तंत्रज्ञान आणि मराठी भाषा
Dr. M. M. Nandurkar

 <p>'RESEARCH JOURNEY' International E- Research Journal Impact Factor - (SJIF) - 6.261, (CJF) - 3.452(2015), (GF) - 0.676 (2013) Special Issue 182 (8)- Contemporary Innovation in Language & Literature UGC Approved Journal</p>	<p>ISSN : 2348-7143 April-2019</p>
<p>जागतिकीकरण, तंत्रज्ञान आणि मराठी भाषा</p> <p>मंदा माणिकराव नंदुरकर मातोश्री विंगलाबाई देशमुख महाविद्यालय, अमरझोती</p>	
<p>सारांश :</p> <p>वैश्विक प्रगतीत भाषेचे महत्व अग्न्यसाधारण आहे. भाषा आणि लिपीमुळेच जगाची प्रगती शाली, भाषाभिव्यक्ती व ज्ञान प्रसार ही भाषेची मुख्य कार्ये आहेत. एक्सप्लेशन व कम्युनिकेशन आत्मप्रगतीकरण व आत्मनिवेदन-संवाद ही भाषा विज्ञानाने भारतेची ध्येये सांगितली आहेत. भाषा ही सामाजिक संस्था आहे व कोणतीही सामाजिक संस्था कटवत असते. भाषा ही मानवाला मिळालेली एक श्रेष्ठ देणगी आहे. अवेन सृष्टी व सचेतन सृष्टी पल्ल मुख्य फारक माझेवाच आहे. मनुष्य विचारी व भिन्नशील प्राणी आहे. पण भाषाच नसेल तर विचार करणे घितन करणे अशक्य होईल. भाषा हे एकमोठे सामर्थ्य आहे. भाषेचे मुख्य कार्ये दळनवळण व विचारविकारांनी अविष्यक्ती आढळते.</p> <p>मोबाईल फोन, संगणक आदींच्या वापराचा मराठी भाषेवर परिणाम होताना दिसून येतो. मराठी भाषेच्या विकासाला विस्ताराला यामुळे चातना मिळते आहे. संगणकीय मराठी लेखनामुळे डी टी पी मुळे मराठी लेखन सुलभ नवीनान, सुंदर झालेले लक्षात येते. पुस्तक प्रकाशन लेखन सुलभ झाले आहे. कमी परिश्रमाचे ज्ञान आहे. त्यामुळे प्रकाशित होणाऱ्या पुस्तकांची संख्या वाढली आहे. मुद्रणाचा दर्ज सुधारला आहे. स्मार्टफोन मुळे मराठी लेखनाचे नवे तंत्र विकसित होत आहे. मराठी देवनागरित लिहिण्याऐवजी रोमनमध्ये लिहा असा भाषा वैज्ञानिकांचा आग्रह आहे. तो स्मार्टफोन वापरणारी पिढी पूर्ण करत आहे. मेसेज, व्हाटसअप, फेसबुक आदींवर मराठी भाषा रोमन लिपीत मोठ्या प्रमाणात लिहिते जात आहे. ही वाय अनिष्ट व मानता त्याकडे भाषा वैज्ञानिकांचे म्यन साकारणारी एक वैज्ञानिक बाय म्हणून सकारात्मक पाहिले पाहिजे. नव्या पिढीने रोमन लिपीच्याही पुढे जाऊन मराठी अधिक लेखन सुलभ केली आहे. जेव्हा जेव्हा Jevan हा शब्द J1 असा सुलभपणे लिहिला जातो. तर आठवण Ashwan हा शब्द H1 असा लिहिला जातो. तर नवी पिढीची लघुलिपी मराठीसाठी बनवत आहे. त्याकडे दिकृती म्हणून न पाहता नवी लघुलिपी नवे लिपीशास्त्र म्हणून सकारात्मक व स्वागतशील दृष्टीने पाहिले पाहिजे. स्मार्टफोन मुळे मराठी भाषेचा वापर वाढले दिसून येतो. रोमन लिपीत अक्षरे टाईप केली तर देवनागरीत शब्द तयार होण्याची सोय स्मार्ट फोन मध्ये उपलब्ध आहे. स्मार्ट फोन सुध्दा लिहिण्याला मदत करतो. सुध्द शब्द सांगतो त्यामुळे हे नवीन डिजिटल तंत्रज्ञान भाषिक विकासाला सहाय्यभूत होत आहे. या नवीन तंत्रज्ञानामुळे मराठी भाषेचा रोमन लिपीतून किंवा नव्या लघुलिपीतून व्यापक प्रचार प्रसार होतो आहे. भाषा आणि लिपी या दोन वेगवेगळ्या बाबी असतात. कोणत्याही भाषेसाठी कोणतीही लिपी घेता येते किंवा नाही लिपी तयार करता येते. महानुभाव कवी लेखकांनी स्वतःच्या तेरा सांकेतिक लिप्या तयार केल्या होत्या. तंत्रज्ञानाने भाषिक विकास होताना आढळतो. संगणक स्मार्ट फोन यामुळे लेखन छान सजवता येते. निमंत्रण पत्रिका शुभेच्छा संदेश आदींचा प्रसार वाढला. सोशल मीडिया, सुलभता वाढली या सर्व व्यवहाराकडे भाषिक विकासाच्या दृष्टीने द्यायला हवे. एकूणच तंत्रज्ञानाच्या प्रसारांमुळे मल्टीटास्कींग क्षमता भाषा प्रातुख्याने महत्वपूर्ण ठरते.</p> <p>प्रस्तावना :</p> <p>वैश्विक प्रगतीत भाषेचे महत्व अग्न्यसाधारण आहे. भाषा आणि लिपीमुळेच जगाची प्रगती शाली, भाषाभिव्यक्ती व ज्ञान प्रसार ही भाषेची मुख्य कार्ये आहेत. एक्सप्लेशन व कम्युनिकेशन आत्मप्रगतीकरण व आत्मनिवेदन-संवाद ही भाषा विज्ञानाने भारतेची ध्येये सांगितली आहेत. भाषा ही</p>	
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सामाजिक संस्था आहे व कोणतीही सामाजिक संस्था बदलत असते. भाषा ही मानवाला मिळालेली एक श्रेष्ठ देणगी आहे. अथेन सृष्टी व सपेतेन सृष्टी यात मुख्य फरक भाषेचाच आहे. मनुष्य विचारी व चिंतनशील प्राणी आहे. पण भाषाच नसेल तर विचार करणे क्लिप्त करणे अशक्य होईल, भाषा हे एकमोठे सामर्थ्य आहे. भाषेचे मुख्य कार्य दळणवळण व विचारविकाराची अभिव्यक्ती आढळते.

जगात सात हजारहून अधिक भाषा आहेत. भाषा नष्ट होण्याचा वेग प्रचंड आहे. जगातल्या अनेक भाषा नष्ट होण्याच्या मार्गावर आहेत. युनेस्कोने 2020 साला पर्यंत मराठी भाषा जगाच्या व्यवहारातून हद्दपार होईल असे भाकित केले होते ते खोटे ठरले आहे. मराठी जगातल्या पहिल्या दहा भाषांमध्ये आहे. जवळपास बाराकोटी लोक मराठी भाषा जगात. जगात 2300 साला पर्यंत फक्त इंग्रजीच शिल्लक राहिल असे काही भाषा वैज्ञानिकांचे मत आहे. मराठीसह इतर अनेक भाषांना जागतिकीकरणामुळे धोका निर्माण झाला आहे. भाषा मेली की देशही मरते असे कुसुभाग्रजनी म्हटले आहे. जनभाषा होणे व ज्ञानभाषा होणे ही मराठी भाषेपुढची महत्त्वाची आव्हाने आहेत. न्यायशास्त्र, वैद्यकशास्त्र, विज्ञान, तंत्रज्ञान यासाठी अजूनही इंग्रजीचाच माध्यम म्हणून वापर केला जातो. मराठी खऱ्या अर्थाने ज्ञानभाषा झाली नाही. 1850 नंतर जी प्रमाण मराठी भाषा खरितत्वात आली ती भाषा विज्ञानाचे प्रमाण भाषा तयार करण्याचे निकस ठावतून तयार करण्यात आली असून ती आजही अभिजातांपुरतीच मर्यादित राहिली व बहुजनांची भाषा झाली नाही म्हणून सर्व समावेश अशी मराठी जनभाषा तयार होणे ही आवश्यक आहे. मराठीच्या जवळ पास शंभर बोली आहेत. त्यांचेही जतन आवश्यक आहे. खोलीच भाषेला उर्जा, सत्य, चैतन्य, प्रवाहीपणा देत असतात. भाषेमुळे संस्कृती घडतेच पण भाषा ही सुद्धा संस्कृतीचा एक महत्त्वाचा घटक असतो. भाषेमुळेच संस्कृतीचे संक्रमण होते. भाषेमुळेच समान व्यवहार शक्य होतो.

गृहीतके :-

- तंत्रज्ञानाच्या आधुनिक युगात माध्यमांची व्यापक प्रभावशाली आहे.
- भाषेसमोर अनेक आव्हाने आहेत.
- भाषेत सरमिसळ वाढलेली आहे.


सिमतच्या मते जागतिकीकरण हा आंतरराष्ट्रीय पात आणि सर्वांसाठी स्वातंत्र्य मुल्यांचा समावेश असणारी व मुक्तव्यापार आणि अर्थव्यवस्थेचे फायदे सर्वांना मिळवून देणारी सर्व समावेशक प्रक्रिया आहे. तर एडवर्ड हर्मनच्या मते जागतिकीकरण ही सीमापार उत्पादने, भांडवल, सेवा आणि आर्थिक क्रिया प्रक्रियांच्या वाढत्या प्रवाहाला लक्ष करणारी प्रक्रिया आहे. जागतिकीकरण मुक्तव्यापाराचा पुरस्कार करणारी, बहुराष्ट्रीय कंपन्यांच्या भूमिकेला चालना देणारी, विभागीय व्यापारसंघ आणि विंगर शासकीय संघटनांची महत्त्वाची भूमिका असणारी सर्व समावेशक प्रक्रिया आहे.

जागतिकीकरण शोषणावर आधारित, भांडवलवादींना अनुकूल लोकशाही विरोधी, नवदसाहतावादाचे प्रभावी साधन असणारी, बहुराष्ट्रीय कंपन्यांची मक्तेदारी वाढवणारी, राष्ट्रीय सार्वभौमत्वाला धोका निर्माण करणारी प्रक्रिया आहे. जागतिकीकरणाचे समर्थक ही आंतरराष्ट्रीय मतभेद कमी करून आंतरराष्ट्रीय एकीकरणाची प्रक्रिया मानतात. जागतिकीकरणामुळे दारिद्र्य, उदासिन्हा, भकसापणा वाढला. जागतिकीकरणामुळे कल्याणकारी राज्याच्या कल्पनेला खोळ बसते. राष्ट्राच्या ते सार्वभौमत्वाला बाधा येते. राष्ट्राचे परावलंब्य वाढली. जागतिकीकरणामुळे कल्याणकारी राज्याच्या कल्पनेला खोळ बसते. राष्ट्राच्या सार्वभौमत्वाला बाधा येते. राष्ट्राचे परावलंब्य वाढते. भारत सरकारच्या बहुभाषीक देशाच्या संस्कृतीला धोका निर्माण होत आहे.

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जागतिकीकरण आजच्या घडीचा सर्वात महत्वाचा प्रश्न आहे. सर्व जगातील मानव समुह आज जागतिकीकरणाच्या कक्षाट्यात सापडला आहे. याबाबत उत्तम कांबळे म्हणतात, आर्थिक सुधारणा, ग्लोबल व्हिलेज, गाडिती तंत्रज्ञानाचे युग, ज्ञानाच्या बँका आणि बाजारपेठा, संपत्तीचे विकेंद्रीकरण, वस्तुचा सर्वत्र सुलभ प्रवास, मुबलक व्यक्तिस्वातंत्र्य, खाजगीकरण, उदारीकरण, औद्योगिकीकरण अशी वेगवेगळी लेखले धारण करत जागतिकीकरण आले आहे. आज संपूर्ण जगजागतिकी करणाऱ्या विश्वस्थ्यात सापडले आहे. भाषा ही त्याला अषवाद नाही. जागतिकीकरण हा भांडवल शाहीच्या पुढचा अधिक विघातक टप्पा आहे. यापासून नवे पारतंत्र्य, नवी गुलाबी, नवी वेढविगारी, चेशीजगारी जन्मते त्यामुळे आढळतो. भाषा आणि संस्कृतीला मोठा धोका निर्माण झालेला आहे. मंदीची लाट शेतकऱ्यांच्या आत्महत्येचा भागिनिकीकरणाची अपत्ये आहेत. जागतिकीकरणाचा सर्वात जास्त धोका भाषांना असतो. भांडवलशाहीची जागतिकीकरणाची ही भाषा तिथे जगाची भाषा झाल्या लागते. ज्याला जगात टिकून राहायचे त्याला तिथे भाषा बोलावी लागते. सध्या जागतिकीकरणाची भाषा इंग्रजी आहे. जागतिकीकरणाच्या भाषेसमोर टिकून राहण्यासाठी इतर देशीभाषांना, प्रादेशिक भाषांना बोलीभाषांना रूप संघर्ष करावा लागतो. सध्या आपल्या अस्तित्वासाठी व उज्वल भवितव्यासाठी बोली भाषांना इंग्रजांचे लागत आहे व पुढेही झगडाचे लागणार आहे.


उद्दिष्टे:-

- तंत्रज्ञानाच्या प्रसारामुळे भाषांमध्ये झालेला बदल जाणून घेणे.
- भाषेमुळे संस्कृतीत झालेला बदल तसात घेणे
- तंत्रज्ञानाच्या यामरामुळे भाषा व सांस्कृतिक पर्यावरण यांचा संबंध लक्षात घेणे.

भाषा दीर्घायुची होण्यासाठी व जास्तीत जास्त लोकांनी तिचा स्वीकार करण्यासाठी भाषा सुलभ असली पाहिजे. भाषेची सुलभता दोन प्रकारची असते. भाषा बोलायला सुलभ असली पाहिजे. तशीच ती लेखनसुलभ असली पाहिजे. मराठी वैभवशाली व्यापक करावयाची असल्यास तिच्यात उच्चार सुलभता आणली पाहिजे. माणसाचा कल उच्चार सुलभतेकडे असतो. म्हणूनच रजनीचे रजू होते. ताम्र-तांबे, आम्र-आंब, व्याघ्र-वाघ असे उच्चार सुलभ शब्द भाषेत ध्वनीपरिवर्तनाने तयार होतात. उच्चाराला कठीण शब्दांना पर्यायी उच्चार सुलभ शब्द दिले पाहिजेत. उच्चार सुलभते पध्दाच लेखन सुलभतेचा मुद्दा महत्वाचा आहे. मराठीचे लेखन एक अत्यंत किचकट खब आहे. मराठीने स्वीकारलेली सदोष देवनागरी लिपी, मराठी शुद्धलेखनाचे नियम तत्सम शब्दाचे मुळा बरहुकम करावे लागणारे लेखन, मराठीचे व्याकरण, सामान्य रर्षांचा प्रश्न इत्यादी कारणांनी मराठीचे लेखन विलष्ट झाले आहे. इंग्रजीपेक्षा ते कठीण आहे.

मराठीत प्रत्येक अक्षर सुटे लिहावे लागते व त्याचे डोव्हाकर रेषही दयावी लागते. यामुळे वेळ जास्त लागतो, रोमन मध्ये शब्द पूर्ण होई पर्यंत पेन उचलण्याची गरज नसते. तीन तासात इंग्रजी माध्यमाची चाळीसपाने लिहून होत असतील तर मराठीची तीसच पाने लिहून होतात. मराठीसाठी निवडलेली देवनागरी लिपी अत्यंत सदोष आहे. रोमन लिपी मराठीसाठी वापरा असा भाषा वैज्ञानिकांचा सल्ला आहे. योग्यत्वाही भाषेला कोणतीही लिपी निवडता येते. रोमन मध्ये पाच स्वर आहेत. देवनागरीत चार। देवनागरीत चाळीस व्यंजने तर रोमन मध्ये एकवीस. देवनागरीची एकूण स्वर व्यंजने बावन तर रोमनची फक्त सहा। देवनागरीत संयुक्त व्यंजने आहेत. व्यंजने गालेतील दुसरी व चौथी ओळ संयुक्त व्यंजनाची आहे. क,ख,ग,घ, यात ख, ग व ही संयुक्त व्यंजने आहेत. क+ ह = ख , ग + ह = घ, रथाच प्रमाणे घ (क + श) झ (द + न + य) ही संयुक्त व्यंजने आहेत. याशिवाय रोमन मध्ये

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<p>मात्रा, उच्चार, वेलांटी, अनुस्वार, रफार, आदी नाहीत त्यामुळे इंग्रजी लेखन सुलम झाली आहे. देवनागरीचे लेखन उच्चारानुसार आहेच असे नाही. उदा सतरा व पत्रा सच्चार सारखाच पण लेखन भिन्न आहे. शुब्दलेखनाचे नियम सुलम करणे शक्य आहे. हे सर्वकरून मराठीचे लेखन सुलम झाले पाहिजे तरच मराठी जागतिकीकरणाच्या प्रमाणात टिकू शकेल. विदनात हिन्दी विद्यापीठ आहे. विदनात संस्कृत विद्यापीठही आहे पण पूर्ण महाराष्ट्रात मराठी विद्यापीठ नाही. तामिळ, तेलगू, उडिसा, मल्यालम या भाषांना अभिजात भाषेचा दर्जा आहे पण मराठी भाषेला अभिजात भाषेचा दर्जा नाही. लॅटिन, ग्रीक, अरेबिक या भाषांनाही अभिजात दर्जा आहे पण मराठी अभिजात भाषा होण्यास पूर्ण पात्र असूनही केवळ अभिजात भाषेचा दर्जा नाही.</p> <p>मोबाईल फोन, संगणक आदींच्या वापराने मराठी भाषेवर परिणाम होताना दिसून येतो. मराठी भाषेच्या विकासात विस्ताराला यामुळे चालना मिळते आहे. संगणकीय मराठी लेखनामुळे डी टी पी मुळे मराठी लेखन सुलम गतीमान, सुंदर झालेले लक्षात येते. पुस्तक प्रकाशन लेखन सुलम झाले आहे. कमी परिश्रमाचे झाले आहे. त्यामुळे प्रकाशित होणाऱ्या पुस्तकांची संख्या वाढली आहे. मुद्रणाचा दर्जा सुधारला आहे. स्मार्टफोन मुळे मराठी लेखनाचे नवे तंत्र विकसित होत आहे. मराठी देवनागरीत लिहिण्याऐवजी रोमनमध्ये लिहा असा भाषा वैज्ञानिकांचा आग्रह आहे. तो स्मार्टफोन वापरणारी पिढी पूर्ण करत आहे. मेसेज, व्हाट्सअप, फेसबुक आदींवर मराठी भाषा रोमन लिपीत मोठ्या प्रमाणात लिहिली जात आहे. ही बाब अनिष्ट न मानता त्याकडे भाषा वैज्ञानिकांचे स्वप्न साकारणारी एक वैज्ञानिक बाब म्हणून सकारात्मक पाहिले पाहिजे. नव्या पिढीने रोमन लिपीच्याही पुढे जावून मराठी अधिक लेखन सुलम केली आहे. उदा जेवण Jevan हा शब्द J असून सुलमपणे लिहिला जातो. तर आठवण Aathwan हा शब्द 81 असून लिहिला जातो. तर नवी पिढीनवी लघुलिपी मराठीसाठी बनवत आहे. त्याकडे विकृती म्हणून न पाहता नवी लघुलिपी नवे लिपीशास्त्र म्हणून सकारात्मक व स्वागतशील वृत्तीने पाहिले पाहिजे. स्मार्टफोन मुळे मराठी भाषेचा वापर वाढले दिसून येतो. रोमन लिपीत अक्षरे टाईप केली तर देवनागरीत शब्द तयार होण्याची सोय स्मार्ट फोन मध्ये उपलब्ध आहे. स्मार्ट फोन सुध्दा लिहिण्याला मदत करतो. शुध्द शब्द सांगतो त्यामुळे हे नवीन डिजिटल तंत्रज्ञान भाषिक विकासात सहाय्यभूत होत आहे. या नवीन तंत्रज्ञानामुळे मराठी भाषेचा रोमन लिपीतून किंवा नव्या लघुलिपीतून व्यापक प्रचार प्रसार होतो आहे. भाषा आणि लिपी या दोन वेगवेगळ्या बाबी असतात. कोणत्याही भाषेसाठी कोणतीही लिपी घेता येते किंवा नाही लिपी तयार करता येते. महानुभाव कवी लेखकांनी स्वतःच्या तेरा सांकेतिक लिप्या तयार केल्या होत्या. तंत्रज्ञानाने भाषिक विकास होताना आढळतो. संगणक स्मार्ट फोन यामुळे लेखन छान सजवता येते. निमंत्रण पत्रिका शुभेच्छा संदेश आदींचा प्रसार वाढला. सौंदर्य वाढले. सुलमता वाढली या सर्व ध्यवहाराकडे भाषिक विकासाच्या दृष्टीने बघायला हवे. एकुणच तंत्रज्ञानाच्या प्रसारामुळे मल्टीटास्कींग क्षेत्रात भाषा प्रामुख्याने महत्वपूर्ण ठरते.</p> <p>निष्कर्ष:-</p> <ul style="list-style-type: none"> • नवे तंत्रज्ञान व मल्टीमिडीयाच्या क्षेत्रात मराठीची समृद्धता व सक्षमता आढळते. • तंत्रज्ञानामुळे भाषेचे आदानप्रदान जलद गतीने वाढल्याचे आढळते. • तंत्रज्ञानाचा परिणाम भाषेवर झाल्याचे आढळते • लेखनाचे नवे तंत्र विकसित होताना दिसून येत. 		
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आदिवासी साहित्यिकांचे सामाजिक योगदान –
Dr. M. M. Nandurkar

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४०. आदिवासी साहित्यिकांचे सामाजिक योगदान

डॉ. मंदा माणिकराव नंदुरकर
महोदय विमलाबाई देशमुख महाविद्यालय, अमरावती.

आदिवासी साहित्यामध्ये मगदी आदिवासी साहित्य प्रकार अतिशय सख्खत अवळते. आदिवासी कविता परिपूर्णवादी अवळते. आदिवासी कवितांमधून जगण्याचे मात्र अहमवळ प्रकट होते. आदिवासी कविता आत्मनिष्ठ आदळतात. आदिवासी जीवण जाणिवेचे दर्शन आदिवासी कवितांमधून व्यक्त होते. आदिवासी संस्कृती, रुढी, परंपरा, चालीरिती या सर्वांचे प्रतिबिंब आदिवासी कवितेमध्ये प्रकटते. आदिवासी कविता या आदिवासी साहित्याला मिळालेले महत्त्वपूर्ण योगदानच ठरते. आदिवासी, भाषा, संस्कृती कवितेतून प्रकटते.

आदिवासी कवितेच्या कविता मोठे अनुभव विश्व गाडणाव प्रवाह आहे. आदिवासीचे दुःख, वेदना कवितेतून व्यक्त होताना दिसून येत आहे. आदिवासींवर होणाऱ्या अत्याचाऱ्यांची, अन्यायाची जाणीव कवितेतून प्रकटते. डॉ. गोविंद गावे, भुजंग मेथाम, बाहेर सोनवणे, विनायक तुनराम, उत्तम घोंगडे, माधव सरखुंदे, प्रभुराजगडकर, दशरथ मडावी, कृष्णकुमार पांदेकर, उषा किरण आत्राम, कुतून आलाम, सुनील कुमारे अशी अनेक आदिवासी कवी, कवयित्री कवितेतील आत्मभानाच्या जाणीवेक शोध घेताना दिसून येते.

जंगला मने पेटया मराठी, या काव्यसंग्रहात कामन शैलभाके यांनी आपला अनुभव कथन केला आहे. या देशात मागून काहीच मिळत नाही. आदिवासींचा सर्वच बाबतीत उपेक्षित राहावे लागते. म्हणून कवी म्हणतो –

जंगलाचा राजा आहे उमारी
जंगलाचा राजा आहे विकारी
जंगलाचा राजा आहे बेकार
पण जंगलाचा राजा आहे स्वामिनी

मिवाली नाही संस्कृती अजून प्रस्थापितांच्या बाजारी

आदिवासी हे जंगलाचे राजे असून त्यांची दुर्दशा झाल्याचे चित्रण कवितेत केले आहे. आदिवासींना त्यांच्या हुक्काची जाणीव होत असल्याचे या कवितेतून दिसून येते.

पोस्टी, या कवितेतून आदिवासी संस्थांना शांतादिसुद्ध तरुणांची जाणीव उपाकिरण आत्राम यांनी करून दिलेली आहे. सत्री ही समाजव्यवस्थेत दूरीकृत राहिली आहे. ती अबोल आहे. रुढी परंपरेत ती कौद झालेली आहे. ती साक्षीसुद्ध आहे. तिला अक्षर देताना उपाकिरण आत्राम म्हणतात.

बाव त रवू नगस ग
रुधं चुळी बायांचं वाम आहे
तू जंगली तना दगडाने नळ कापली
कुंभार या कवितेत त्या म्हणते –

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रानकेवड्यांनी आता तरी साहाणे या
रानात फुलू नका, नागाच्या फिळर्यात जखबू नका
जी जाणीव आत्मभान देणारी, स्वाभिमान जागृत करणारी, आत्मसन्मानाचे भान देणारी, रुडीपरंपरेविरुद्ध
विद्रोह करणारी आडळते.

नव्या युगाचे नवीन आन्धाने पेलण्याची ताकद आदिवासी कवितेमध्ये दिसून येते. आपल्या समाज बांधवानी
आता सान्ध्य रक्षयता हवे, असा सतर्कतेचा इशारा कवी कवितेतून देतात. समाज परिवर्तनाचे विचार मांडतांना
पुरुषोत्तम शेंडमाके म्हणतात

भूमिगत होतील तुमचे स्वप्न संकल्प...

अन महात फुनत

विझलेल्या डोळ्यांनी इथं

सत्तेचा नवा जन्म

नवा युगारंभ....

भविष्याची हाक या कवितेतून आपला विचार कवी स्पष्ट करतात. माणसाने माणसाशी माणसारसारखे वागावे.
माणसाचे स्थान त्याचा दर्जा त्याला मिळावा, आदिवासींच्या व्यथ, वेदना, मांडतांना समाजसभुनाचे दुख चित्रित
करतात.

तुमच्या स्वातंत्र्याच्या

भरजरी वस्त्रात

शकता आली नाही

आमच्या पस्तीतमी मांड

अशी आर्तता माधव सारकुंडे आपल्या ठणक या कवितेतून व्यक्त करतात. आदिवासी कवितेतील जीवन
जाणिवे, समाजातील प्रश्न परिवर्तनवादी आहेत. कवितेच्या माध्यमातून हे प्रश्न समाजासमोर येत आहेत. आदिवासी
कविता ही समृद्ध आहे. आदिवासींच्या प्रश्नांची उकल करणारी कविता सशक्त आहे. सद्यस्थितीचे चित्रण करणारी
उरते.

रान आसवांचे तळे व रानपाखरांची माय या कवितेसंग्रहातून कुसुम आलाम यांनी आदिवासींचे भयान जगणे
उलगडले आहे. कंदामुळे खाणे, किडेमुंग्या खाणे, अंगावर फुनत तंगोटी, स्त्रियांनाही अंगभर साऱ्जे नाही, टीचर
पोटासाठी त्यांना रानावनात भटक्याचे लागते. धान्य घेतांना सायकर त्यांच्या अज्ञानाचा फायदा घेतात.

कुसुम आलाम म्हणतात

मुत्सित नजरांनी घायाळ तो होतो

काल तर वूल थडघ होती

जिही पोटात भुकेचा गोळा

तरी आरक्षणावर इतरांचा डोळा

आणि स्वातंत्र्यानंतरही गरिबी, दारिद्र्य आणि भयभुनत शास घेता येत नाही म्हणून कवयित्री म्हणते

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स्वातंत्र्याच्या फडात चर्चा

व्यथा माझी अशी आहे

छात्रीवरती बंदूक आणि

पाठीमागे दंडूक आहे.

असे आदिवासींना जीवन जगावे लागत असल्याचे कुसुम आलाम यांच्या कवितेतून दिसून येत आहे.

तिरकगटा या कविता संग्रहात सुनील कुमारे आदिवासी आत्ममान प्रकट होतांना...

माय स्वातंत्र्याचा सुवर्णमहोत्सव भारत

पुण्यभूमीत ज्ञानरा करीत आहे

तरीही.....

घाट्यासाठी सरणावर जळणारे तुझे तप्त आवुष

कधीच का फेटत नाही?

आदिवासी कवी आशावादी दिसून येतो. तिरसमुडाही आदिवासीची मसात होते. बिरसा मुंडाच्या कर्तृत्वाच्या कव्य संघाच्या कथा प्रत्येकापरीत पोहचवल्या इत्यात असे कवीत्वा घडते. बिरसा मुंडाबद्दलची आदरभाव प्रकट करतांना कवी म्हणतात.

तर लोक फक्त गांधीच

गातात असे नव्हे

ते ऐकतात तोतळात गत्तात

घरदार –शाळा – बाजार

मोर्च्यात एका

संज्ञेत बदलासाठी

कवि परिवर्तनाची आढळतो आशावादी विचार कवीच्या खेनायात प्रज्वलीत होतो.

आदिवासींच्या स्वातंत्र्य अस्तित्वाची ओळख पटवून देणे हा उद्देश तसेच आपल्या आदिवासी कलेचे, संस्कृतीचे चित्र या कवितेतून अभिव्यक्त होते. कवी भुजंग मेश्राम, सकाळच्या चहाराबत या कवितेत म्हणतात.

सकाळच्या फहासोबत नियमित

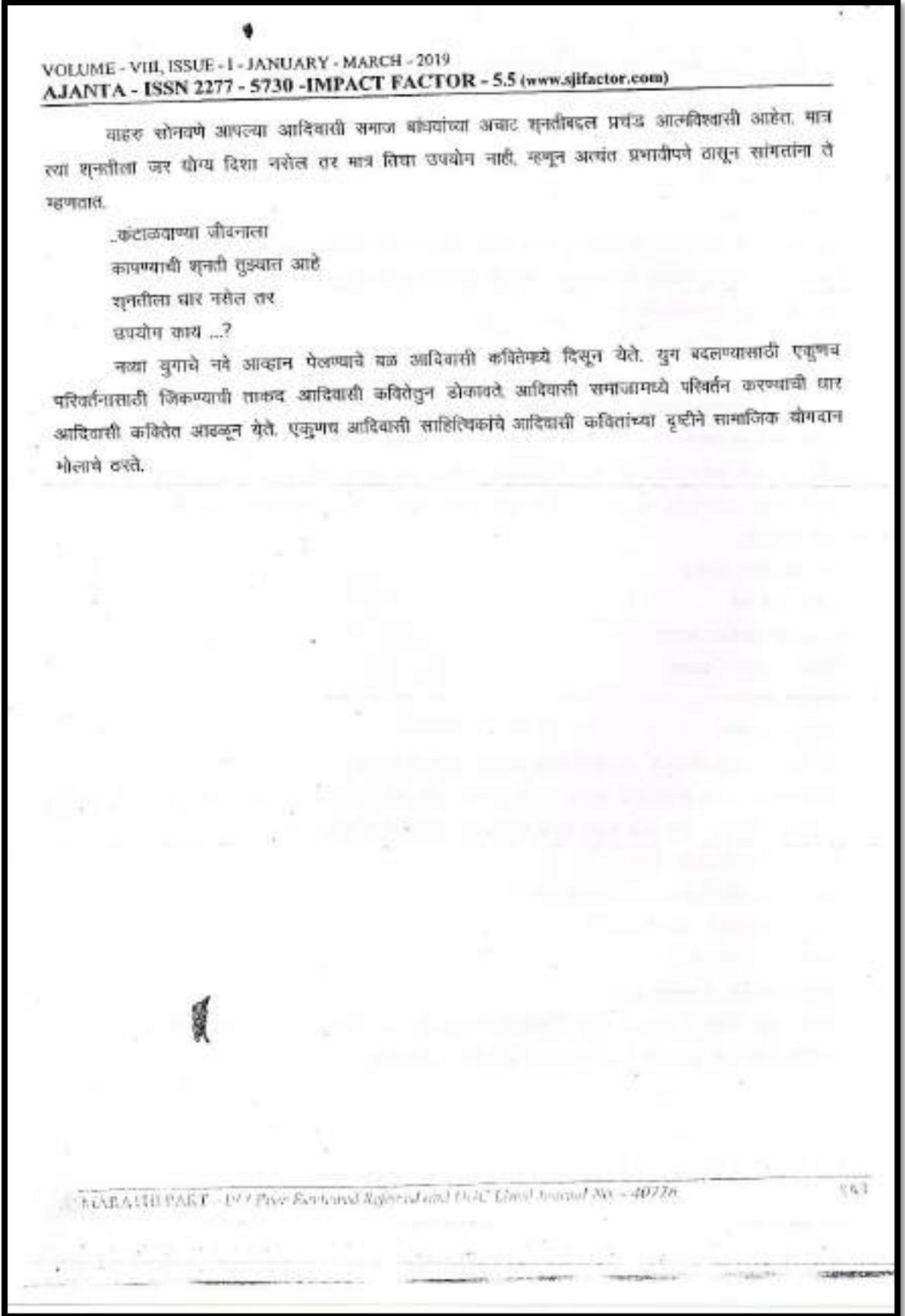
आता रोज आदिवासीवरील अत्याचाराच्या बातम्या

थर ... कोडपछिडी... कोंड्याची बावी

आणि आज इंचरपल्ली....

किती स्वस्त होत चाललोय आम्ही ?..

जल, जमीन, अग्नि हे आपल्या पातून हिसकवून घेण्यात येत आहे त्यासाठी आपण एकत्र येयला हवे हा सूर आदिवासीनध्य आढळतो य याचेच चित्रण आदिवासी कवितांमधून प्रकट होतो.



Spend Mushroom Substrate: a treasure of Nutrients

Dr.A.S.Deshmukh

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SPENT MUSHROOM SUBSTRATE: A TREASURE OF NUTRIENTS

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Key words : Mushrooms, Pleurotus, Spent mushroom substrate, protein, fibre.

Abstract- Pleurotus mushrooms are the second most popular species used worldwide. The enzymes in mushrooms have the ability to degrade readily available agricultural wastes under solid state fermentation. Two Pleurotus species viz. *P. sapidus* and *P. sajor-caju* were grown on different agrowastes like wheat (*Triticum aestivum*), Mung (*Phaseolous radiatus*), Tur (*Cajanus cajan*), Soybean (*Glycine max*) and their 15 combinations. The nutritional analysis of plain agrowaste and different SMS were done. There is increase in crude protein contents in both the varieties. The crude fibre contents were found to be decreased with increase in total carbohydrates. In mineral contents, Na was increased with decrease in K and Ca. Thus, along with other uses, the SMS can be used as better animal feed and it can be a way to pollution control.

INTRODUCTION

Spent mushroom substrates are the substrates that remain after harvesting of mushrooms. The genus *Pleurotus* is a group of basidiomycetes, some species are produced as human food and have a great economic importance because their cultivation is not complicated and has become a common practice around the world. For the past decades, in many parts of the world, much interest has been evident in new techniques for bioconversion of lignocellulosic materials. In this regard, production of edible mushrooms has been industrially developed in more than 80 countries (Spencer, 1985). The worldwide production of edible *Agaricus bisporus* was estimated to be about 2 million tons in 1997 (Chang, 1999). Then at least more than 10 million tons of spent *Agaricus bisporus* substrates are annually produced in the world. Langer *et al.* (1982) reported that spent *Agaricus bisporus* substrate could be used as sources of minerals for animals, as they are rich in major and trace minerals. China produces more than 4 million tons of SMC annually. In contrast to Holland, spent mushroom compost (SMC) is not considered a waste in China. A vegetable grower will spend RMB 100 (about Euro 10) to buy one ton SMC from the mushroom farm (Oei *et al.*, 2007). Although traditionally spent mushroom substrates have been used as a fertilizer for plants, they have been studied also for their use as a feed source for animals. The present study was

performed for estimating the potential increase in feeding values of spent mushroom substrates in comparison to control agrowastes.

MATERIALS AND METHODS

1) Spent Mushroom straw preparation

The spawns of different varieties of mushrooms viz *Pleurotus sapidus*, *Pleurotus sajor-caju* were obtained from Agriculture College, Pune and P.K.V., Akola. The different agrowastes viz wheat (*Triticum aestivum*), Mung (*Phaseolous radiatus*), Tur (*Cajanus cajan*), Soybean (*Glycine max*) were collected from local farms. The substrate straw and beds were prepared according to the procedure described by Bano and Nagarajan (1976) in 15 different combinations. The spent mushroom substrate was collected after each flush. It was sun dried and oven dried for further estimations.

2) Estimation of crude fibers

Crude fibre contents in SMS were estimated according to Maynard (1970).

3) Estimation of proteins

Protein content in SMS was measured by Bradford method (Bradford, 1976).

4) Estimation of minerals (Na, K, Ca)

Estimation of sodium, potassium and calcium was

done by Flame Photometric Method (Kapur and Govil, 2000).

5) Estimation of total carbohydrates

Total carbohydrates in SMS were estimated by Anthrone Method (Hedge and Hofreiter, 1962).

RESULTS AND DISCUSSION

It was observed that the maximum decrease in crude fibre (%), the maximum increase in crude protein (%) and total carbohydrates (%) in SMS of *P. sapidus* and *P. sajor-caju* were recorded as [44.00% (W), 5.46% (W+T), 10.90% (W+M)], [23.50% (S), 7.36% (T+S+W), 7.60% (W+M+T)] respectively.

The extra cellular ligninolytic enzymes viz. LiP, MnP, laccases and cellulolytic enzymes viz. cellulases may be responsible for reduction in cell wall components and increase in protein and carbohydrate contents in SMS and also the reduction in crude fibre contents. With respect to plain untreated control substrates, the cultivation of mushroom by *P. sapidus* and *P. sajor-caju* increased crude protein contents in [(0.006% to 5.46%), *P. sapidus*; (5.47% to 7.36%)], *P. sajor-caju* and decreased crude fibre content (3.0% to 44.0%), *P. sapidus* (2.0% to 23.50%), *P. sajor-caju*. Also, the carbohydrate contents were increased in the range (1.37% to 10.90%), *P. sapidus*; (0.20% to 7.60%), *P. sajor-caju*.

There is slight decrease in Na contents and increase in K and Ca contents in all the SMS combinations compared to agrowaste.

According to the Patil et al. (2010), *P. ostreatus*

spent straw viz. soybean straw, paddy straw, wheat straw and their combinations presented similar results to our study as an increase in crude protein content (4.9% to 9.9%) decrease in crude fibre content (16.20% to 22.07%). In contrast to our study, the similar study depicted the decrease in carbohydrate in *P. ostreatus* SMS. The increased carbohydrate contents in our study may be due to much lignocellulose biodegradation of agrowaste. The same study presented slight increase in Na content. Also, the K and Ca levels are increased marginally. In our study, increasing levels of Na and decreasing levels of K may be due to their respective decreased and increased levels in mushroom fruiting body. Jafri et al. (2007) studied the effect of *Pleurotus* spp. fungi on chemical composition and in vitro digestibility of rice straw. According to them, there is increase in crude protein content of *P. ostreatus*, *P. florida*, *P. sajor-caju*, *P. djajam* SMS (0.01%, 0.95%, 0.7%, 1.53%) respectively. The increase is much less compared to our study. Similar to our study decrease in fibre content ADF and NDF in the range of (2.46% to 5.56%) and (7.89% to 13.83%) respectively was recorded in all the four SMS varieties.

CONCLUSION

The study suggests that both the *Pleurotus* species can upgrade the agrowastes by fermentation. As both the varieties increase the protein, carbohydrate contents and decrease the crude fibre contents of agrowastes, the SMS can be used as value added

Table 1. Nutritional contents in Plain Agrowaste

Sr. No.	Plain Agrowaste	Crude Fibre %	Protein %	Carbohydrate%	Minerals %		
					Na	K	Ca
1	W	74.50 ± 0.16	1.2 ± 0.005	6.0 ± 0.12	0.024 ± 0.002	0.6125 ± 0.03	0.2968 ± 0.03
2	M	68.00 ± 0.01	1.155 ± 0.02	6.6 ± 0.02	0.012 ± 0.009	0.6294 ± 0.18	0.2155 ± 0.11
3	T	38.50 ± 0.05	1.120 ± 0.08	6.8 ± 0.25	0.0137 ± 0.12	0.5034 ± 0.05	0.2358 ± 0.05
4	S	68.50 ± 0.038	1.155 ± 0.18	7.8 ± 0.009	0.01497 ± 0.002	0.4906 ± 0.65	0.2358 ± 0.21
5	W + M	67.10 ± 0.36	1.315 ± 0.32	7.9 ± 0.11	0.01686 ± 0.6	0.5120 ± 0.8	0.2516 ± 0.71
6	W + T	46.50 ± 0.086	1.137 ± 0.022	8.8 ± 0.020	0.0186 ± 0.15	0.6318 ± 0.25	0.2765 ± 0.13
7	W + S	75.50 ± 1.30	1.208 ± 0.26	6.4 ± 0.12	0.0188 ± 0.002	0.7101 ± 0.12	0.2663 ± 0.09
8	T + S	35.00 ± 0.40	1.332 ± 1.16	6.0 ± 0.025	0.0159 ± 0.007	0.6125 ± 0.05	0.2460 ± 0.08
9	T + M	48.00 ± 0.50	1.315 ± 0.20	5.8 ± 0.15	0.0144 ± 0.08	0.6382 ± 0.01	0.2358 ± 0.31
10	S + M	45.50 ± 0.65	1.324 ± 0.24	9.2 ± 0.32	0.014 ± 0.01	0.6318 ± 0.09	0.2053 ± 0.06
11	W + M + T	76.50 ± 0.16	1.324 ± 0.008	7.0 ± 0.11	0.01546 ± 0.02	0.6651 ± 0.01	0.1850 ± 0.05
12	W + M + S	51.50 ± 0.18	1.015 ± 0.64	7.4 ± 0.12	0.0159 ± 1.12	0.6767 ± 0.18	0.2155 ± 0.11
13	M + T + S	50.00 ± 0.35	1.306 ± 0.78	7.6 ± 0.005	0.01253 ± 0.18	0.3108 ± 0.12	0.1850 ± 0.21
14	T + S + W	40.50 ± 0.38	1.20 ± 0.29	6.8 ± 0.6	0.0176 ± 0.17	0.3044 ± 0.10	0.1850 ± 0.03
15	W + M + T + S	39.50 ± 0.42	1.315 ± 0.62	7.4 ± 0.25	0.0164 ± 0.03	0.3429 ± 0.11	0.1545 ± 0.12

Table 2. Nutritional contents in *P. sepiifera* SMS

Sr. No.	SMS	Crude Fibre %		Protein%		Carbohydrate%		Minerals %		
		I	II	I	II	I	II	Na	K	Ca
1	W	64.00 ± 0.12	30.50 ± 0.31	1.6 ± 0.12	1.80 ± 0.15	13.40 ± 0.14	16.59 ± 0.16	0.0244 ± 0.18	0.902 ± 0.10	0.195 ± 0.13
2	M	58.00 ± 0.01	40.50 ± 0.12	1.33 ± 0.11	1.93 ± 0.17	11.60 ± 0.12	17.20 ± 0.18	0.0232 ± 0.15	0.0669 ± 0.11	0.185 ± 0.14
3	T	36.00 ± 0.08	33.00 ± 0.10	1.55 ± 0.09	2.22 ± 0.19	8.20 ± 0.10	13.40 ± 0.20	0.0242 ± 0.14	0.0861 ± 0.12	0.215 ± 0.16
4	S	60.00 ± 0.11	42.00 ± 0.16	1.20 ± 0.07	1.33 ± 0.21	8.20 ± 0.09	9.70 ± 0.02	0.0200 ± 0.11	0.02839 ± 0.006	0.185 ± 0.17
5	W+M	59.00 ± 0.15	39.50 ± 0.05	4.10 ± 0.05	4.80 ± 0.23	14.10 ± 0.11	18.80 ± 0.05	0.0257 ± 0.09	0.105 ± 0.16	0.205 ± 0.19
6	W+T	41.00 ± 0.09	33.50 ± 0.1	4.00 ± 0.05	6.60 ± 0.02	13.90 ± 0.12	15.80 ± 0.07	0.0264 ± 0.08	0.0797 ± 0.17	0.225 ± 0.11
7	W+S	68.00 ± 0.05	43.00 ± 0.03	1.155 ± 0.02	2.90 ± 0.30	7.00 ± 0.14	7.77 ± 0.09	0.0276 ± 0.06	0.1375 ± 0.19	0.225 ± 0.18
8	T+S	33.00 ± 0.03	30.00 ± 0.02	1.10 ± 0.30	1.11 ± 0.25	8.80 ± 0.16	12.40 ± 0.25	0.0276 ± 0.12	0.0604 ± 0.21	0.215 ± 0.22
9	T+M	38.50 ± 0.11	28.50 ± 0.10	1.15 ± 0.16	1.20 ± 0.27	9.80 ± 0.20	12.80 ± 0.22	0.0222 ± 0.13	0.0348 ± 0.23	0.205 ± 0.23
10	S+M	39.00 ± 0.10	35.50 ± 0.08	1.244 ± 0.02	1.33 ± 0.4	11.00 ± 0.19	11.20 ± 0.23	0.0222 ± 0.13	0.0219 ± 0.25	0.205 ± 0.18
11	W+M+T	65.50 ± 0.42	43.00 ± 0.12	1.20 ± 0.04	1.39 ± 0.05	8.20 ± 0.15	12.40 ± 0.11	0.0257 ± 0.10	0.05407 ± 0.25	0.246 ± 0.19
12	W+M+S	43.00 ± 0.21	27.50 ± 0.11	1.11 ± 0.12	2.12 ± 0.02	10.20 ± 0.12	11.40 ± 0.18	0.0266 ± 0.09	0.03814 ± 0.27	0.195 ± 0.22
13	M+T+S	41.50 ± 0.17	38.50 ± 0.15	1.244 ± 0.22	2.32 ± 0.7	7.20 ± 0.13	12.40 ± 0.7	0.0232 ± 0.15	0.02197 ± 0.29	0.195 ± 0.24
14	T+S+W	36.00 ± 0.16	32.50 ± 0.26	1.315 ± 0.12	2.66 ± 0.09	10.00 ± 0.22	10.20 ± 0.15	0.0249 ± 0.22	0.0476 ± 0.22	0.195 ± 0.24
15	W+M+T+S	37.00 ± 0.12	36.50 ± 0.4	2.40 ± 0.10	3.21 ± 0.25	10.00 ± 0.25	14.40 ± 0.25	0.0264 ± 0.23	0.0500 ± 0.19	0.205 ± 0.21

Table 3. Nutritional contents in *P. sepiifera* SMS

Sr. No.	Plain Agrowaste	Crude Fibre %		Protein%		Carbohydrate%		Minerals %		
		I	II	I	II	I	II	Na	K	Ca
1	W	67.50 ± 0.11	56.00 ± 0.15	5.248 ± 0.14	7.52 ± 0.12	8.40 ± 0.10	12.60 ± 0.10	0.0244 ± 0.09	0.1696 ± 0.17	0.2155 ± 0.12
2	M	68.00 ± 0.16	58.00 ± 0.18	5.28 ± 0.11	7.44 ± 0.16	7.60 ± 0.01	9.80 ± 0.09	0.025 ± 0.25	0.15 ± 0.16	0.25 ± 0.10
3	T	37.00 ± 0.20	36.50 ± 0.16	7.11 ± 0.13	7.36 ± 0.11	7.00 ± 0.03	8.20 ± 0.08	0.025 ± 0.09	0.21 ± 0.16	0.20 ± 0.16
4	S	68.00 ± 0.22	45.00 ± 0.18	5.92 ± 0.20	7.44 ± 0.10	6.20 ± 0.15	9.40 ± 0.10	0.027 ± 0.07	0.14 ± 0.11	0.23 ± 0.21
5	W+M	65.00 ± 0.24	61.00 ± 0.17	6.40 ± 0.19	7.52 ± 0.09	9.20 ± 0.12	10.00 ± 0.11	0.028 ± 0.01	0.79 ± 0.10	0.23 ± 0.22
6	W+T	44.00 ± 0.23	40.00 ± 0.19	6.32 ± 0.17	8.48 ± 0.15	10.20 ± 0.13	14.20 ± 0.12	0.027 ± 0.03	0.28 ± 0.09	0.27 ± 0.25
7	W+S	71.00 ± 0.28	65.50 ± 0.16	6.56 ± 0.10	7.52 ± 0.18	9.60 ± 0.22	13.40 ± 0.13	0.021 ± 0.05	0.15 ± 0.08	0.20 ± 0.16
8	T+S	33.00 ± 0.26	30.00 ± 0.12	6.56 ± 0.09	7.60 ± 0.19	11.20 ± 0.25	13.40 ± 0.14	0.029 ± 0.09	0.34 ± 0.16	0.31 ± 0.17
9	T+M	42.50 ± 0.12	31.00 ± 0.09	6.88 ± 0.08	7.52 ± 0.22	7.60 ± 0.02	12.40 ± 0.16	0.028 ± 0.08	0.79 ± 0.18	0.26 ± 0.09
10	S+M	42.50 ± 0.15	40.50 ± 0.11	6.80 ± 0.14	7.36 ± 0.17	9.20 ± 0.2	9.40 ± 0.18	0.025 ± 0.11	0.15 ± 0.10	0.22 ± 0.09
11	W+M+T	71.00 ± 0.16	46.50 ± 0.07	6.83 ± 0.13	8.40 ± 0.12	14.00 ± 0.6	14.60 ± 0.20	0.027 ± 0.10	0.54 ± 0.11	0.23 ± 0.07
12	W+M+S	50.00 ± 0.18	44.00 ± 0.22	6.83 ± 0.12	8.40 ± 0.16	5.40 ± 0.12	10.20 ± 0.21	0.026 ± 0.12	0.99 ± 0.12	0.25 ± 0.11
13	M+T+S	43.00 ± 0.22	29.00 ± 0.10	6.81 ± 0.16	8.48 ± 0.12	10.20 ± 0.10	11.00 ± 0.23	0.025 ± 0.10	0.14 ± 0.13	0.25 ± 0.10
14	T+S+W	38.50 ± 0.21	36.00 ± 0.19	6.64 ± 0.17	8.56 ± 0.10	7.40 ± 0.11	11.20 ± 0.24	0.026 ± 0.16	0.86 ± 0.12	0.26 ± 0.09
15	W+M+T+S	38.00 ± 0.23	36.50 ± 0.12	6.88 ± 0.19	8.64 ± 0.09	8.20 ± 0.19	11.20 ± 0.16	0.028 ± 0.19	0.21 ± 0.11	0.37 ± 0.08

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

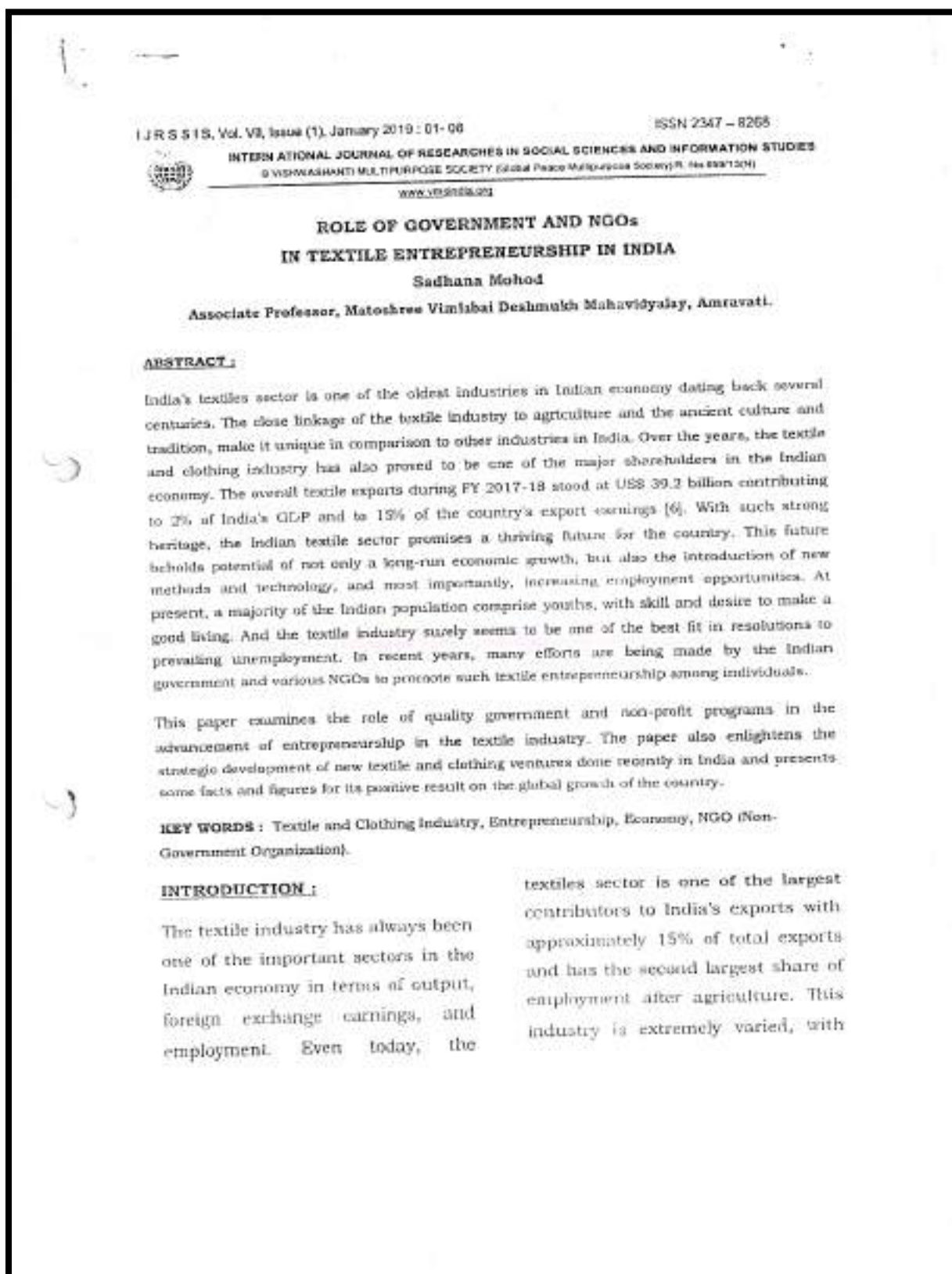
animal feed. Thus, decreasing the use of food grains for animal feed and helping the economy as well as pollution control. It will be viable for the benefit of society by mushroom cultivation as alternative protein rich food source for human beings and SMS as alternative food source for animals.

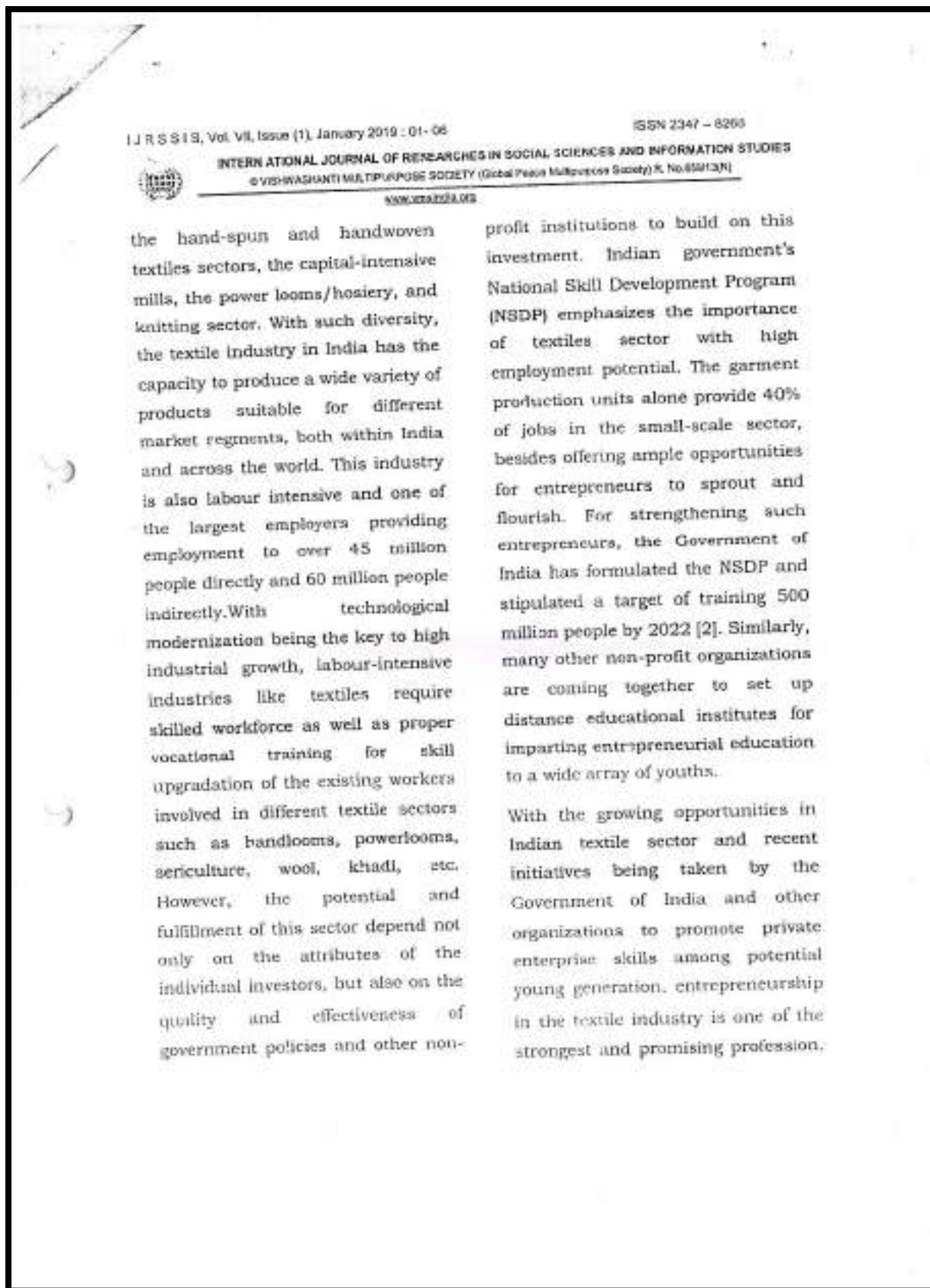
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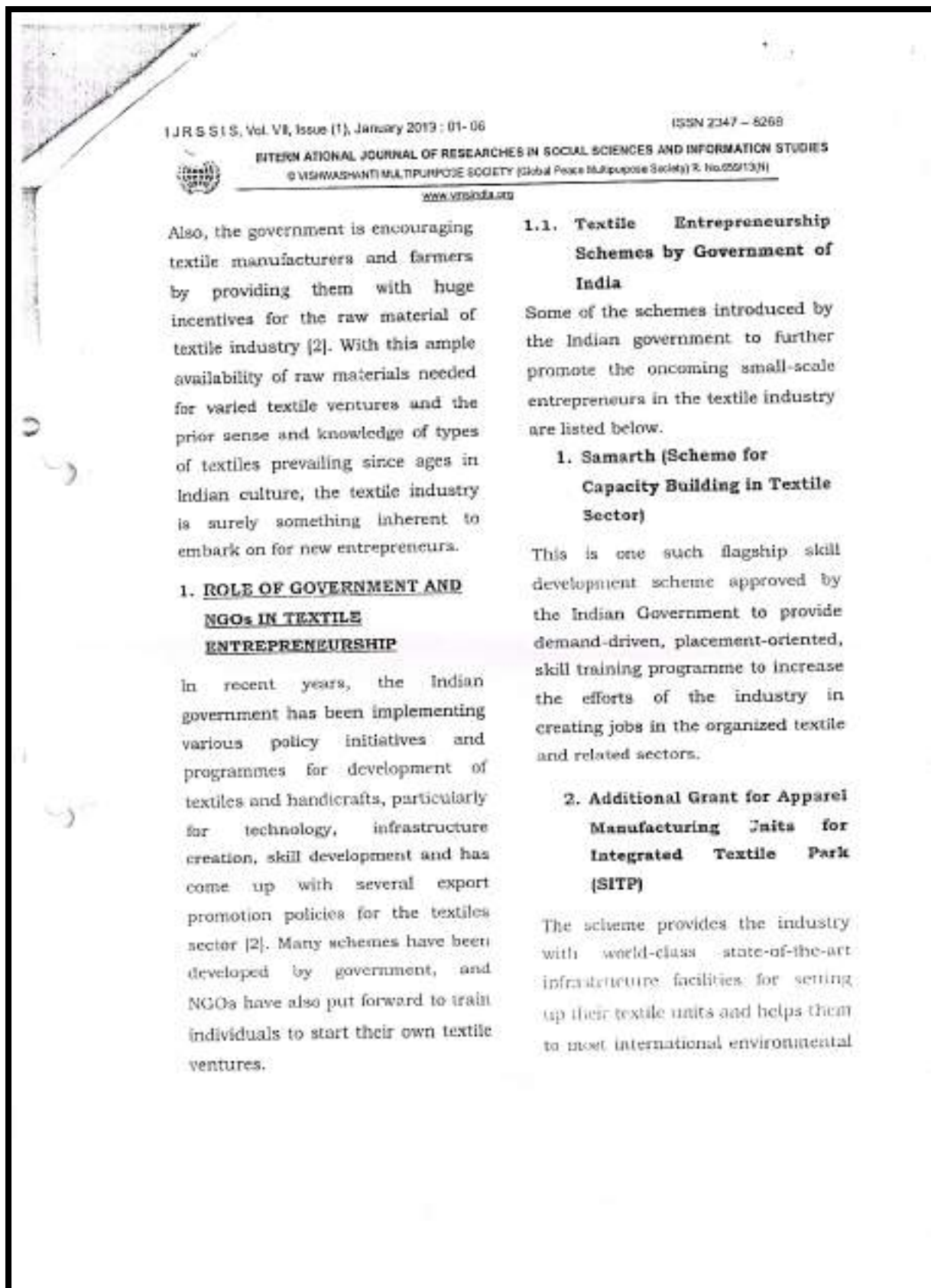
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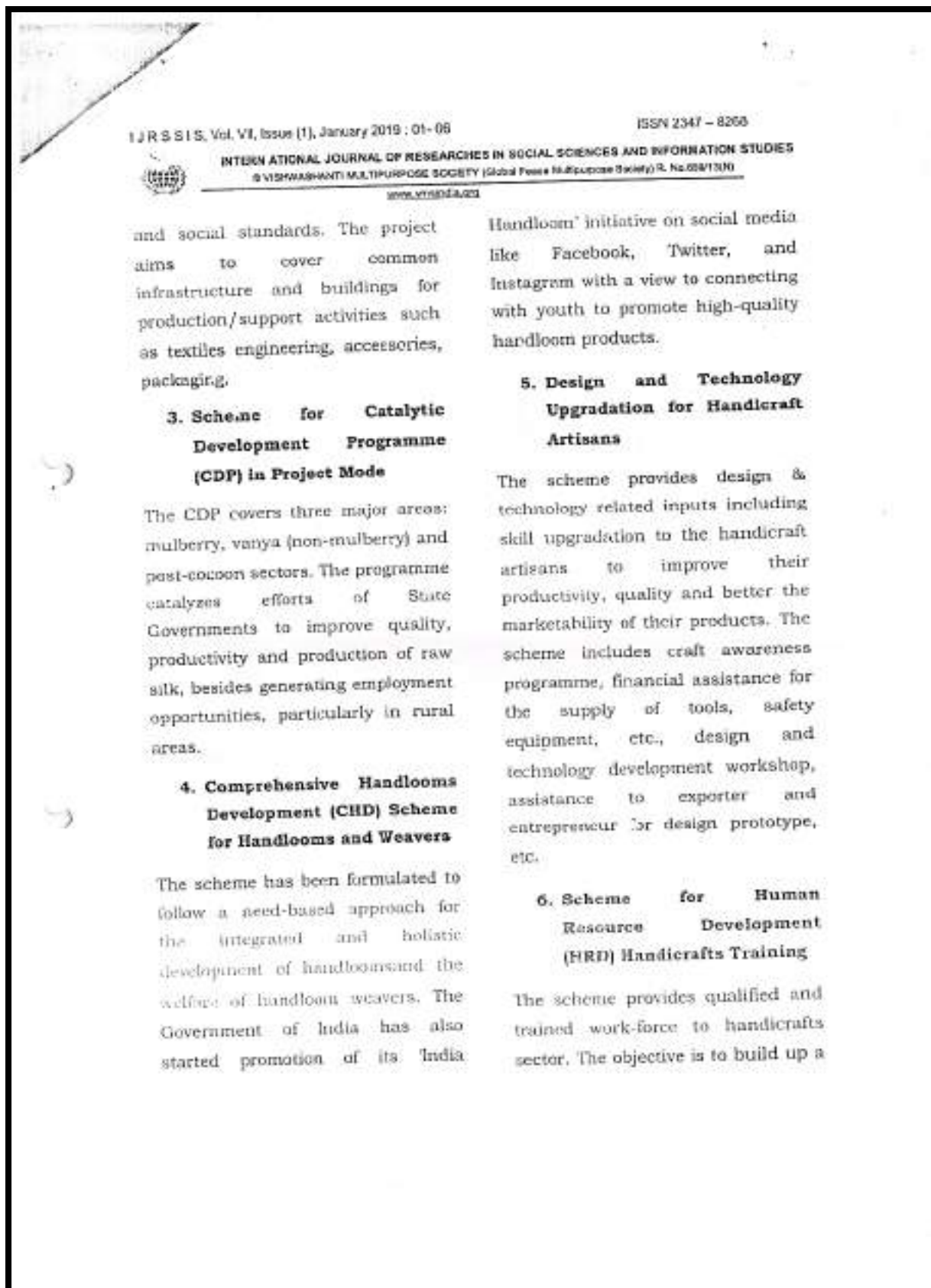
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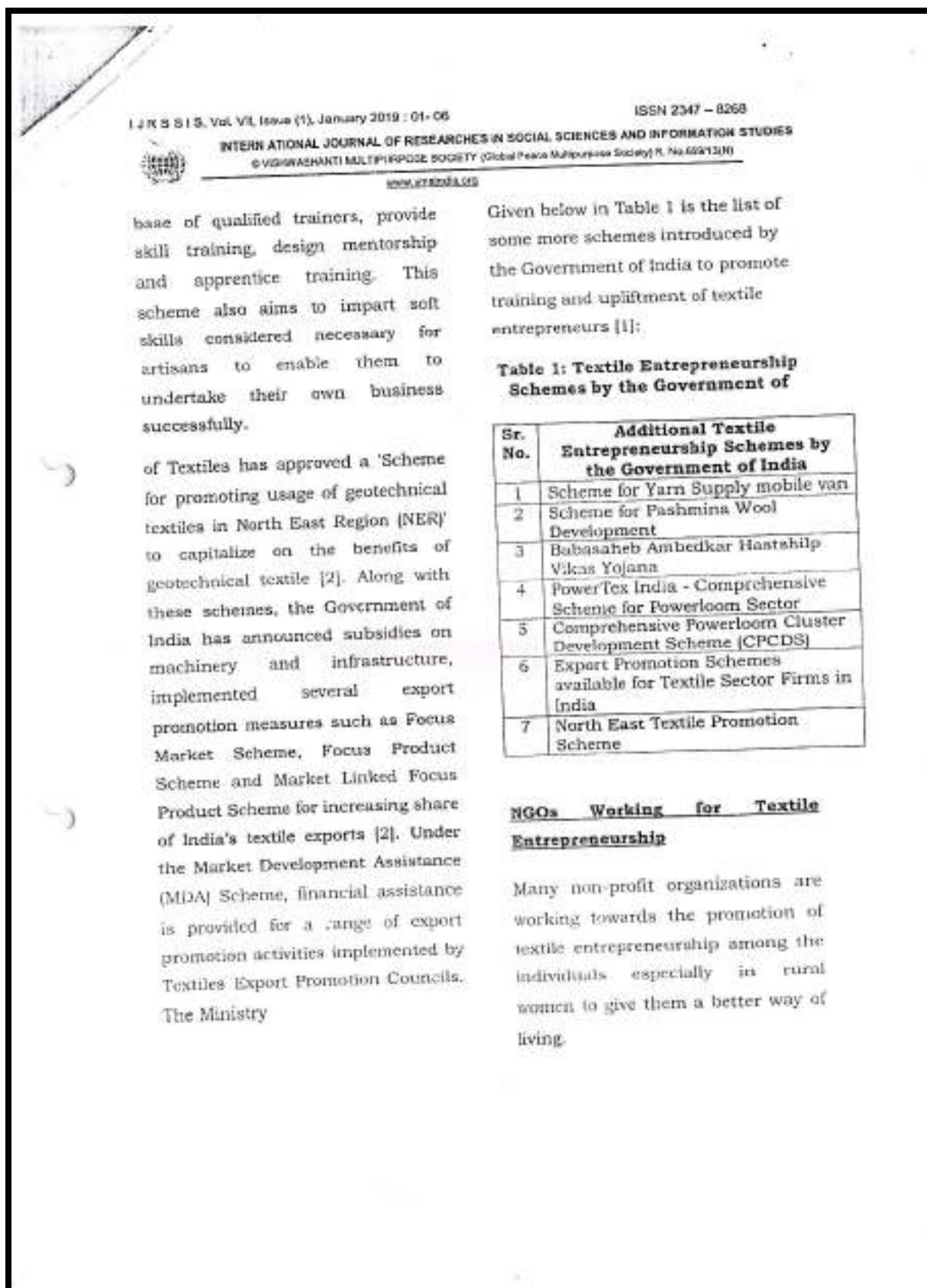
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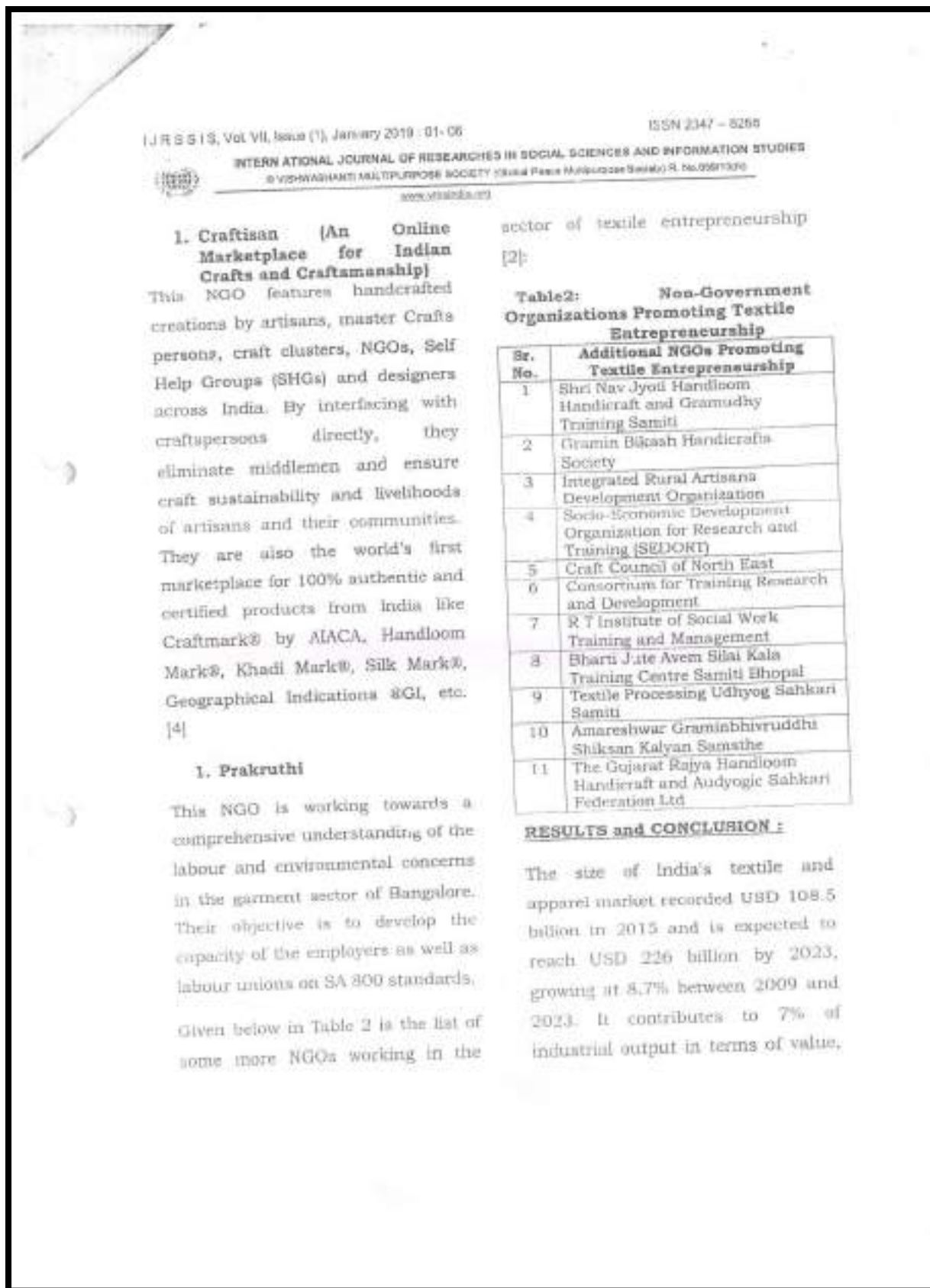


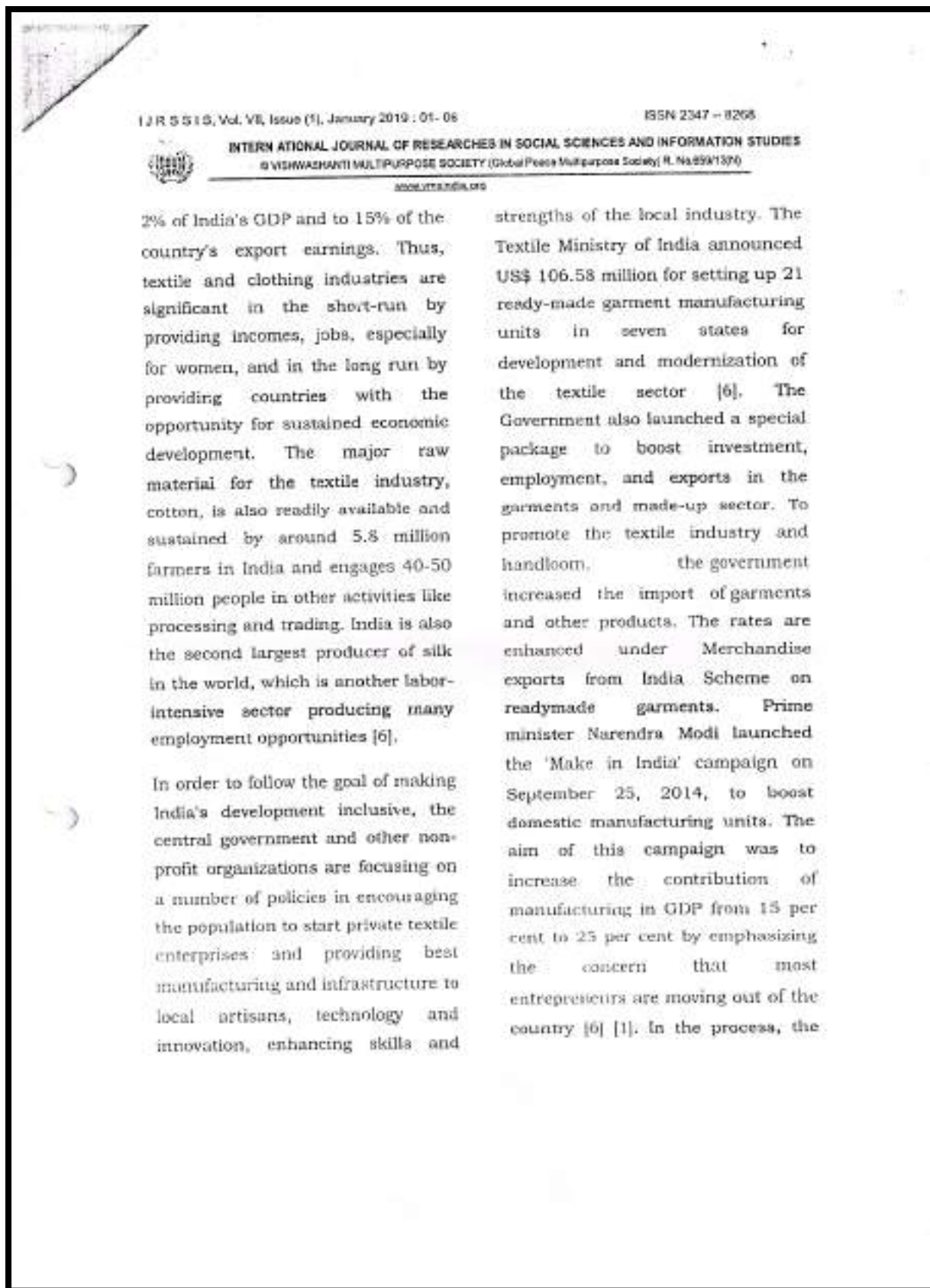


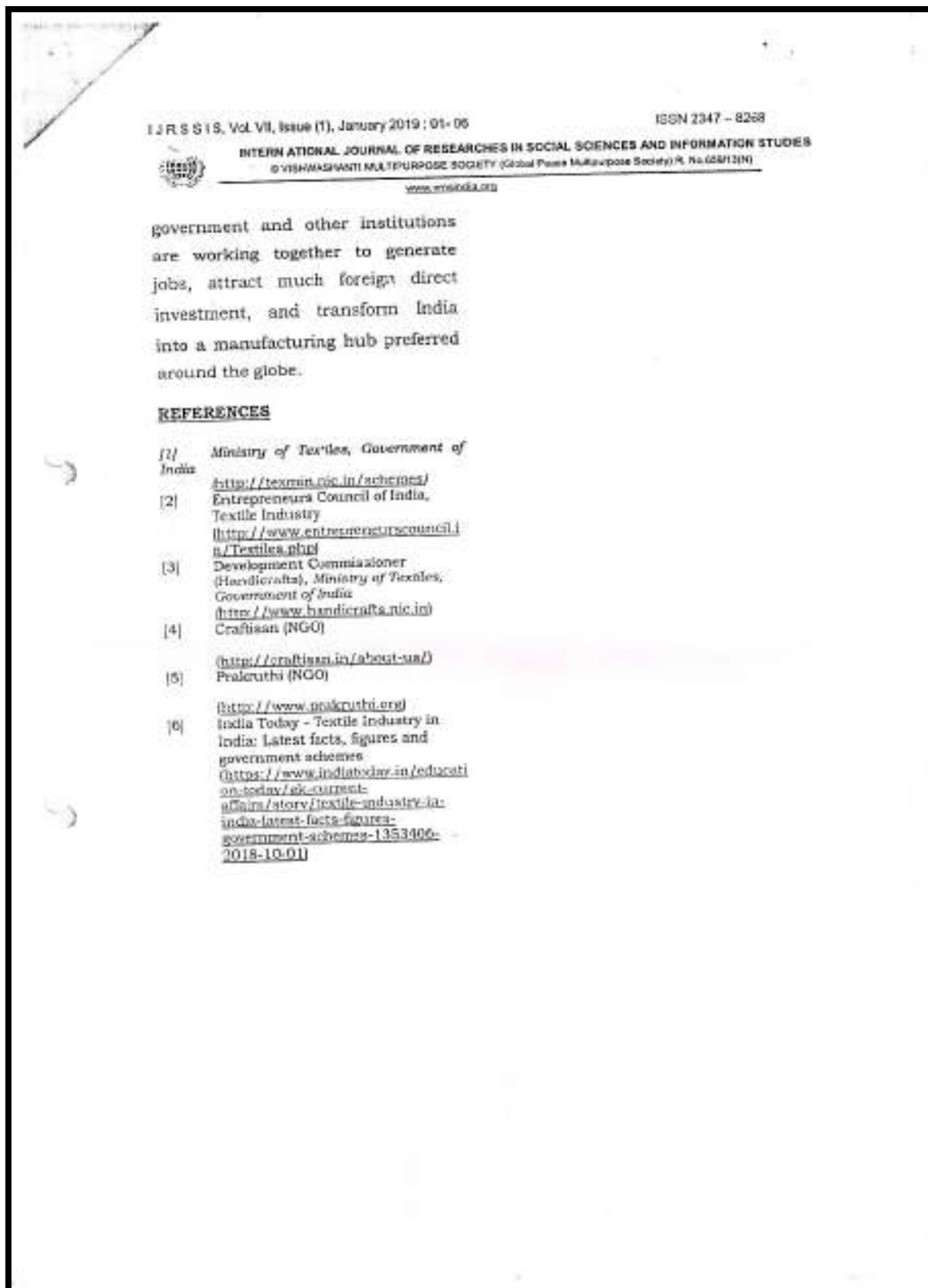












**Number of research papers published per teacher in the Journals in
2019 - 2020**

**A Study of Nutritional Status of Adolescent Girls in Amravati City and
Assessment of Nutrition Education**

Dr. S.R.Kubde

Impact Factor : 3.0498, ISSN -2348-2702, Vol. - VII, Issue - IV, December 2019

... **A Study of Nutritional Status of Adolescent Girls in
Amravati City and Assessment of Nutrition
Education**

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Abstract: Adolescence, a period of transition between childhood & adulthood is a significant period of human growth occurs with unique changes during this phase of life. Health & nutrition needs of adolescent girls are mostly ignored. The deficiencies related to micronutrients like iron & vitamin A afflicted nearly one third of adolescent girls because of the fact that the most of the girls were from slum areas where environmental conditions & health status are quite poor. The objectives of this study are to elicit information regarding socio-economic profile of adolescent girls. To study dietary habits, nutritional status, know the prevalence of health problem in adolescent girls & to study the effect of nutrition education on nutrient intake of adolescent girls. The results show that a significantly high percentage (41.8%) of adolescent girls from Amravati city is underweight. In view of view of the study results, it is concluded that all the nutrients intake of adolescent girls was significantly lower than the RDA. Based on the study results regarding the supplementation of food (with Poha laddoo). It is concluded that it has significant positive influence on the blood hemoglobin.

Keywords: Adolescent, Nutritional status, Nutrients, Health & Nutrition Education

Introduction:

Diet is a vital determinant of health & nutritional status of people. Adolescence, a period of transition between childhood & adulthood is a significant period of human growth occurs with unique changes during this phase of life. The health of adolescence has scattreated global attention in the past decade. Adolescence in girls has been recognized as a special period in their life cycle that requires specific & special attention. Health & nutrition needs of adolescent girls are mostly ignore.

India is the most popular country in the world with total population of over 1081 million. Adolescents form a large section of population about 22.5 percent i.e. 225 million. Adolescent has been defined by world health organization as the period of life spanning between 10-19 years. They are no longer children, but not yet adults. Nutritional status is a requirement of health of a person convinced by the diet, the levels of nutrients containing in the body & normal metabolic integrity. Large number of adolescents is malnourished & anemic, obesity is also increasing. One of the main problems during this phase is the inadequate calorie intake. Main cause of malnutrition in urban class adolescent girls is more intake of fast & junk foods resulted in the form of obesity. Psychological problems also arise like disturbances, depression, low self-esteem & anxiety over inadequate or excessive secondary sexual development, acne etc.

Adolescence is the transitional period between childhood & adulthood. During this period individual move towards physical & psychological maturity & economic independence & acquire their adult identity. Demographically, India is a young country today as more than 70% of the population is under the age of 35.

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According to census 2011 there are 225 million adolescents in the age group of 10 to 19 years. Adolescence is an intense anabolic period when requirements for all nutrients increases. This period is very crucial segment of the society. In general adolescent girls are the worst sufferers of the ravages of various forms of malnutrition because of their increased nutritional needs & low social power. Nutritional deficiencies have far reaching consequences, especially in adolescent girls. If their nutritional needs are not met, they are likely to give birth to undernourished children, thus transmitting under nutrition to future generation. Unfortunately assessment of nutritional status of adolescent girls has been the latest area of research particularly in rural India. Malnutrition prevails due to low economic status, less awareness about healthy diet of adolescent girls. Hence, it is essential to assess the nutritional status of adolescent girls. Recognizing the health & nutrition related problems, the Government of India has been implementing several programmes in these areas for overall development. Many research studies (Jain, 1999 and Babitha, 2003) have documented that malnutrition affects body growth & development, especially during the crucial period of adolescence.

This study gives an insight to the health profile of adolescent girls. In the backdrop of above information it was necessary that the health & nutrition related aspects of the adolescent girls be studied in detail so that a focused intervention can be done to improve their health & nutrition status.

Objectives of Study:

1. To study the dietary habits of adolescent girl in Amravati district.
2. To study the effect of nutrition education on energy & nutrient intake of girls.
3. To understand the problems encountered by adolescent girls about food & nutrition.

Methodology: In the present investigation, the researcher followed a general research method as follows,

1. Quesnnaire
2. Interview method
3. Data collection
4. Analyze data

5. Interpret data & draw conclusions

The present investigation was aimed to study the nutritional status of adolescent girls in Amravati city. Survey was conducted to collect the data.

Selection of study area: Amravati is the second largest & populous city in Vidarbha region of Maharashtra. It is administrative headquarter of the Amravati district. Population of the Amravati city is 6.47 lakhs (2012) & area 183Km².

Selection of sample: Purposive sampling method is used in which homogenous sampling technique is used for conducting study on adolescent girls of age 13-18years.

Sample size: By conducting baseline survey 125 girls of age groups 13-18 years were selected.

Research design: The data was analyzed using appropriate statistical tests.

Collection of data: The information required for the study was collected by using primary as well as secondary source of information. The main content of the interview schedule was as follows;

1. General information
2. Socio-economic information
3. Anthropometric measurement
4. Health status
5. Laboratory method
6. Dietary assessment
7. Impact of nutrition education

Hypotheses of study:

- Majority of adolescent girls are underweight.
- Health related problems are prevalent in the adolescent girls
- There is no difference in the nutrient intake of the adolescent girls' pre & post nutrition related training.

Results & Discussion:

The data was generated by using a standardized research instrument & following survey method. A survey was conducted & the data was collected from adolescent girls belonging to Amravati city.

Table: Distribution of the adolescent girls with respect to their health related problems

Symptoms	Yes	No	Total
White patches on face	19 (15.2%)	106 (84.8%)	125(100%)

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Weakness	28 (22.4%)	97 (77.6%)	125(100%)
Fatigue	18 (14.4%)	107 (85.6%)	125(100%)
Loss of appetite	36 (28.8%)	89 (71.2%)	125(100%)
Headache	26 (20.8%)	99 (79.2%)	125(100%)
Abdominal pain	36 (28.8%)	89 (71.2%)	125(100%)
Indigestion	42 (33.6%)	83 (66.4%)	125(100%)
Muscle cramp	36 (28.8%)	89 (71.2%)	125(100%)
Poor concentration	79 (63.2%)	46 (36.8%)	125(100%)

Above table shows the clinical findings of adolescent girls. It was apparent from the data that 22.4% adolescent girls had complaint of weakness, whereas, 14.4% girls had complaint of fatigue. A large percentage i.e. 63.2% indicated the poor concentration. Most of the girls had indigestion 33%, followed by headache 20.8% along with 28.8% were having muscle cramp. The findings of present study matches to WHO report

which revealed many diseases were seen in adolescent girls.

After conducting baseline survey of adolescent girls it was also found that they were deficit in hemoglobin, so, nutrition education was imparted to them & those who were having less hemoglobin were supplemented by iron rich poha laddoo.

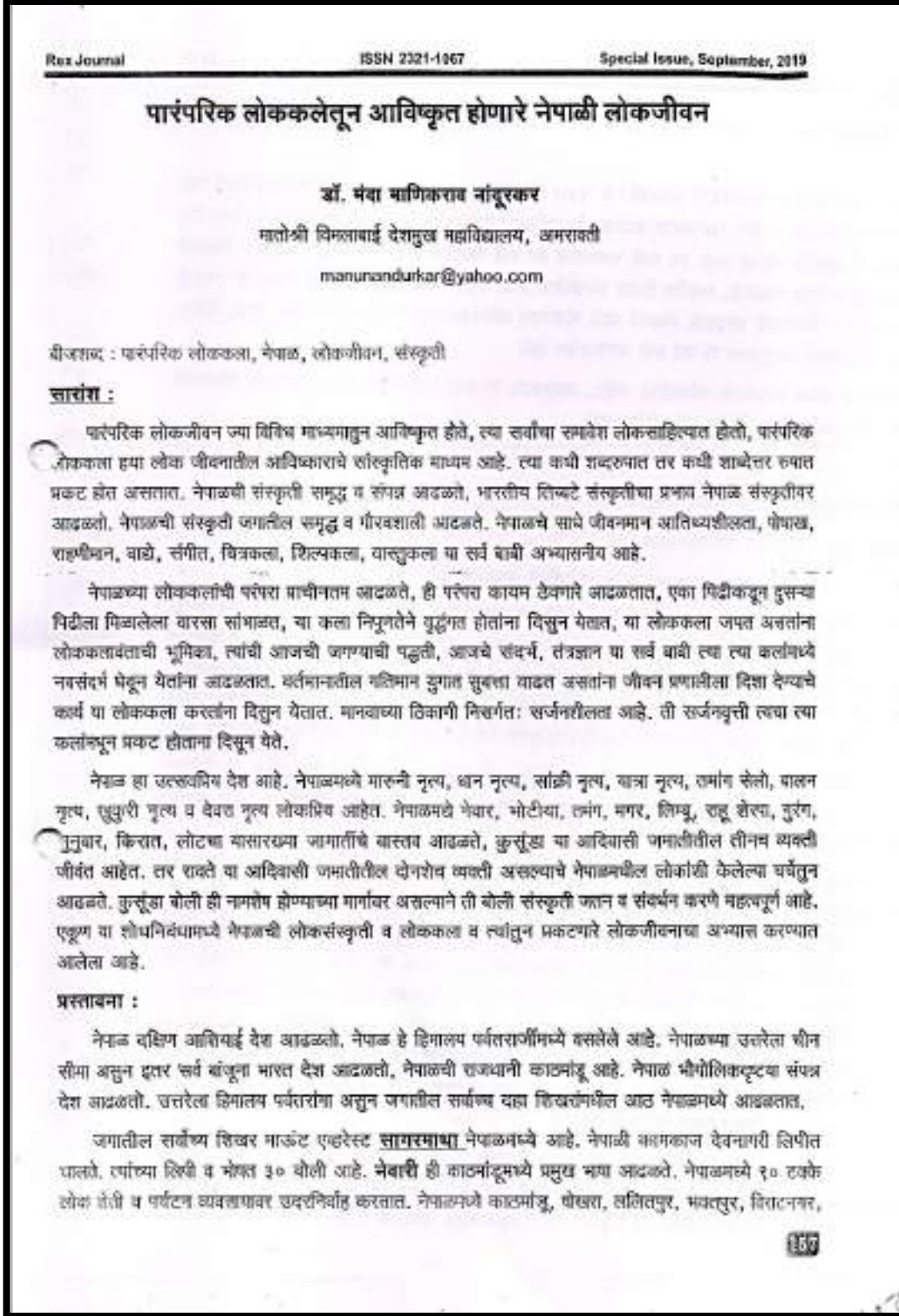
Conclusion:

In view of the above study results, it is concluded that all the nutrient intake of adolescent girls was significantly lower than RDA. After providing the nutrition related training, the girls indicated remarkable improvement by consuming more nutrients. Hence it is concluded that the nutrition related training has positive effect on the nutrients consumption by the adolescent girls. Based on the results regarding the supplementation (with poha laddoo) experiment, it is concluded that it has significant positive influence on the blood hemoglobin.

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पारंपारिक लोककलेतून आविष्कृत नेपाळी लोक जीवन
Dr. M.M. Nandurkar



वीरगंज, भपालगंज, जनकपुर, धरान, नुतवल ही मोती शहरे आढळतात. आई आणि मातृभूमी स्वर्गाहूनही श्रेष्ठ असते.

जननी जन्मभूमिश्च स्वर्गादपि गरीयसी! हे नेपाळ देशाचे ग्रीड वाक्य आढळते. पारंपरिक लोकजीवन ज्या विविध माध्यमातून आविष्कृत होले, त्या सर्वांचा समावेश लोकसाहित्यात होतो, पारंपरिक लोककला ह्या लोक जीवनातील आविष्काराचे सांस्कृतिक माध्यम आहे. त्या कधी शब्दरुपात तर कधी छांदेतर रुपात प्रकट होत असतात. नेपाळची संस्कृती समृद्ध व संपन्न आढळते, भारतीय तिबेट संस्कृतीचा प्रभाव नेपाळ संस्कृतीवर आढळतो. नेपाळची संस्कृती जगातील समृद्ध व गौरवशाली आढळते. नेपाळचे साधे जीवनमान आतिथ्यहीलता, पोषाख, राहणीमान, वाद्ये, संगीत, चित्रकला, शिल्पकला, वास्तुकला या सर्व बाबी अभ्यासनीय आहे.

नेपाळमध्ये अनेक लोककला लोकप्रसिद्ध आहेत, वास्तुकला, चित्रकला, लोकनृत्य वगैरेतील कला लोककला प्रामुख्याने आढळतात. नेपाळ हा देश संस्कृतीप्रिय आहे.

उद्दिष्टे :

- नेपाळ देशातील विविध लोककला प्रसिद्ध आहेत.
- लोककलेतून संस्कृतीचा अभ्यास करता येतो.
- नेपाळच्या पारंपरिक लोककलेतून प्रकटणाऱ्या लोकजीवन अभ्यासता येते.

नेपाळमधील कला बहुरंगी आहे. एकतारचे दिसनारे घेरे, घरावटील कोरीव काम, नक्षीकाम, रंगकाम तसेच पोषाख, आभूषणे, मुखवटे, कला, लोकनृत्य, चित्रकला, वास्तुकला, वस्तुकाम, भांड्यावरील नक्षीकाम, कलाकुसर, व विविधांगी व त्यातून त्यांची कलादृष्टी लक्षात घेता येते. फिक्की व तांब्याच्या भांड्यावरील सुबक कलाकुसर सौंदर्यपूर्ण आढळते. नेपाळमधील वनोपधी अधिक प्रमाणात आढळतात. निसर्गोपचार, आयुर्वेदिक जडीबुटी, लोकवैद्यकाचा वारसा दिसून येतो. अंधश्रद्धांना मुक्तता देवून निसर्गोपचाराचा वनोपधीचा प्रचार, प्रसार, स्वीकारतसेच वारसा जपले महत्त्वपूर्ण ठरते.

नेपाळमधील वाङ्मयाची मौखिक परंपरा, स्त्रियांची सौंदर्य साधना, विविध जमातींची नृत्ये, वाद्ये, लोकसंगीत, चित्रकला या सर्वांचा अभ्यास करण्याकडे आणि अनुभवतून शास्त्रीय माहितीकडे वळण्याची आवश्यकता आहे। आजच्या या जागतिकीकरणाच्या विश्वात या लोककला जतन व संवर्धित करणे महत्त्वपूर्ण आहे.

लोकसंस्कृती ही कला प्राचीन काळापासून आजही अप्रत्यक्ष रूप बदलतून जपत असल्याचे दिसून येत आहे. या लोककलांमधून समाज जीवनाचे चित्रण केलेले आढळते. लोकमानसातील श्रद्धा, भाव-भावना आणि लोक जीवनातील लोकविष्काराची प्रकृत माध्यमे वापरूनच लोकांच्या आयडीनिवडी लक्षात घेवून या लोककलांचे स्वरूप दिवसेंदिवस वृद्धीगत होताना दिसून येतात. नेपाळच्या लोककलांची परंपरा प्राचीनतम आढळते, ही परंपरा कायम ठेवण्याचे आढळतात, एका पिढीकडून दुसऱ्या पिढीला मिळालेला वारसा सांभाळत, या कला निपुणतेने वृद्धीगत होताना दिसून येतात, या लोककला जपत असताना लोककलावंतांची भूमिका, त्यांची आजची जगण्याची पद्धती, आजचे संदर्भ संज्ञान या सर्व बाबी त्या त्या कलांमध्ये नवसंदर्भ घेवून घेताना आढळतात. वर्तमानातील गतिमान युगात सुवर्ता फडत असताना जीवन प्रगल्भीला दिशा देण्याचे कार्य या लोककला करताना दिसून येतात. मानवाच्या ठिकाणी निसर्गतः सर्जनशीलता आहे. ती सर्जनवृत्ती त्या त्या कलांमधून प्रकट होताना दिसून येते.

नेपाळ चित्रकला थांका जगाप्रसिद्ध आहे. या चित्रकलेशिवाय, धार्मिक स्थळ हे अपूर्णच मानले जाते. थांका या कलेकरता कापडाचा उपयोग करतात. कापडाच्या मध्यभागी प्रमुख देवता अथवा देवीचे चित्र काढल्या जाते, त्याच्या चारही बाजूंनी त्या संबंधित देवदेवतांचे कार्य व इतर बाबी वाचकण्या जाते. नेपाळची राजकुमारी श्रीकुटीचा विनाह तिबेट

राजा स्त्रोंडवन गम्भी सोबत झाल्यानंतर श्रीकृतीने थांका तिब्बटमध्ये नेले, लोकांच्या मतानुसार बौद्धधर्माच्या प्रचार प्रसारात थांका कलेचा अधिक उपयोग झाल्याचे दिसून येते. नेपाळच्या नेवार जमातीमध्ये थांका चित्रकला बनावण्याचे कार्य मोठ्या प्रमाणात केल्या जाते. थांका कलेची मागणी आज बाजारपेठ अधिक प्रमाणात दिसून येते.

तमांग सलो हे तमांग लोकांनी गायलेले नेपाळी लोकगीताची सेली असून जगभरात तमांग सेलो लोकप्रिय आहे. सेलो हे चैतन्यदायी हळूवार व मधुर तसेच दैनंदिन जीवनातील भवभावना व्यक्त करण्यासाठी गायले जाते. तमांग वाद्य, दाम्भु, मादल आणि तुंकनासाह असते.

हिरादेवी वाईना हे नेपाळी लोकगीत आणि तमांग सेलो गांचे प्रणेत मानले जाते. नेपाळवासी हे सग उत्सव प्रिय आहे. दर्शन, चौर्निमा, तीज, बुद्धजयंती, गाडीनत्रा, एकादशी हे पर्व मोठ्या प्रमाणात साजरे केले जाते. नेवासी नृत्यप्रिय आहेत. भगवान शिवशंकरांचा निवासस्थान हिमालयातून प्रकट झाल्या असल्याने नृत्य कला प्रामुख्याने ज्ञेयासली जाते. नेपाळी चित्रकला लोकप्रिय आहे. तंत्र, शैली तसेच मुर्तीचित्रणाचा वार चित्रकलेत आढळतो. पारंपरिक चित्रण, भित्तिचित्र, कपड्यांवरील चित्रण, हस्तलिखित स्वरूपात आढळतात. भजुमन हे प्रख्यात चित्रकार येथे होऊन गेलेत. त्यांच्या चित्रकलेचे नमुने येथे बघावयास मिळतात, भजुमन पॅरिस व लंडन येथे गेले असता तेथील चित्रणाची सरमिसळ नेपाळी शैलीत झालेली दिसून येते. त्यामुळे त्या पारंपरिक चित्रणात पारंपार्य शैली डोकावतांना दिसून येते. येशुनच आधुनिकतेचा प्रारंभ चित्रशैलीत झालेला आढळून येतो. आजही नेपाळी चित्रकलेला विद्यभरात मोठ्या प्रमाणात मागणी दिसून येते. नेपाळच्या सातव्या व एकोणविसाव्या शतकात केशचंद्र (काठमांडू लोककथांमधी एक पौराणिक पात्र) चा उल्लेख चित्रामधून दिसून येतो. नेपाळ हा उत्सवप्रिय देश आहे. नेपाळमध्ये मारुनी नृत्य, धान नृत्य, सांझी नृत्य, यात्रा नृत्य, तमांग सलो, बालन नृत्य, खुकुरी नृत्य व देवत नृत्य लोकप्रिय आहेत. नेपाळमध्ये नेवार, भोटीया, तमांग, मगर, लिम्बू, शदू शेर्पा, गुरंग, सुनुवार, किरात, सोट्या या सारख्या जमातींचे वस्तव्य आढळते, कुसुंडा या जादियाची जमातीतील तीनच व्यक्ती जीवत आहेत. तर शवते या आदिवासी जमातीतील दोनशेच व्यक्ती असल्याचे नेपाळमधील लोकांशी केलेल्या सर्वेक्षण आढळते.

नेपाळ संस्कृतीप्रिय आहे. संगीत, वास्तुकला चित्रकला, लोकनृत्य वास्तुकला, शिल्पकला, वाद्य यामध्ये निपुण आहेत. भांड्यावरील कलाकुसर व नक्षीकाम यामध्ये ते अग्रेसर आहेत. सग उत्सव समारंभ प्रिय आहेत. चित्र, शिल्प, नृत्य वेगवेगळ्या कोशल्याचा कलांचा समोवेश शाब्देतर सामुप्रीत हेतो. विधी किंवा सण, उत्सव प्रसंगी करण्यात येणारे नृत्य, भिंतीवर काढलेले चित्र, तांबे-पितळ या भांड्यांवरील नक्षीकाम, कोरीव काम, सुबक चित्रण, कपड्यांवरील नक्षीकाम, चित्रण इत्यादींचा अंतार्भाव शाब्देतर कलेमध्ये होतो. ही शाब्देतर सामुप्री लोकविष्काराचा भाग आहे. लोककलाची परंपरा ही प्राचीन आहे. विविध लोककलांना प्रायोगिक मूल्य आढळते. जीवनमणालीला दिशा देण्याचे कार्य आपली परंपरा करू शकते. एतुग्यत्र पारंपरिक लोककलेतून संस्कृती तसेच लोकजीवन आविष्कृत होत असते.

निष्कर्ष :-

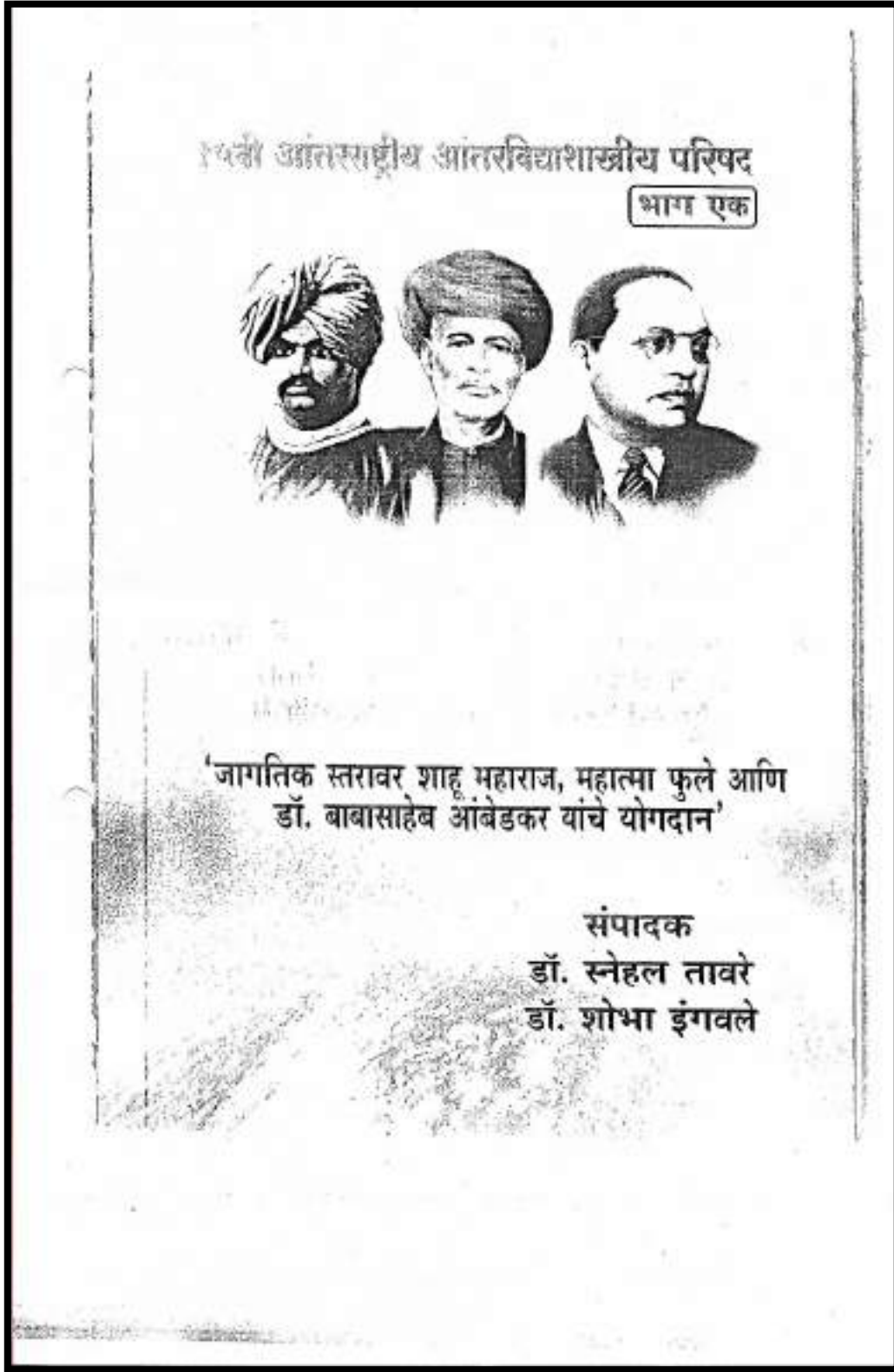
- नेपाळमधील लोककलांमधून नेपाळी लोकसंस्कृती प्रकट होताना दिसून येते.
- नेपाळमध्ये वास्तुकला, भांड्यावरील नक्षीकाम कपड्यांवरील चित्रण, चित्रकला, लोकनृत्य या विविध लोककला आढळतात.
- लोककलांच्या माध्यमातून लोकजीवनाचा वेध घेता येतो.

संदर्भ
भेटी, मुलाखती



राजर्षी शाहू महाराजांचे सामाजिक योगदान

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डॉ. मंदा माणिकराव नांदुरकर

भ्रमणभाष : १५११६७३७०६

महाराष्ट्राच्या नव्हे तर भारताच्या समाज परिवर्तनाच्या इतिहासात छत्रपती शाहू महाराजांचे नाव अग्रक्रमाने घ्यावे लागते. ते केवळ छत्रपती राजे नव्हते, राजर्षी होते. आदर्श राज्याचे आणि व्रतस्थ ऋषींचे गुण त्यांच्यात होते. राजा आणि ऋषी ही दोन्ही पदे त्यांना भाग्याने मिळाली नव्हती, तर त्यांनी ती अंगभूत गुणांनी व बुद्धी कौशल्याने मिळविली होती.

शाहू महाराज छत्रपती असले तरी राजविलासात रमत नव्हते. त्यांची राहणी अत्यंत साधी होती. ते साधे खादीचे कपडे वापरत फक्त दाबाराचे वेळी राजवस्त्रे घालीत. पावसाळ्याचे दिवस सोडून ते उग्रड्यावर खाटेवर घोंगडी टाकून झोपत. दुपारी कधीच ते झोपत नसत. ते अत्यंत ज्ञानी व दानशूर होते. ते रजवाड्यात राहत नसत. त्यांनी एक कॅम्प उभारला होता. एखाद्या लहान खेड्यासारखी वस्ती केली होती. तेथे ते राहत व तेथूनच राज्यकारभार करीत. त्यांचे जीवन एखाद्या सामान्य गरीब माणसासारखे होते.

शाहू महाराजांना महात्मा फुल्यांनंतरचे सामाजिक परिवर्तनाचे अग्रदूत मानले जाते. अनेक सामाजिक सुधारणा त्यांनी केल्या. समता, बंधुता, न्याय या तत्त्वज्ञानांचे ते उपासक होते. सर्वांना समान संधी मिळाली पाहिजे यासाठी ते आग्रही होते. मानवतावाद हाच खरा धर्म अशी महात्मा फुल्यांप्रमाणेच धारणा होती. जातिभेद, अस्पृश्यता, धार्मिक कर्मकांड, शोषण या बाबींची त्यांना घृणा होती. सामाजिक सुधारणांना त्यांनी स्वतःपासून सुरुवात केली. कॅम्पात व राजवाड्यात दलित, अस्पृश्य जातीतील लोक नियुक्त केले. वेढ्यागारी, बलुते पद्धत बंद केली. महार वतन बंद केले. काही जातींनाच गुन्हेगार मानून त्यांना रोज पोलीस स्टेशनमध्ये हजेरी द्यावी लागे. ही जातीवर आधारित हजेरी पद्धती त्यांनी बंद केली. जुन्या अन्यायकारक रूढी त्यांनी बंद केल्या. विषमता आणि अंधश्रद्धेला आळा घातला. सर्वांना संधीची समानता उपलब्ध करून देण्याचा प्रयत्न केला. गंगाराम कांबळे या दलितास कोल्हापूरच्या मध्यवर्तीत चहाची टपरी लावून दिली व त्याच्या हातचा चहा स्वतः प्याले व इतरांना दिला. त्यांनी आजन्म प्रतिगामी प्रवृत्ती विरुद्ध लढा दिला. गोर- गरीब, दीन- दलित, बहुजन यांना मानवी हक्क, न्याय हक्क मिळवून दिले. वर्णवर्चस्ववादी

छत्रपती शाहू महाराजांचे सामाजिक योगदान १५

उच्चवर्णीय यांच्या हुकूमशाही, एकाधिकारशाही याला पायबंध घातला. समान संधी देणारे अनेक कायदे केले व अंगलात आणले. उच्चनीचता त्यांना अमान्य होती. त्यांनी जातिभेद निर्मूलन करून दलितोद्धार केला. फुले, शाहू, आंबेडकर ही नामत्रयी आज परिवर्तनाचे प्रतीक झाली आहे. भारतातील अनेक राज्यांची राज्ये या मंत्राने घडत आहेत. विषमतेचे उच्चाटन करून समाजवादी रचना करण्यासाठी ते सतत धडपडत राहिले. तीळतीळ तुटत राहिले. जनसामान्यांचे शोषण, त्यांच्यावर होणार अत्याचार, अन्याय, त्यांचे दारिद्र्य-अज्ञान या विरुद्ध त्यांचा लढा होता. त्यांना दलित, बहुजन, जनसामान्य, स्त्रिया या सर्वांचा विकास करून सर्वांगीण प्रगती साधायची होती. त्यांनी घातक सामाजिक रुढींविरुद्ध लढा दिला. फुल्यांप्रमाणेच त्यांचेच महात्मा गांधींचाही प्रभाव होता. खादी स्वीकार, हिंदू-मुस्लिम ऐक्य, स्वराज्य, स्वदेशी अस्पृश्यता निवाण इ. बाबतीत त्यांच्या कार्याचे गांधीजींच्या कार्याशी जवळचे नाते होते.

ते विवेकवादी, प्रामाण्यवादी, पुरोगामी व लोकनिष्ठ होते. जनसामान्यांसाठी त्यांनी अविश्रांत श्रम केले व लोकजागृती व लोकोद्धार घडवून आणला. शाहू महाराज मुत्सद्दी व द्रष्टे होते. ते संस्थानिक असल्यामुळे व संस्थानिकांना इंग्रज सरकारच्या अधीन राहून काम करावे लागत असल्यामुळे त्यांनी इंग्रजांशी उघड विरोध न करता सुधारणा आणि मग स्वातंत्र्य या विचारांचे होते. कारण इंग्रजांच्या गुलामगिरीपेक्षा सनातन्यांनी गुलामगिरी त्यांना जास्त घातक, शोषक व मानवताविरहित वाटत होती. म्हणून स्वराज्य तर पाहिजेच पण त्यापूर्वी सार्वत्रिक शिक्षण, अस्पृश्यता निर्मूलन, सर्वांना समान संधी, जातीच्या उच्चनीचतेला तिलांजली, धार्मिक शोषण व कर्मकांड बंद ह्या बाबी प्रथम नष्ट झाल्या पाहिजेत असे त्यांना जाटे, नाहीतर इतरांच्या गुलामगिरी ऐवजी सनातन्यांच्या गुलामगिरीत राहावे लागेल म्हणून त्यांनी इंग्रजांना सहकार्य करून जनसामान्यांची प्रगती करून घेण्याचा मार्ग स्वीकारला.

शिक्षण क्षेत्रातील त्यांची कामगिरी मोठी आहे. त्यांनी गाव तिथे साळ्या ही योजना राबवली. प्राथमिक शिक्षण सक्तीचे केले. शिक्षणावर ते ६ टक्के खर्च करित आजही एवढा खर्च शिक्षणावर केला जात नाही. त्यांनी सार्वत्रिक शिक्षणाच्या प्रसारासाठी आपले संपूर्ण आयुष्य खर्च केली. १९२० साली नाशिक परिषदेत ते म्हणतात, "मी माझ्या संस्थानात प्राथमिक शिक्षण सुरू केले असून त्या योगाने पुढची सगळी पिढी शिक्षित होईल यात शंका नाही." प्राथमिक शिक्षणाप्रमाणेच त्यांनी माध्यमिक शिक्षणाची व उच्च शिक्षणाची सोय केली. त्यांनी गावकामगार पाटील स्कूल, तलाठी स्कूल सुरू केले. सुरुवातीला त्यांनी सर्वांसाठी एक वसतिगृह काढले पण त्याचा फक्त उच्चवर्णीय विद्यार्थीच टिकून राहत म्हणून त्यांनी जातवार प्रत्येक जातीसाठी वसतिगृहे काढली. त्यांना भारतीय वसतिगृहाचे जनक संबोधले जाते. त्यांच्या शिक्षण संस्थांमधून बहुजन

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समाजातील अनेक मान्यवर तयार झाले. उदा. यज्ञवंतराव चव्हाण, बाळासाहेब देसाई, ज्यांनी शैक्षणिक क्रांती घडवून आणली.

ते बलोपासक तसेच ज्ञानोपासक होते. सत्यशोधक जलश्यांना त्यांनी प्रबोधनासाठी आर्थिक मदत केली. आर्यसमाज, सत्यशोधक समाज, ब्राह्मणेतर चळवळ, दलितोद्धार चळवळ यांचे ते आधारस्तंभ होते. त्यांनी अनेक लोकोपयोगी कायदे केले व आचरणात आणले व इतरांना आचरणात आणावला लावले. कायद्याची अंमलबजावणी होते की नाही याकडे त्यांचे पूर्ण लक्ष असे. शिवाजी महाराजांबद्दल त्यांना फार आदर होता. नाटकातही शिवाजींचा प्रवेश झाला तरी ते उभे राहून मुजरा करीत. ऋषींच्या ठिकाणी असणारी शुचिता, साधेपणा, सात्विकता, पवित्रता असे गुण त्यांच्यात होते. एखाद्या राजात असावेत असे यत्नाद्धता, शौर्य, संघर्ष करण्याची क्षमता, प्रजाहित दक्षता, जनसामान्यांच्या उद्दाराची तळमळ इ. गुणही त्यांच्यात होते. म्हणूनच कानपूर येथील कुर्मी समाजाकडून त्यांना १९१९ साली 'राजर्षी' पदवी बहाल करण्यात आली व ती सर्वमान्य झाली. भारताचे समाजकारण, राजकारण, धर्मकारण, शिक्षण, शेती, उद्योग, व्यवसाय इ. क्षेत्रांवर शाहू महाराजांचा फार मोठा प्रभाव आहे. त्यांचा मुख्य संघर्ष सनातनी उच्च वर्णीयांशी झाल्यामुळे व राष्ट्रीय नेते लोकमान्य टिळक यांच्याशी त्यांचे वैचारिक मतभेद असल्यामुळे त्यांच्या क्रांतिकारक कार्याबद्दल पाहिजे त्या प्रमाणात लिहिले बोलले जात नाही.

महाराष्ट्रीय समाजाला व विशेषतः मराठा समाजाला शिवप्रभू कळले तसे शाहू महाराज अजूनही कळले नाहीत. फुले-शाहू-आंबेडकर असा परिवर्तनाचा मंत्रघोष केला जातो पण फुले-आंबेडकरांप्रमाणेच शाहूंचे पोवाडे कमीच गावले जातात. शिक्केना प्रमुख कै. बाळासाहेब ठाकरे यांचे वडील प्रबोधनकार ठाकरे म्हणतात, "बहुजन समाजाचा प्रत्यक्ष उद्धार केला तो करवीरकर छत्रपती शाहू महाराजांनीच, शाहू महाराज द्रष्टे होते."

छत्रपती शाहू महाराजांचे सामाजिक योगदान ४० १७

Use of Modern Technology III Teaching English Language: Need of the Hour

Dr.S.D.Thakare

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

Use Of Modern Technology In Teaching English Language: Need Of The Hour

Dr. Mrs. Savita D. Thakare

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Abstract

21st century can be referred to as the information age. Internet and cell phone technologies have grown much faster up to 50 million viewers, however cell phones achieved it in merely 4 years. Many universities and educational institutions have taken benefits of cell phone technology for providing better lectures as well as better knowledge to their students. However, allowing the students with the access of mobiles in the campus of the university or any educational institution also has some negative side effects attached to it.

ICT has been introduced into schools during the last decade and it has now become compulsory in many countries to use ICT in teaching (both as a separate subject as well as cross-curriculum element). Apart from the infrastructure a necessary pre-condition for ICT benefits, the quality and quantity of ICT use in the teaching process is crucial to impacting on learning outcomes.

Technology aids the teacher in many ways like multiple accesses to English learning content, tracking performance, offering better solutions even during absence, empowering English teaching from any place, breaking the concept of time bound learning and so on. Technology is the basic tool through which the teacher facilitates the learning of English content and hence it needs to be customized for different curriculum and according to the need of the learning group.

In this regard, as a user of technology as a tool of instruction, it becomes important for the English teacher to analyze the different features of the technology that we use to teach the students.

Language is one of the means of communication and dissemination of information. In India, though for the sake of convenience and under cultural and historical impact, many languages were used and are still used. When India got freedom, English was language that was accessible and approachable only by elite as during that period till 15 years ago, English was the language of literature and history. Common, rustic, rural people couldn't afford to understand this English of literature and history. Moreover English was a monopoly of selected few for whom it was a matter of social standing and symbolic of their sophisticated life style. It was a language of making identity on the part of Indian literate youth among British for a long period of time.

David Graddol has rightly put it saying, "English is a basic survival skill". This is the need of the hour to equip oneself with communicative aspects of English.

Social advancement has to be matched with the development of efficient techniques of communication to sustain the tempo of growth. In modern professional India a great deal of importance is therefore attached to devising and maintaining an efficient system of English communication. Researchers have concluded that 70% to 80% of the total working time is spent on communication.

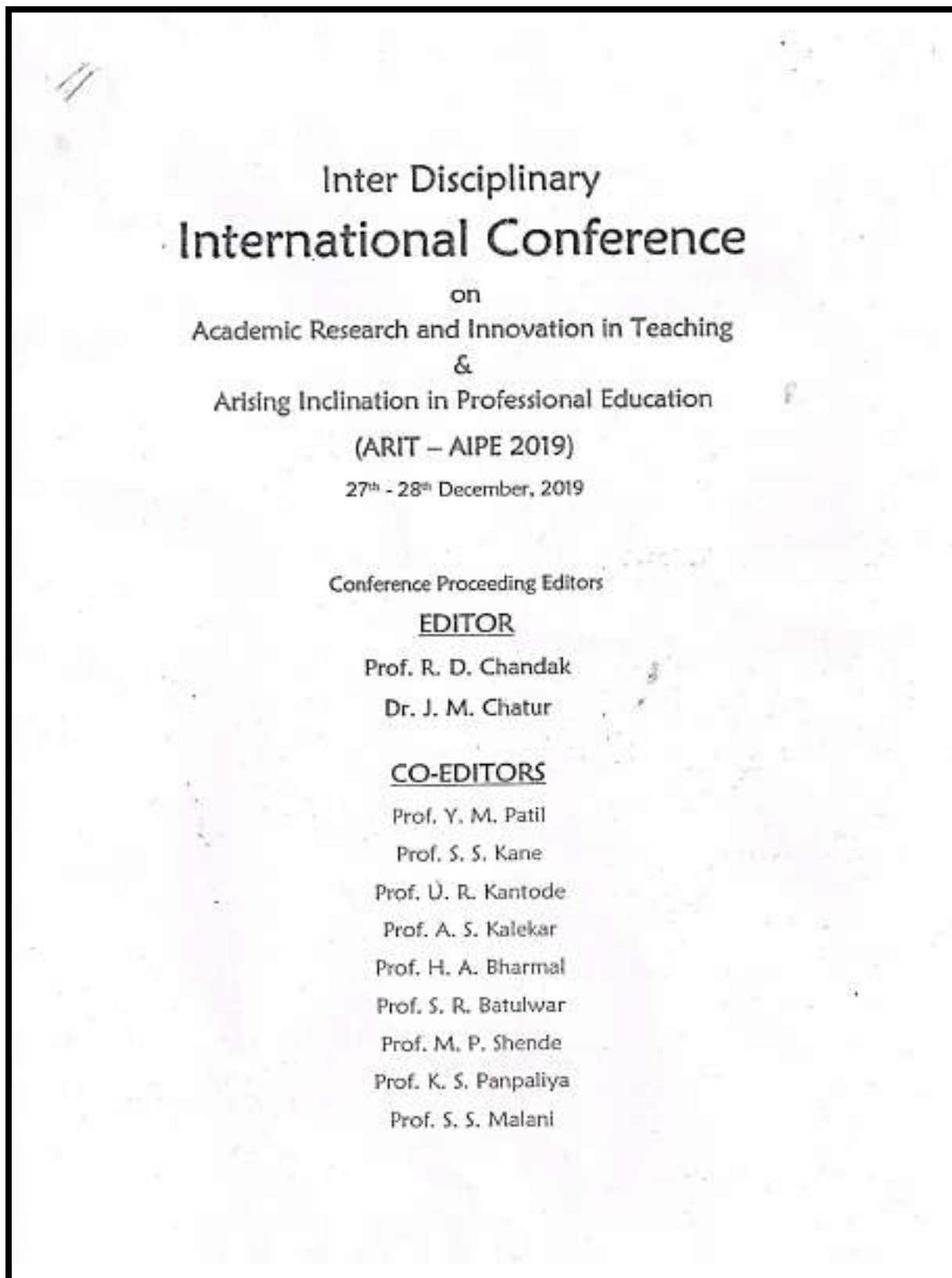
21st century can be referred to as the information age. Internet and cell phone technologies have grown much faster upto 50 million viewers, however cell phones achieved it in merely 4 years. Many universities and educational institutions have taken benefits of cell phone technology for providing better lectures as well as better knowledge to their students. However, allowing the students with the access of mobiles in the campus of the university or any educational institution also has some negative side effects attached to it. Cell phone is very effective and convenient tool to teach English language, especially for young techno-savvy learner because students learn English language skills whenever and wherever as they want and also it promotes students to learn English language as "Learning with Fun". As a preface, this paper also provides information on different tools which could be used through cell phones and the technology which could be used by teachers to deliver the learning objectives successfully.

In his book, *Teacher and Child*, Haim Ginott (1972) summed up his philosophy of teaching as follows : I have come to a frightening conclusion. I am the decisive element in the classroom. It is my personal approach that creates the climate. It may be daily mood that makes the weather. As a teacher I possess tremendous power to make a child's life miserable or joyous. I can be a tool of torture or an instrument of inspiration. I can humiliate or humour, hurt or heal. In all situations, it is my response that decides whether a crisis will be escalated or de-escalated, and a child humanized or dehumanized.

If this statement holds true for teaching in general, it is even more so for teaching English as a second language. People who take up teaching English as their career must appreciate the difficulties of students from other countries face when they come to learn English. This understanding helps them teach their students more

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<p>effectively and makes the entire process of teaching a rewarding and fulfilling job. "we live in a world where media are omnipresent. An increasing number of people spend a great deal of time watching television, reading newspaper and magazines, playing records and listening to the radio. The school and family share the responsibility of preparing the young person living in a world of powerful images, words and sounds" (UNESCO Declaration on Media, 1982).</p> <p>From this it is clear that we should use different mass-media for teaching in general and ELT in particular. English Language Teaching (ELT) has been with us for many years and its significance continues to grow, fuelled, partially at least, by the Internet.</p> <p>According to an estimate, one-third of the world population has developed basic proficiency in English and the number of non-native speakers far exceeds the number of native speakers. English has become the dominant international language in communication, science, business, aviation, entertainment, diplomacy and the Internet. A working knowledge of English is thus required in many fields and occupations. It has become necessary for most countries today to teach English as one of the compulsory subjects at the school level besides the mother tongue. English language in India with all its uniqueness is not native to the soil, yet its importance cannot be underestimated. It enjoys unlimited significance not only because it is a language of international corporate sector but also of the cyber world that is playing a significant role in making communication highly effective.</p> <p>Technological innovations have gone hand-in-hand with the growth of English and are changing the way in which we communicate, work, trade, entertain and learn and it is non-native users of English, frequently from Asian countries, who are arguably, at the heart of this. It is fair to assert that the growth of the Internet has facilitated the growth of the English language and that this had occurred at a time when computers and that this has occurred at a time when computers are no longer the exclusive domain of the dedicated few, but rather widely available to many.</p> <p>English has been acknowledged as one of the most important languages in India. The Indian English has also developed its sound system. So far as the grammar and vocabulary are concerned, Indian English does not differ much from the native variety of English, but there lie some differences from either British or American English in its sound system or pronunciation. However, the popularity of English languages still continues for it is the most widely spoken and written language of the world. English as a second language still serves the instructional purpose both at secondary and collegiate levels in India, Sri Lanka, Singapore and Pakistan, apart from other countries of the world. Even in our country it also works for the purpose of national integration, because it links the different provinces of India to the mainstream of the country.</p> <p>The English languages has undergone enormous changes in terms of both teaching and learning process in the classroom atmosphere. ever since the much demanded requirement of learning a foreign language, the ICT is sowed a seeds to create awareness among the people about its usage in a spell-bound manner in terms of acquisition of the language. As soon as the use of ICT is introduced in all fields, the overwhelming response has been prevailed to make it more comfortable for the young learners to acquire it rather efficiently.</p> <p>However, the influence of ICT has offered new avenues in showing the remarkable development in the process of teaching and learning in Indian class room situations. It is further enforced the basic learners to have a different learning experiences through the technical skills like audio-visual. In an ancient period, the acquisition of a foreign language has become very easy through the information technology. Hence, thanks to the Information Communication and Technology for bringing out a remarkable change in all spheres of life for the young learners, the web has become both a widespread and legitimate source of information retrieval.</p> <p>Impact of ICT on Teachers and Teaching Methodologies</p> <p>ICT has been introduced into schools during the last decade and it has now become compulsory in many countries to use ICT in teaching (both as a separate subject as well as cross-curriculum element). Apart from the infrastructure a necessary pre-condition for ICT benefits, the quality and quantity of ICT use in the teaching process is crucial in impacting on learning outcomes. On the compute, with improve instructional capabilities. Effective teaching practices enhance impact, but what has been the concrete impact of ICT on teaching practices? Have teachers and ICT to improve their teaching? It summarizes the considerable evidence concerning the working and teaching practices of teachers and examines the more direct effects of ICT on teachers and examines the more direct effects of ICT on teachers motivation, skills and confidence which in turn impact on the teaching processes.</p> <p>Role of English Teacher in the Multimedia Classroom</p> <p>The role of the teacher in the multimedia classroom is entirely different from the normal classroom environment. Hence, the teacher has the important role to play in the conventional classroom atmosphere where he enters the class with some books and ready made notes and conducts tests to assess the students. There is</p>	
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Need and Scope of innovation in Home Economics – Mrs. Prachi B. Bhamburkar



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Need and Scope of Innovation In Home Economics

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Abstract :-

Promoting a well-being of an individual that's – Home economics. This subject helps the society to develop human progress for it comprises major ideas on food, clothing, home and family. Human progress is necessary for the society to grow. It is so important since well-being vibrant all aspect of human experience. Home economics, domestic science or home science is a field of study that deals with the relationship between individuals, families, communities, and the environment in which they live. Home economics courses are offered internationally and across multiple educational levels. Home economics courses have been important throughout history because it gave women the opportunity to pursue higher education and vocational training in a world where only men were able to learn in such environments. In modern times, home economics teaches people of all genders important life skills, such as cooking, sewing, and finances. With the stigma the term "home economics" has earned over the years, the course is now often referred to by different terms, such as "family and consumer science."

Home Economics provides students with the knowledge, understanding and skills necessary for living as individuals and as members of a family. ... It prepares young people for the opportunities and challenges they will meet in the course of their lives, will meet in the course of their lives by giving them vital social, creative and management skills.

Home economics has three major components; home management, food and fabrics. Under home management, there are a number of components that include cookery, laundry, health education and house craft. Innovations one of the most important concerns of each organization and its role in the development and coordination of the market is inalienable. Innovation in all human areas is applicable from product development, methods of management, ways of doing works and etc.

Keyword – Innovation, Education, Economic Growth, Skills

Introduction :

People working in the field of home economics educate, take action and advocate to government, industry and the community in order to enhance the wellbeing of individuals and families, especially as it relates to food and nutrition, living environments and textiles. At one level, the focus of the work is to enable individuals and families to make informed and ethical decisions in order to enhance their everyday living. At another level, the focus of the work is on policies and practices that support individual and family wellbeing. Home economics professionals work in community health, in industry and as teachers in high schools. Home economics professionals may specialise in, for example, families, food management, nutrition, resource management, consumerism, child care, aged care, textiles, housing. Home economics professionals perform a variety of tasks dependent on the setting and the area of specialization. Home economists may have expertise in one or more of the following:

- Childcare
- Consumer education
- Design
- Environmental, social and Economics issues related to households, families and society
- Family studies
- Food marketing
- Food studies
- Health and nutrition
- Hospitality and catering
- Housing and interiors
- Product promotion
- Resource management
- Technology practice
- Textiles, fashion and clothing

Innovation is defined as
 Innovation in Home-Economics

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"the process of making changes in something established by introducing something new." It applies to "...radical or incremental changes to products, processes or services." Over the years there have been many changes in the way education is designed and delivered in parts of the world.

Innovation is the creation and transformation of new knowledge into new products, processes, or services that meet market needs. As such, innovation creates new businesses and is the fundamental source of growth in business and industry. Placing purpose at the core of your organization's innovation strategy allows you to focus efforts in the right areas and motivate your team to deliver disruptive results. When you underpin innovation with purpose, you have created a powerful, meaningful context that drives success.

In today's innovation economy, education becomes even more important for developing the next generation of innovators and creative thinkers. ... It ignites a passion for learning and provides students with the tools they need to succeed in the innovation economy.

Innovation in its modern meaning is
 "a new idea, creative thoughts, new imaginations in form of In business and ineconomics, innovation can become a catalyst for growth. Since then, hubs of innovation have sprung up globally with similar a version of the incandescent light bulb economically viable for home use, ...
 The purpose of innovation, research and development. In an engineering business, innovation is a core activity. It is important for its survival and can help the business remain competitive in changing markets. Innovation can be applied to product renewal or the design of new processing technologies.

The objectives of Home Economics

- (1) to help students prepare them- selves for home and family living;
- (2) to provide certain experiences which are preparation for professional home economic employment;
- (3) to provide the home economic education curricula which will qualify the person to meet

Hypotheses

- (1) students prepare them- selves for home and family living;
- (2) importance for professional home economic employment;
- (3) to provide the home economic education curricula which will qualify the person to meet

Types of Innovation

Incremental Innovation:- Incremental Innovation is the most common form of innovation.

Disruptive Innovation:- Disruptive innovation, also known as stealth innovation, involves applying new technology or processes to your company's current market.

Architectural Innovation:- Radical innovation. One of the most useful technological innovation examples are the innovations in renewable energy. The innovations include technological inventions such as wind turbines, photovoltaic cells, concentrated solar power, geothermal energy, ocean wave power and many other emerging innovations

Breakthrough innovation comes from Zipcar :- The company re-envisioned the business model for driving through its subscription service. ... A radical shift away from the existing car ownership and car rental business models, Zipcar is a true example of breakthrough innovation.

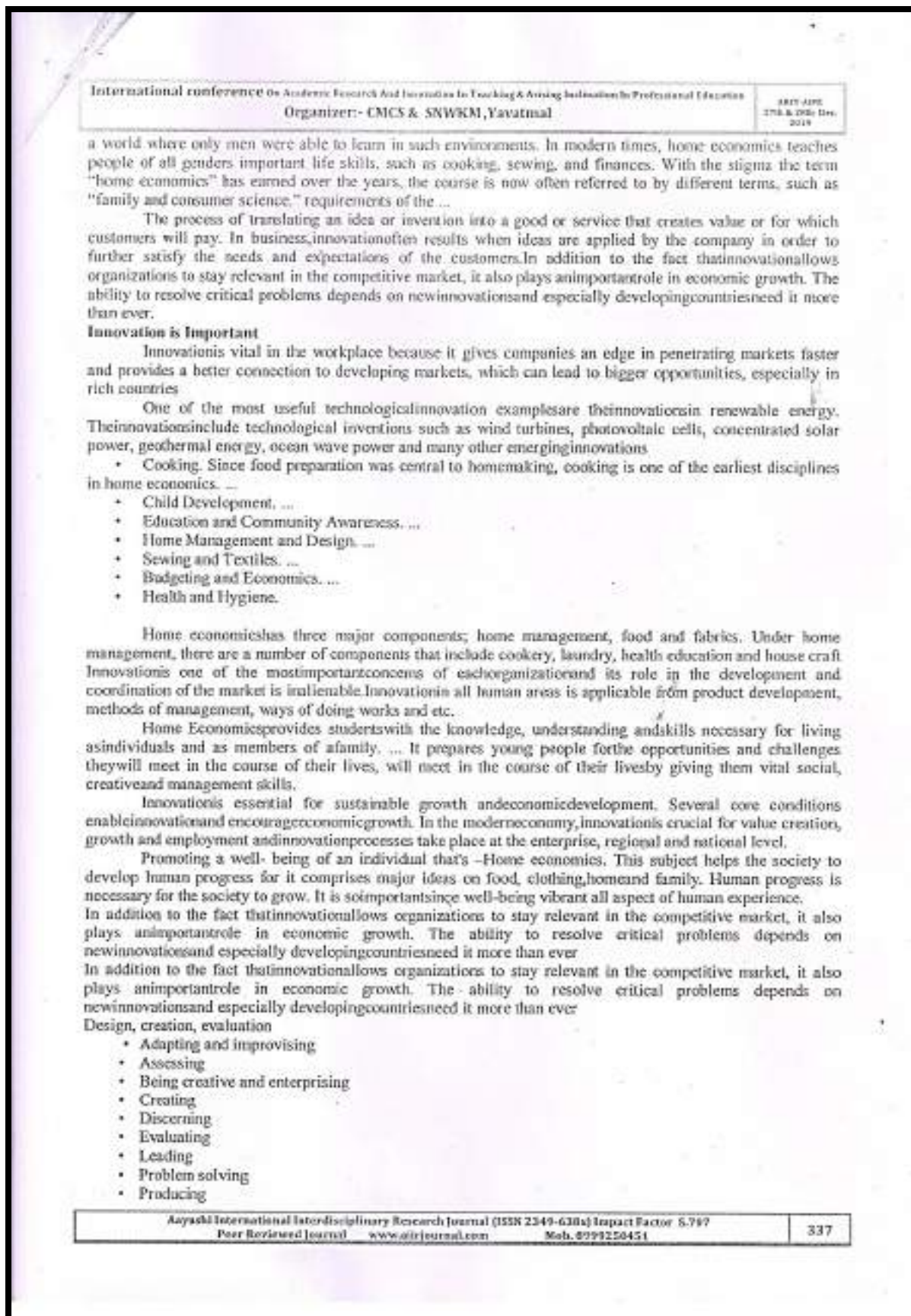
The four different types of innovation mentioned here – Incremental, Disruptive, Architectural and Radical – help illustrate the various ways that companies can innovate. There are more ways to innovate than these four. The important thing is to find the type(s) that suit your company and turn those into success. The simplest way to categorize innovation is into two types – incremental and radical. Incremental innovation is an improvement in an existing thing (e.g. product, process or service). ... Larry Keeley in his excellent book, *Ten Types of Innovation*, divides all corporate innovations into ten categories

A working definition of innovation

The Latin word *innovare* – which means 'to make changes' or 'to do something differently' offers a partial answer to the question what innovation is. ... The key driver for all innovation is value creation and, ultimately, the long-term survival of your business

Promoting a well- being of an individual that's – Home economics. This subject helps the society to develop human progress for it comprises major ideas on food, clothing, home and family. Human progress is necessary for the society to grow. It is so important since well-being vibrant all aspect of human experience. Home economics, domestic science or home science is a field of study that deals with the relationship between individuals, families, communities, and the environment in which they live. Home economics courses are offered internationally and across multiple educational levels. Home economics courses have been important throughout history because it gave women the opportunity to pursue higher education and vocational training in

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- Recognizing standards in relation to foods,
- textiles, clothing and living environment

Teachers of home economics/ design and technology/ health/ hospitality might perform the following tasks:
Provide opportunities for students to understand and shape preferred solutions to a range of challenges in their personal, family, community and work roles. For example, they may develop and implement learning experiences that enable students to learn how to:

- Be innovative, enterprising and creative
- Balance work responsibilities with personal responsibilities and leisure
- Choose nutritious foods in a changing marketplace
- Design, evaluate and make decisions related to textiles and food
- Make informed, responsible and ethical consumer decisions
- Negotiate for effective and diverse family and interpersonal relationships
- Prepare nutritious foods and develop health promoting food behavior's
- Take control of their health and develop health promoting behaviors'
- Understand and take action to enhance human growth and development
- Understand and confront the way they influence and are influenced by broad societal factors such as media, advertising, peer pressure, government policies and changing technologies
- Utilize design and technology relevant to families and households
- Provide opportunities for students to develop vocationally related knowledge and skills such as those related to food technology, hospitality, childcare and the design and textile industries.

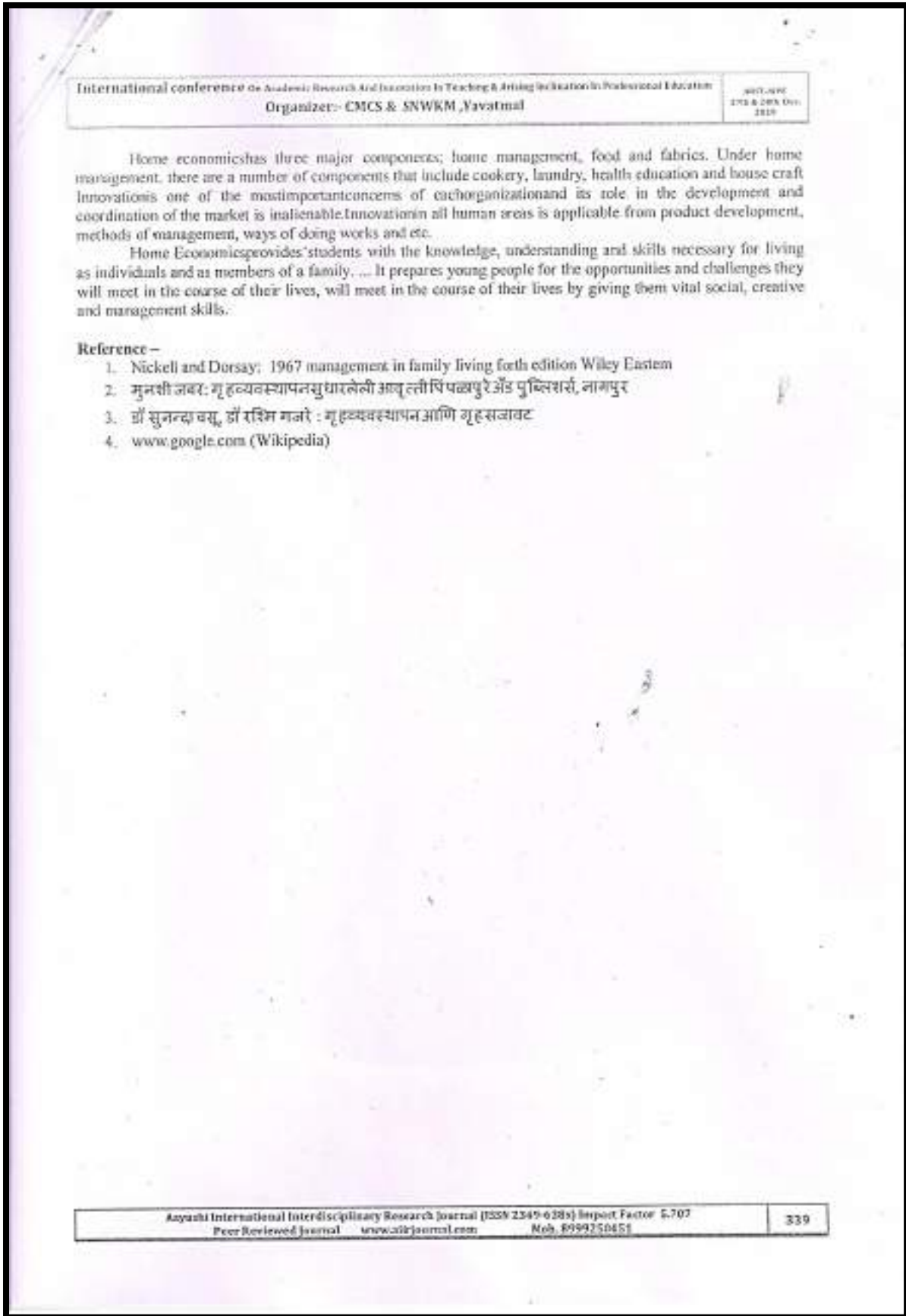
Home economists in industry might perform the following tasks:
Develop and/or test products within the food, textiles and/or household appliance industries.
Provide information about and promote products and services such as those related to food and household appliances.
Prepare educational materials for the community – for example, DVDs, CD-ROMs, videos, pamphlets, newsletters, teaching kits and other promotional material.
Present educational materials through, for example, television and radio, media releases, campaigns and newsletters.
Research and analyses consumer needs and preferences and provide advice to industry for product/service development and/or improvement.
Home economists in community health might perform the following tasks:

Conclusion:-
Provide information services for individuals and families on matters such as financial management, family relationships, childcare, food and nutrition, household management, housing and energy.
Develop nutritionally balanced menus for a range of community settings including childcare centers, aged care centers, school canteens, retirement villages and institutional care.
Manage food service operations in the community – for example, childcare centers, aged care centers, Meals on Wheels.
Design and teach independent living skills for disabled and disadvantaged people. Develop programs and policies for the design and delivery of health and social services. Develop and implement programs to assist newly-arrived migrants perform their personal, family, community and work roles.

Related fields of work:

- Childcare
- Dietetics
- Events coordinator
- Fashion
- Food styling
- Food technology
- Functions coordinator
- Hospitality
- Public health
- Social work
- Textile design
- Textile technology

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Potential use of Embroidered Ghodhadi and Indigenous Craft for creating Entrepreneurship among women

Mrs. A.P.Harne

International conference on Academic Research and Innovation in Teaching & Learning Institutions in Professional Education
 Organizer: CMCS & SNWIM, Varanasi

Potential Use Of Embroidered Godhadi An Indigenous Craft For Creating Entrepreneurship Among Women

Mrs. Archana Prakash Harne
 Matoshree Vimlabai Deshmukh Mahavidyalaya, Amravati

Abstract:
Kantha embroidery is an indigenous household craft, made by the rural women in west Bengal. In the past they were made for family use or as gifts, out of waste sarees or dhotis. Vidarbha Cotton is known for its fibres and quality in the National market. From a long time Nagpur name was an item of export. These beautiful sarees are preserved by making quilts with enhanced quality using simple running stitches for embroidery. The art of making Godhadi is a simple recycling method of imparting skill as well as improves economic condition of the family by earning.
Keywords- Indigenous craft, textile, quilts, entrepreneurship

Introduction :
 The art of Kantha or embroidered quilts has been flourishing in rural Bengal for centuries. Bengal Kantha and our Vidarbha Godhadi are two textile designing that appears to have been used throughout history. Both arts are extremely practical as well as decorative nature. Inner qualities of rural women also provoke them towards this art, gradually this art become their leisure time activity or hobby.
 In the present work , an attempt has been made to impart skill of stitching among women. This art recycled the old sarees and dhotis by creating beautiful Godhadi.

Objectives of the Study
 The present study was undertaken with the following objectives.

- To impart the skill of stitching and embroidery among women
- To develop entrepreneurial qualities among women.

Materials and methods:
 An exploratory work was undertaken to gather information regarding Godhadi. A research work adopted unstructured interview and personal observation methods to find out traditional knowledge of stitching Godhadi.
 Embroidery designs such as allover motifs and centralize motifs were selected. Godhadi making is the skill to sewing piece of old sarees with colourfull threads. Three or four sections of saree or dhoti were layered on top of each other and then quilted. The simple running stitch was used for embroidery. New fabric was also used for Godhadi threads of Anchor brand were used and threads from the coloured borders of the saree or dhoti were used for embroidery purpose.
 Developed Godhadi designs were assessed on the basis of acceptability using mental readiness of the experts. Experts were selected taking into consideration their knowledge, keenness and interest.

Results and Discussion.
 The art of quilting has been extensively used for household purposes such as making Godhadi, bags as well as decorative articles. This art creating skill among women and develop entrepreneurship qualities. The main objective of the study was to explore Indigenous technique and to develop stitching and extraordinary skill among women.

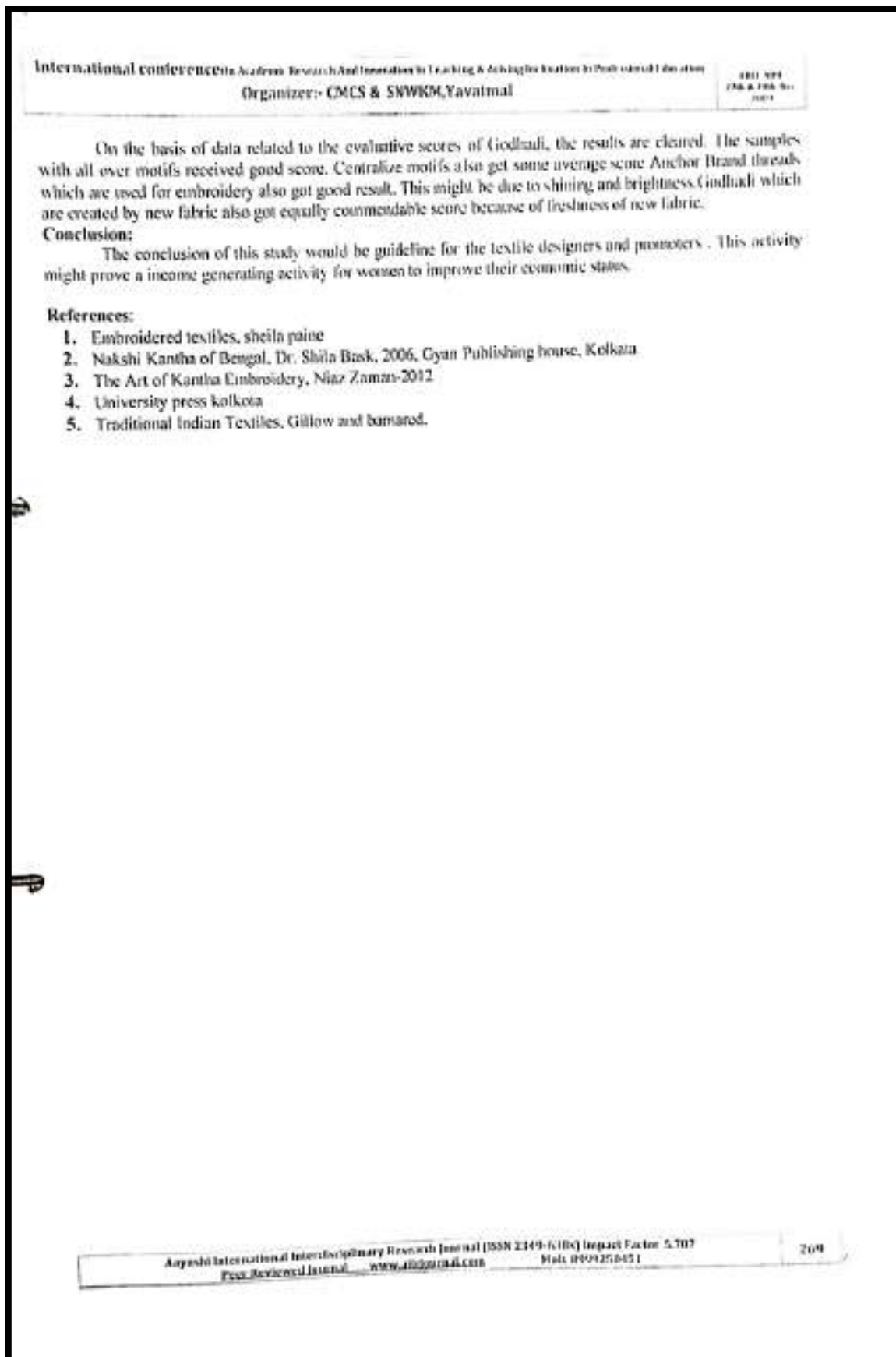
Statistical Analysis of Evaluation Scores on Godhadi

Table No. 1

Sample No.	Placement of design No		Threads used			Fabric			
	Allover Motif	Centerize Motif	Saree Border	Anchor Brand		Old Fabric	New Fabric		
1	5	2	3,40	2	4	3,70	1	5	3,16
2	4	1	8	2	5	5	2	4	8
3	4	2	At	2	5	At	3	5	at
4	4	2	5%	1	5	5%	2	4	5%
5	5	3	level	3	4	level	2	5	level
Mean	4.4	2		2			2	4.6	

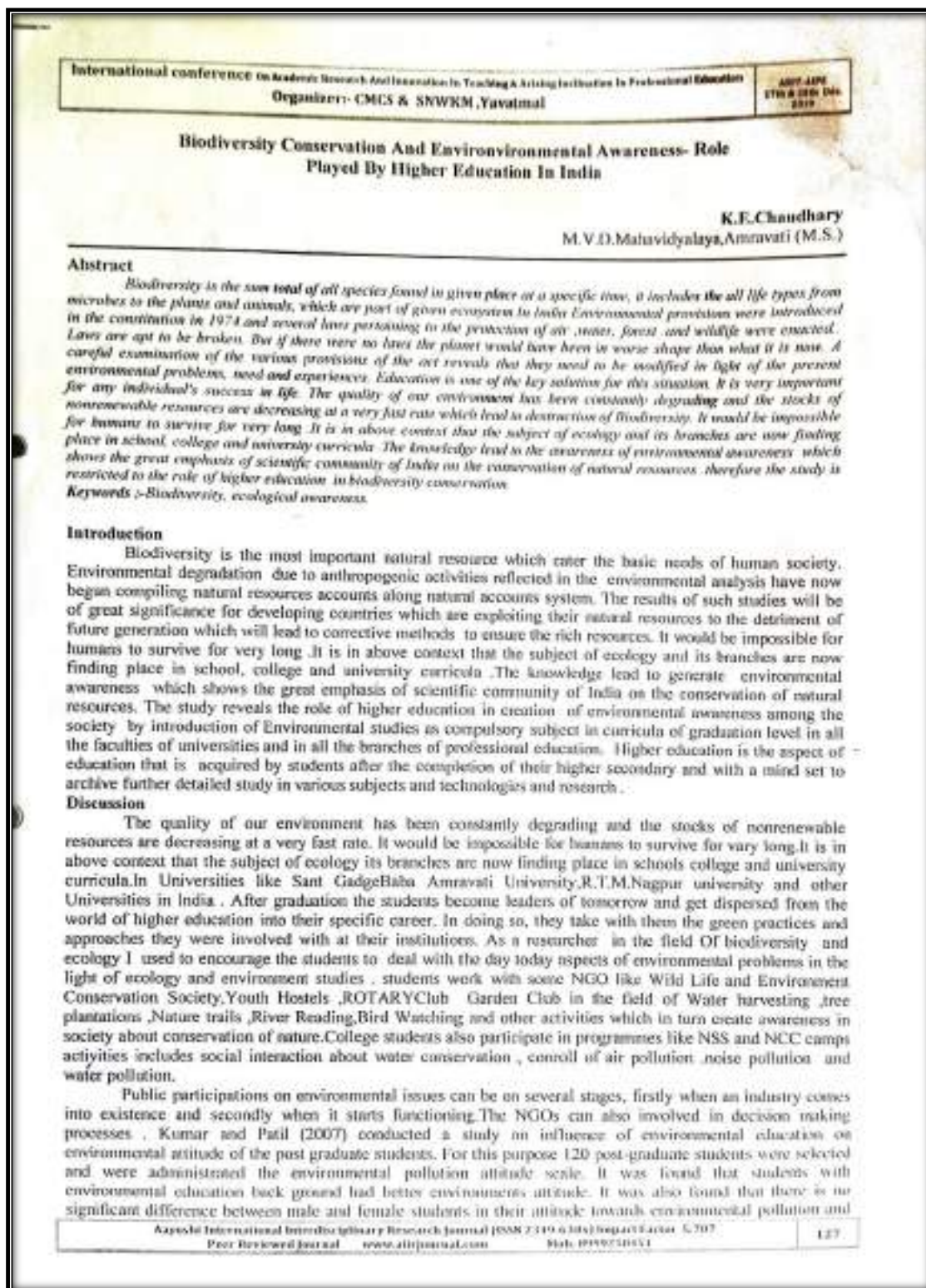
Table value at α at 5% level of significance 2.306

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Biodiversity conservation and Environmental awareness role played by higher education

Dr. K. E. Chaudhary



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related issues While may regard the twentieth century as the period of maximum environmental degradation and fast extinction of Biodiversity. We must strive through creation of wide spread awareness and education in the coming ten years. Decade of ecological restoration and eco technological growth. The scope of this study is restricted to basic ecological considerations of environment and reciprocal impacts with living things including human beings and sources and kinds of environmental pollution and possible control methods.

In Canada birth rate fall down by 25 percent in the last decade. Experts point out to an array of factors including increasing education for women, the urbanization and breakdown in family units. One factor is higher education that has given career opportunities that caused women to rely on pension plan, rather than their children.

UNCED the " Earth Summit" held in Rio de Janeiro ,Brazil in 1992 set out the agenda i.e. Action Plan for 21st century it calls for greater international scientific co operation and efforts to transfer environmentally sound technologies from nation to nation in such areas as renewable energy materials recycling and satellite imagery for land management. The study of environmental economics should aim at defining policies that will lead to solutions of global environmental management through cooperative efforts of entire human society .Environmental analysis have now begun compiling natural resources accounts along natural accounts system. The results of such studies will be of great significance for developing countries which are exploiting their natural resources to the detriment of future generation which will lead to corrective methods to ensure the rich resources. Education is one of the key solutions for this situation. It is very important for any individual's success in life. It provides skills that prepare an individual physically, mentally and socially confident to solve many problems in the society. Education is major aspect in development of any modern society. It is generally seen as the foundation of society which brings economic wealth, social prosperity and political stability. In today's fast growing and competitive world, people mostly are not satisfied with their basic education and enter for higher education.

Ongoing research are going on bacterial and virus transport , in ground water and bioaccumulation of metals such as arsenic, mercury lead and monitoring of pathogens in air would yield fruitful results in near future for the protection of public health Kumar and Patil (2007) conducted a study on influence of environmental education on environmental attitude of the post graduate students. For this purpose 120 post-graduate students were selected and were administered the environmental pollution attitude scale. It was found that students with environmental education back ground had better environments attitude. It was also found that there is no significant difference between male and female students in their attitude towards environmental pollution and related issues. Every university is unique and has its own traditions, culture and geographical area. They are familiar with their surroundings. They can use their existing knowledge and trained man power to address problems and issues concerned at the local level, as well as related to the national and global community. Universities can exchange the information by establishing a strong regional information network. These can promote good neighborly relations and respect for human rights. Universities can lead in promoting environmental equilibrium. They have a right and a duty to indicate where problems exist. They should look for, find and create tools to solve those (Hans, 2000). Universities can help to establish the sustainable development through following aspects:

Conclusion

The higher educational Institutions have the capacity to give quick responses to different societal problems specially related to environment. Today, the human society is facing severe environmental problems like climate change, greenhouse effect, energy crisis, depletion of natural resources, biodiversity loss, pollution of air, water, soil, etc. The scope of the problems is from local level to global level. The ever increasing population and changing life styles are increasing the severity of the environmental problems. The time has come to protect the natural environment through precise efforts. Education is one of the key solution for this situation.

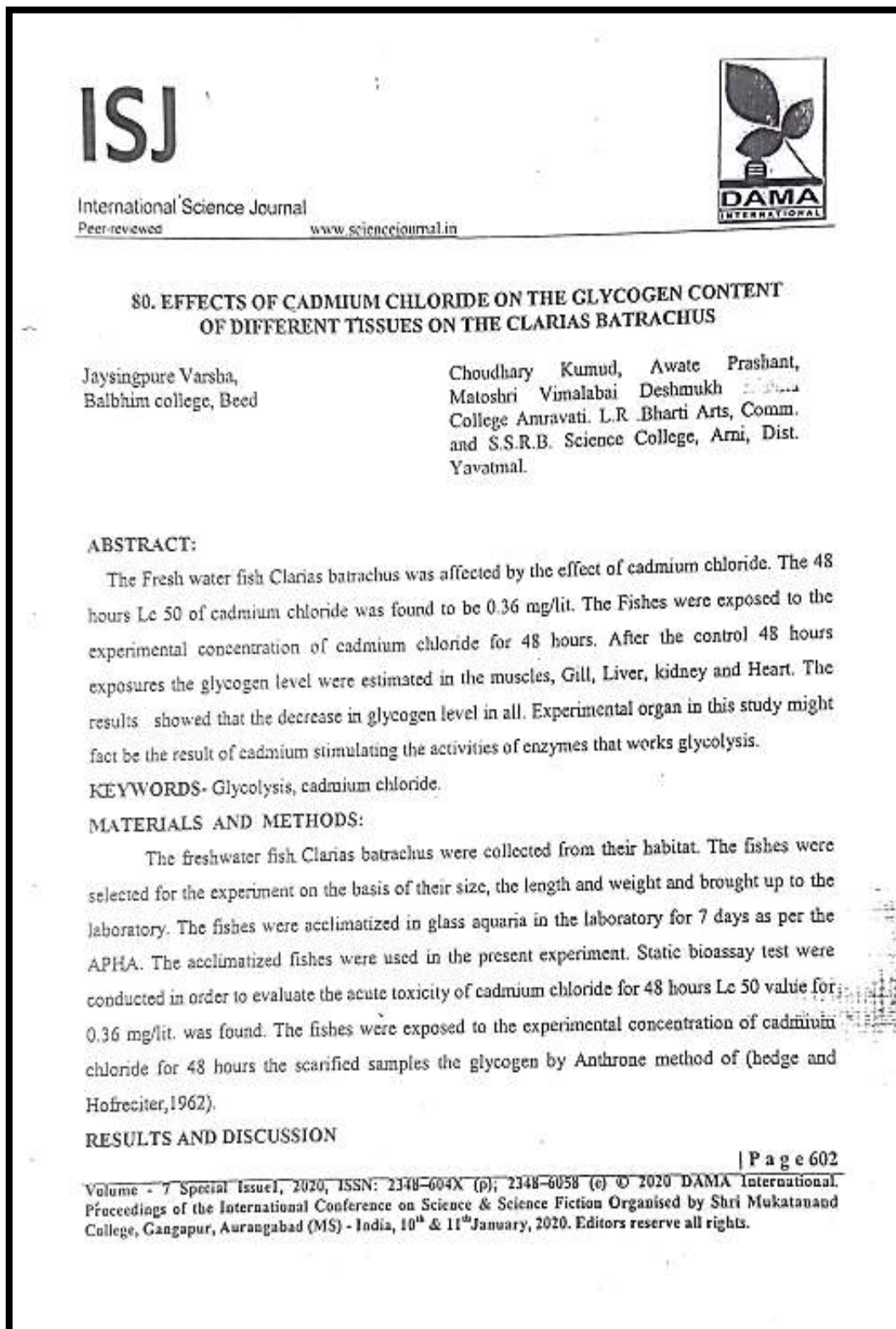
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<p>Apurvi International Interdisciplinary Research Journal (ISSN 2319-0100) Impact Factor: 5.707</p> <p>Peer Reviewed Journal www.ajournal.com info@ajournal.com www.ajournal.com</p>	<p>128</p>
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Effects of Cadmium chloride on the Glycogen content of different Tissues on the Clariw Batracus

Dr. K. E. Chaudhary



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The glycogen levels in muscle, gill, liver, kidney, & heart is significantly decrease in experimental fishes over the control groups of fishes (Table: 1&2). The levels of decrease in different organs is in the following manner kidney > Liver > Gills > Heart > Muscle.

Table: 1 Levels of glycogen content in different organs of *Clarias batrachus* exposed to median lethal (LC50) at 48 hrs. conc. Of cadmium chloride ((CdCl₂))

Sr.No.	Organ	Exposure	
		Control mg/gm wet.	Expt. (LC50) at 48 hrs. mg/gm wet. Wet
1	Muscle	11.28±1.13	9.38±0.18
2	Gill	8.19±0.69	7.80±1.17
3	Liver	43.10±2.17	28.14±1.27
4	Kidney	18.01±0.65	9.50±1.04
5	Heart	10.50±0.61	8.80±0.56

Values are mean ± SD of six replicates *P<0.05,**P<0.01,***P>0.011,significant when student 't' test was applied between control & experimental groups.

Table: 2 Variation in the levels of glycogen content in different organs in terms of % decrease (I) over control in *Clarias batrachus* exposed to median lethal (LC50) at 48 hrs concentration of cadmium chloride (CdCl₂).

Parameter	Muscle %	Gill %	Liver %	Kidney %	Heart %
Glycogen	10.02	17.16	22.47	19.12	17.29

The decrease in glycogen level in all the experimental organs in this study might in fact be the result of cadmium stimulating the activities of enzymes that works in glycolysis. Similar result has been maintained Bedi click& Kenan Engine (2003), Almeida (2001). Almeida (2001) Mentioned the decrease of specific activity of some enzymes like phosphofructo-kinase, lactate dehydrogenase & citrate kinase that decreases the capacity of glycolysis. In present study glycogen

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level is highest decrease in liver & kidney. Liver is the chief organ of carbohydrate metabolism. Liver glycogen is concerned with storage & export of hexose units for maintenance of blood glucose & that of muscle glycogen is to act as readily available sources of hexose units for glycolysis within the muscle itself. A fall in glycogen level clearly indicates its rapid utilisation to meet the enhanced energy demands in the toxicant exposed fish through glycolysis or hexose monophosphate pathways. Glycogen is also highest decrease in kidney in present study it is possibly due to kidney is major cadmium accumulating organs. Syed Lal shah (2005) reported the highest accumulation of cadmium in the tests & kidneys of *Tincatinca*. Similar bioaccumulation result of cadmium is reported by Jessica & Michael Michael (1998) so it is evident that cadmium is the major toxicant on the kidney, Liver & tests of the fish.

Sobha et. Al., (2007) reported the same effect of cadmium on the muscle, gill, liver heart & kidney glycogen reserve. Hameed SVSA et. al., (2006) mentioned the reduce carbohydrate level in different organ of fresh water fish *Oreochromis mossambicus* exposed to calcium. They reported that with increasing toxicity time decreasing the carbohydrate level. Canli (1996) shows effect of Hg, chromium & nickel on glycogen reserve & protein levels in different tissues of *Cyprinus carpio* & reported that reduced glycogen and protein levels in experimental fish. Kumar Pradeep et.al.,(2005) explain the reduced liver glycogen level in *Cirrhinus mrigala* exposed to sub lethal concentration of lead. Vutukuru (2005) reported gill & muscle glycogen reduced in fresh water fish exposed in sub lethal concentration of copper toxicity. Satyaparneshwar et.al., (2006) reported decrease glycogen & pyruvic acid level in different tissues of freshwater muscle *Lamellidensmarginals* under the copper sulphate toxicity. Tilak et.al., (2005) explain the decreased glycogen content in different tissues of *Catlacatla*, *Labeo rohita*, & *Cirrhinus mrigala* exposed to sub lethal organophosphate chlorpyrifos. He reported that highest reduction of glycogen in liver & kidney of all fishes.

CONCLUSION:

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Glycogen level is decreased in all the organs of experimental fishes glycogen decreased 10.02% in muscle 17.16% in gill , 22.47% in liver ,19.12% in kidney ,17.29% in heart. Depletion of glycogen clearly indicate that cadmium increases the rate of glycogenolysis which is clearly indicate that rapid utilization of glycogen of synthesis of glucose to meet the enhanced energy demanded under the stressful condition. Highest reduction of glycogen observed in kidneys and liver both are the target organs of cadmium chloride.

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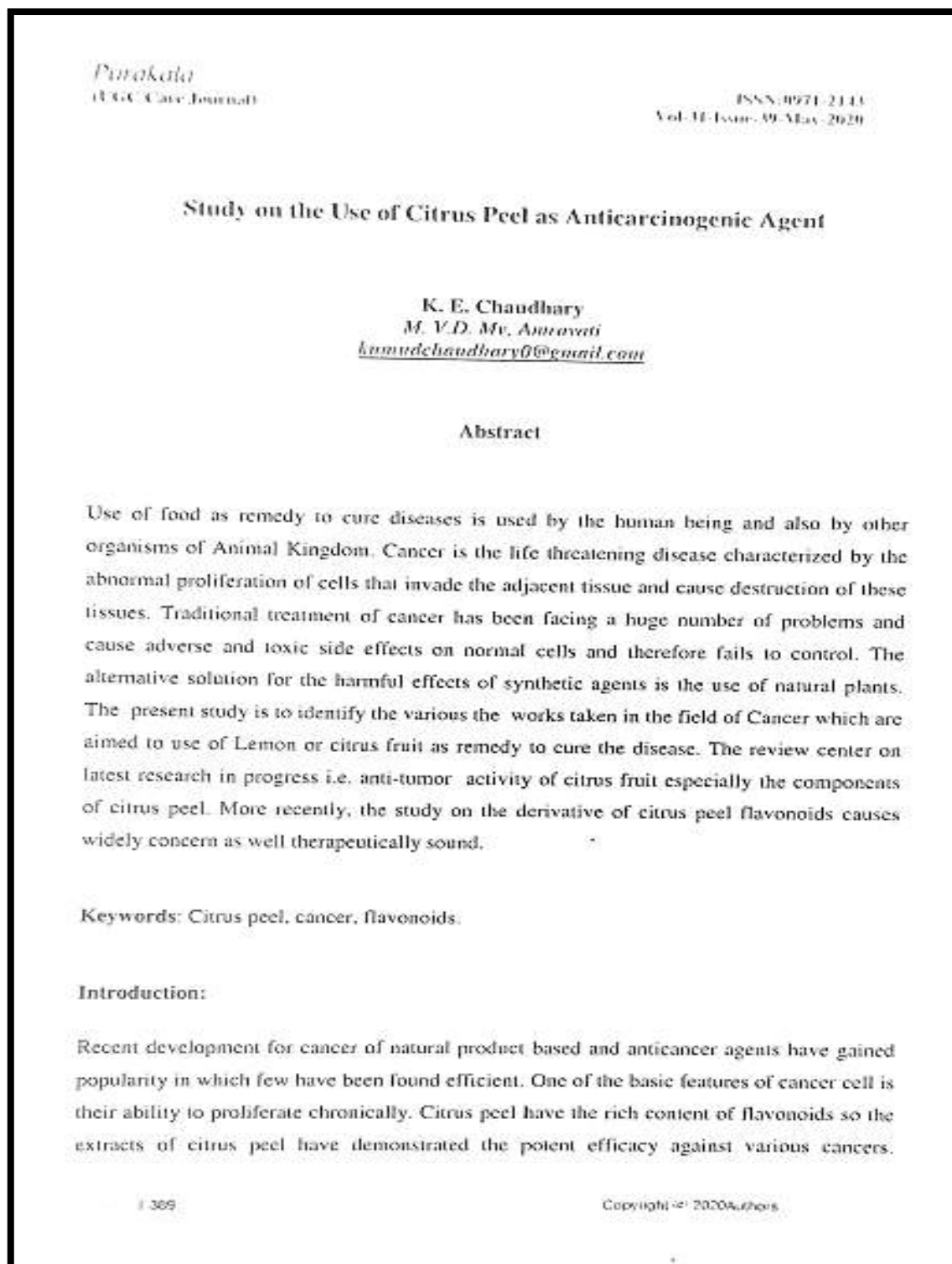
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**Study on the use of Citrus Peel as Anticarcinogenic Agent –
Dr.K.E.Chaudhary**



Flavonoids block the cell cycle and also inhibit the proliferation and promote apoptosis. The evidence collected from various studies illustrates that citrus flavonoids could prove to be an effective anticancer agent and encourage future research to evaluate its efficacy in human clinical trials. Characterization of the phytochemical composition of citrus peels with modern analytical technology indicated that citrus peels are an abundant source of polyhydroxyl flavonoids (PHFs) such as *hesperidin*, *neohesperidin* and *narirutin*; and almost the sole source of polymethoxyflavones (PMFs) with high content, which are mainly represented by *nobiletin*, *tangeretin*, *sinesetin*, 3,5,6,7,8,3',4'-heptamethoxyflavone and 3,5,6,7,3',4'-hexamethoxyflavone (J. Londono-Londono et.al 2010.)

Discussion:

Cancer is the second leading cause of death all over the world more than six million deaths each year occurring in the world are due to cancer. Over recent years, it has been widely reported that diet is a highly important factor in terms of either cancer induction or prevention. As already known, certain dietary micronutrients, such as flavonoids, carotenoids and others, can play an important role in the modulation or prevention of cancer development (World Cancer Research Fund, 2008).

Citrus fruits, as such, have long been valued for their wholesome nutritious and antioxidant properties. Whole fruit, zest, peel as well as its juice are the most sought after ingredients in a variety of cuisines worldwide. Method of using citrus fruit is vary simple-one have to wash them. Gently scrub if using the peel for obtaining the zest. In general, cut it into halves to squeeze-extract the juice.

It is a scientific fact that citrus fruits, especially lemons and oranges, by their richness in vitamins and minerals, have many proven health benefits. Moreover, it is now beginning to be appreciated that the other biologically active, non-nutrient compounds found in citrus fruits such as phytochemical antioxidants, and soluble as well as the insoluble dietary fiber is helpful in reduction in the risk for cancers, many chronic diseases like arthritis, and from obesity to coronary heart diseases. Vitamin C is also vital to the function of a strong immune system. The immune system's main goal is to protect you from illness, so a little extra vitamin C may be useful in conditions like colds, flu, and recurrent ear infections.

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Owing to the multitude of vitamin C's health benefits, it is not surprising that research has shown that consumption of vegetables and fruits high in this nutrient is associated with a reduced risk of death from all causes including heart disease, stroke and cancer.

In animal studies and laboratory tests with human cells, compounds in citrus fruits, including lemons and limes, called limonoids have been shown to help fight cancers of the mouth, skin, lung, breast, stomach and colon. Now, scientists from the US Agricultural Research Service (ARS) have shown that our bodies can readily absorb and utilize a very long-acting limonoid called limonin that is present in citrus fruits is about the same amount as vitamin C. (web)

In citrus fruits, limonin is present in the form of limonin glucoside, in which limonin is attached to a sugar (glucose) molecule. Our bodies easily digest this compound, cleaving off the sugar and releasing limonin.

In the ARS study, 16 volunteers were given a dose of limonin glucoside in amounts ranging from those that would be found in from 1 to 7 glasses of orange juice. Blood tests showed that limonin was present in the plasma of all except one of the subjects, with concentrations highest within 6 hours after consumption. Traces of limonin were still present in 5 of the volunteers 24 hours after consumption!

Limonin's bioavailability and persistence may help explain why citrus limonoids are potent anti-carcinogens that may prevent cancerous cells from proliferating. Other natural anti-carcinogens are available for much less time; for example, the phenols in green tea and chocolate remain active in the body for just 4 to 6 hours.

Some investigations were carried out to know the potential cholesterol-lowering effects of limonin. Lab tests indicate that human liver cells produce less apo B when exposed to limonin. Apo B is a structural protein that is part of the LDL cholesterol molecule and is needed for LDL production, transport and binding, so higher levels of apo B leads to higher levels of LDL cholesterol. Lemons, like oranges, contain a variety of phytochemicals. Hesperetin, naringin, and naringenin are flavonoid glycosides commonly

found in citrus fruits. Naringenin is found to have a bioactive effect on human health as antioxidant, free radical scavenger, anti-inflammatory, and immune system modulator. This substance has also been shown to reduce oxidant injury to DNA in the cells in-vitro studies. Additionally, they also compose a minute levels of vitamin A, and other flavonoid antioxidants such as α , and β -carotenes, β -cryptoxanthin, zeaxanthin, and lutein. These compounds are known to have antioxidant properties. Vitamin A also required for maintaining healthy mucosa and skin and is also essential for vision. Consumption of natural fruits rich in flavonoids helps the body to protect from lung and oral cavity cancers.

Cell cycle abnormalities are closely associated with cancer, and citrus peel flavonoids substantially influence on cell cycle arrest. Cell cycle is an important regulatory mechanism of cell growth, development, and differentiation. In mammals, the cell cycle comprises the G1, S, G2, and M phases. Cell cycle checkpoints keep the maintenance of genomic integrity by inhibiting damaged or incomplete DNA. G2/M checkpoint ensures that the cells do not initiate mitosis before repairing damaged DNA after replication]. In human breast and colon cancer cells, both tangeretin and nobiletin inhibited the proliferation and led to accumulation of cells in the G1/S cell cycle compartment and did not involve induction of cell death or apoptosis. This finding may provide advantageous theory basis in treating tumors as it would restrict proliferation in a manner less likely to induce cytotoxicity and death in normal tissues (Liuwen Wang *et al* 1914). More recently, the study on derivatives of citrus peel flavonoids causes widely concern as well. The capacity of flavonoids to act as antioxidants *in vitro* has been the subject of several studies in the past years, and important structure-activity relationships of the antioxidant activity have been established. (Ren *et al.*) in their paper on flavonoids and anticancer agents, gave the major molecular mechanisms of actions in different situations. In preventing carcinogens they mentioned that flavonoids exert their effects on cytochrome P450 to inhibit the activities of certain P450 isozymes which are responsible for the production of a number of procarcinogens. Another mechanism of action they reported is that flavonoids help in the production of metabolising enzymes such as glutathione-S-transferase, quinone reductase and uridine 5-diphosphoglucuronyl transferase by which carcinogens are metabolized. Ren *et al.* and Huang *et al.*, while working on natural phenolic compounds and their potential use for cancer prevention,

reported that various flavonoids have chemopreventive properties and also contribute to induce apoptosis by arresting the cell cycle, regulating carcinogen metabolism and ontogenesis expression. While explaining the possible mechanism of flavonoids in cancer prevention they further mentioned that the flavonoids have complementary and overlapping mechanisms of action including antioxidant activity and scavenging free radicals, modulation of carcinogen metabolism, regulation of gene expression of oncogenes and tumour-suppressor genes in cell proliferation and differentiation, induction of cell cycle arrest and apoptosis, modulation of enzyme activities in detoxification, oxidation and reduction, anti-inflammatory properties and action on other possible targets(Huang *et al.*) while working on natural phenolic compounds and their potential use for cancer prevention found out that carcinogens are detoxified and thus eliminated from the body. This would also help in preventing the chemotherapy effect of flavonoids against carcinogens.

Apart from blocking cell cycle, flavonoids in citrus peel can also inhibit cell proliferation and promote apoptosis, especially in triple-negative (ER-/PR-/HER2-) breast cancer (TNBC). Polymethoxyflavones- PMFs triggered influx of Ca^{2+} and mobilization of intracellular Ca^{2+} store, accompanied by activation of calpain and caspase-12 . There are further researches as the crude menthol extract of citrus peel induced caspase-12 dependent apoptosis by inhibiting the expression of antiapoptotic proteins which provides the fact that they have anti carcinogenic activity on human leukemia cells U927.(Li H.et. al.,2013) In the research of mice, oral feeding of gold lotion (GL), a formulated product made from the peels of six citrus fruits, decreased the number of aberrant crypt foci (ACF) in mice colonic tissues (Lai Cs et.al). This compound is rich in flavonoids with a total measured content of at least 450 ppm or 0.45 mg/mL; its PMFs content is as high as 106 ppm or 0.1 mg/mL. Due to its high content of flavonoids, it has also been proven to inhibit the nuclear translocation of NF- κ B into the nucleus (Li S et.al). Similarly, hesperetin has potential effect on proliferation of cancer cell in vivo. For 1,2-dimethylhydrazine- (DMH-) induced colon cancer model in rats, it exerted significant inhibitory effect on proliferating cell nuclear antigen in ACF(Nalini et al) . All these researches together point to a possible protective effect of citrus flavonoids and their derivatives against sustained proliferation of cancer cells. The mixed citrus peel extracts, CPE was also tested in immune-deficient mice

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bearing human prostate cancer cell line PC-3 tumor xenografts (C. S. Lai, S. Li, Y. Miyachi, *et al* 2013) After the establishment of palpable tumors, animals received intraperitoneal (*i.p.*) injections of two dosages of CPE (25 μ L and 50 μ L) five times per week for 23 days. Apparent inhibition of PC-3 xenograft tumor growth was observed even at lower dose (25 μ L). The prostate xenograft tumor was nearly eliminated in the group treated with the higher dose of 50 μ L. Oral dosing was also investigated in the evaluation of therapeutic effects of this formulated CPE. Therefore, in evaluating the efficacy of the mixed citrus peel extract (CPE) against prostate cancer in a xenograft mouse model, it was found that treatment with CPE by both *i.p.* injection and oral administration dramatically reduced the tumor weight and size without any observed toxicity. CPE was highly effective even at the low dose (50 μ L) consumption.

Traditional treatment of cancer has been facing a huge number of problems, in view of its complex molecular pathophysiology that varies according to each type. Several ways in the treatment of breast cancer have been developed that are surgery, chemotherapy, hormonal therapy, and radiation. Doxorubicin, a chemotherapeutic agent commonly used in breast cancer treatment, showed low effectivity, rendering its resistance and toxicity on normal tissues. When combining doxorubicin and hesperidin together in treating with MCF-7 cells, they increased cytotoxic effect, modulated cell cycle, and induced apoptosis. Cyclophosphamide is a cytotoxic alkylating drug with a high therapeutic index and is effective against a variety of cancers. Despite its effectiveness for the treatment of cancer, it induces a wide range of adverse side effects and toxicity, such as nausea, vomiting, and hematopoietic toxicity, which limit the use of this drug in clinic. In animal experiments, hesperetin can decrease the genotoxic effect of mice bone marrow cells when synergistically functioned with cyclophosphamide.

Conclusion:-

Taking in considerations the number of well established evidences it is the conclusion of the study that phytochemicals flavonoids in citrus peel proved to be effective in antitumerogenesis.

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And found to be effective disease prevention and treatment due to its bioavailability and properties like easy permeability through membranes. Further study is also needed to help to improve dose effect and efficacy of uninvestigated potential flavonoids in citrus peel.

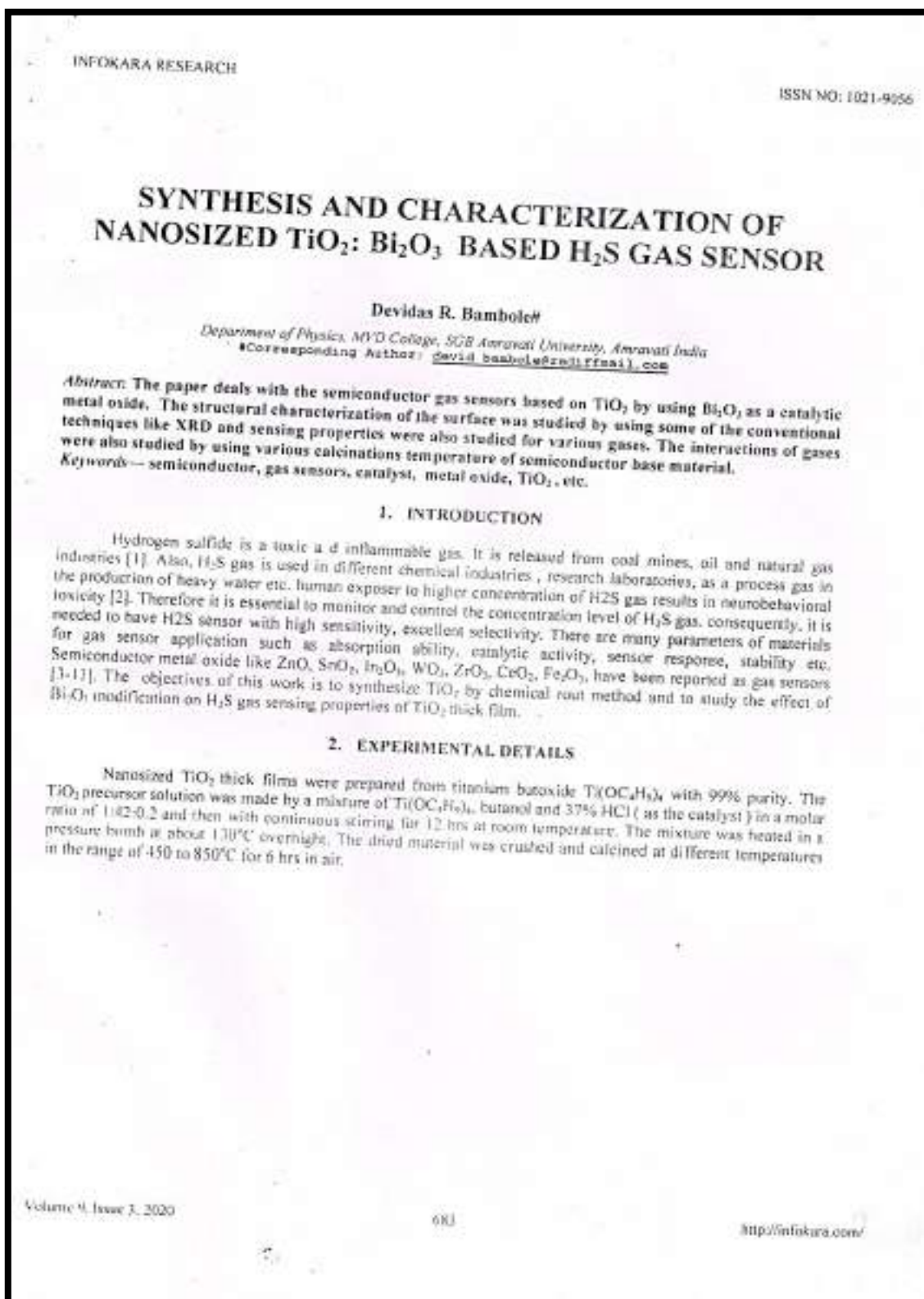
Currently, the intake of fruit, vegetables and beverages containing flavonoids is highly recommended,

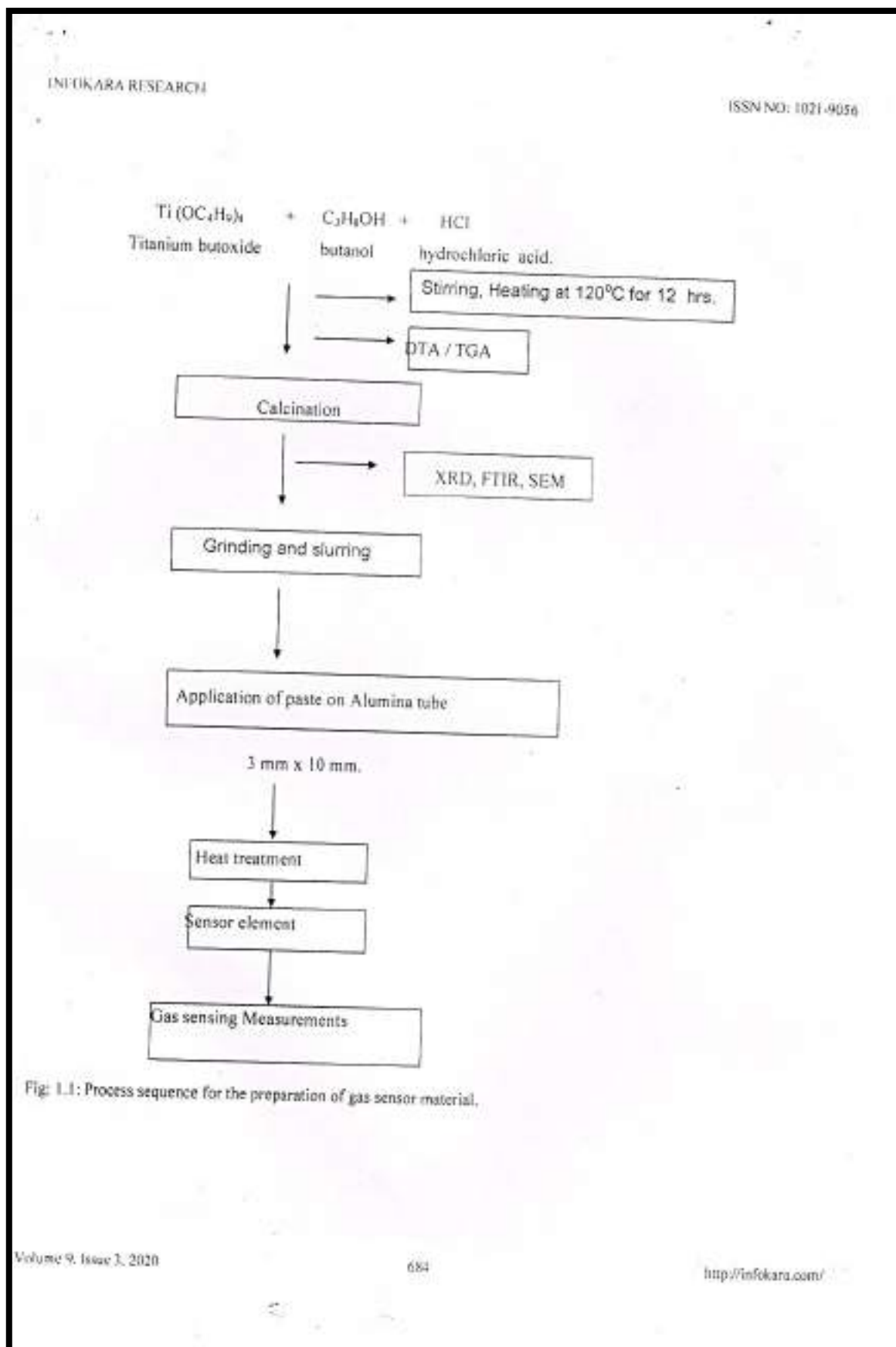
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Synthesis and characterization of nanosized TiO₂: Bi₂O₃ based H₂S gas sensor

Dr.D.R.Bambole





In order to increase the sensitivity, similar procedure was applied for Bi_2O_3 as additives. The solution of chloride salt was added to these solutions in the appropriate concentration.

3. SENSOR FABRICATION :

For the gas sensing measurements the sensor element was provided with a heater inserted in an alumina tube and was coated with $2-3 \mu$ thickness of the sensor material. The electrical resistance of the element in dry air is measured by means of conventional bridge circuitry in which the element is connected to an external resistor at a circuit voltage of 10 V to calculate the electrical resistance of the element. The sensitivity S , is defined as the ratio of change of resistance in $\Delta R = R_x - R_a$ in a test gas and the resistance R_a in air i.e., $S = \Delta R / R_a = (R_x - R_a) / R_a$, where R_a and R_x are the sensor resistance in the presence of the air and test gas [14]. In the region of saturation, i.e. where S reaches values near to unity, the sensitivity has been defined as,

$$S = \text{Log}(R_x/R_a)$$

For TiO_2 doped 10 wt % Bi_2O_3 , the maximum sensitivity to H_2S gas was obtained. The gas sensing characteristics of semiconductor gas sensors depend on the catalytic or surface chemical properties, as well as on physical properties such as grain size or porosity [15].

4. SYSTEM: TiO_2 : Bi_2O_3

4.1 EXPERIMENTAL DETAILS:

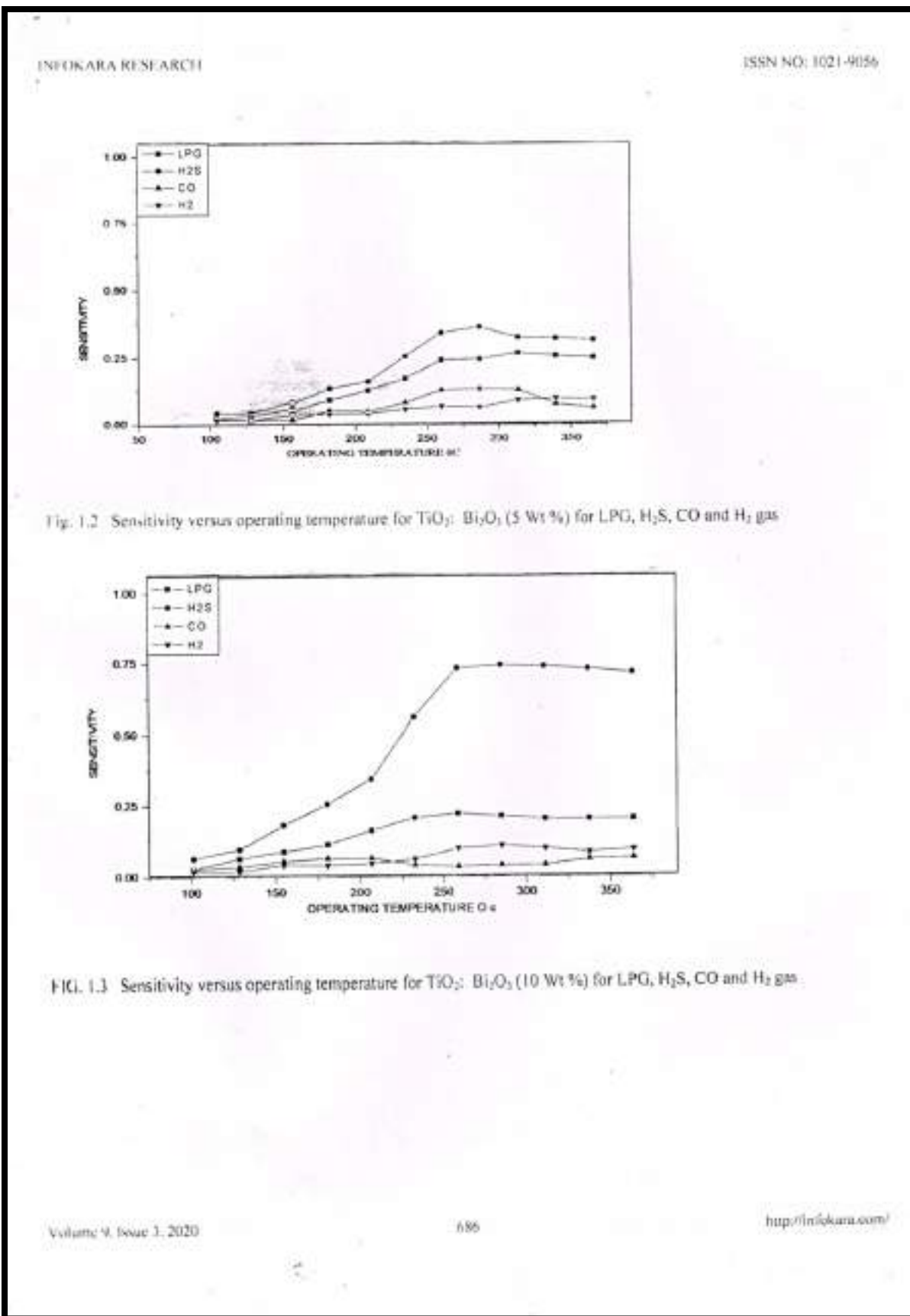
Calculated quantity of TiO_2 powder prepared from Titanium butoxide is mixed with different weight percentage of Bi_2O_3 in an agate mortar. The mixture is thoroughly ground by using distilled alcohol as solvent, followed by evaporation to dryness under IR lamp and calcined at 650°C for 6 hrs. The calcined powder is sieved to obtain fine particles and examined for gas sensing properties.

4.2 GAS SENSING CHARACTERISTICS OF TiO_2 : Bi_2O_3 (5%, 10%, 15% by weight)

Fig. 1.2 is for TiO_2 : Bi_2O_3 (5 wt %) powder calcined at 650°C for 6 hrs. This sensor element shows sensitivity versus operating temperature to sense H_2S and LPG, to a large extent as compared to the other gases like CO, H_2 . This graph shows that H_2S detection starts at very low operating temperature of about 150°C and reaches to a maximum of 0.35 at about 250°C . H_2 and CO detection improves from 200°C onward and reaches maximum of 0.08 and 0.12 at about the same temperature of 300°C .

Fig. 1.3 show the gas-sensing characteristic of TiO_2 : Bi_2O_3 (10 wt %) powder calcined at 650°C for 6 hrs. In this composition H_2S shows highest sensitivity of 0.71 at 250°C , LPG shows sensitivity 0.22 at 250°C . While CO and H_2 shows sensitivity 0.09 and 0.04 at 250°C respectively.

Fig. 1.4 shows the gas sensing characteristics of TiO_2 : Bi_2O_3 (15 wt %) powder. This sensor element detects H_2S with a sensitivity of 0.21 to 0.34 from 200°C onwards. Sensitivity to LPG, CO and H_2 decreases. LPG shows the sensitivity of 0.16 at an operating temperature of 250°C and CO with 0.08 at 300°C and H_2 with 0.04 at 250°C .



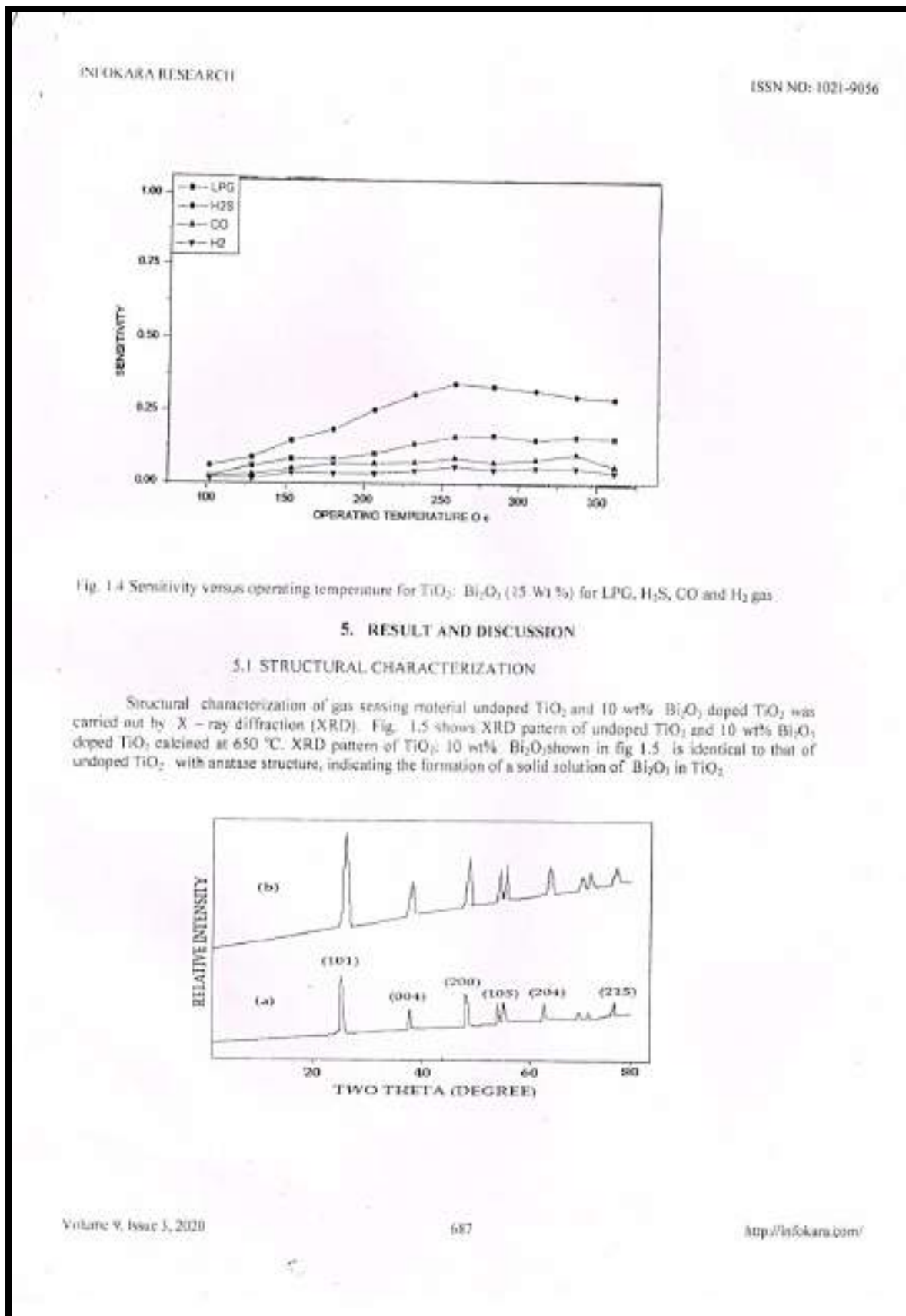


Fig. 1.5 X-ray diffraction of a) Undoped TiO₂ calcined at 650°C. b) 10 wt% Bi₂O₃ doped TiO₂ calcined at 650°C.

5. CONCLUSION

Undoped TiO₂ and Bi₂O₃ doped TiO₂ nanomaterials have been synthesized by chemical route technique with different calcination temperatures. The materials have been structurally characterized by means of X-ray diffraction. XRD shows anatase structure of TiO₂. The gas sensing property of nanosized TiO₂ thick films was improved by the addition of 10 wt% Bi₂O₃ and 10 wt% Bi₂O₃ shows higher sensitivity and selectivity towards H₂S gas at operating temperature 225°C. When an oxygen molecule gets adsorbed at the sensor surface, it extracts electrons from the conduction band of the host material. This reduces the concentration of electrons in the conduction band of the host material, leading to a decrease in the conductivity of the host material. As oxygen concentration increases, the number of conduction electrons decreases further and conduction starts taking place through holes [16].

The sensor shows good sensing performance to H₂S gas in air in the range of 200-1000 ppm at 225°C.

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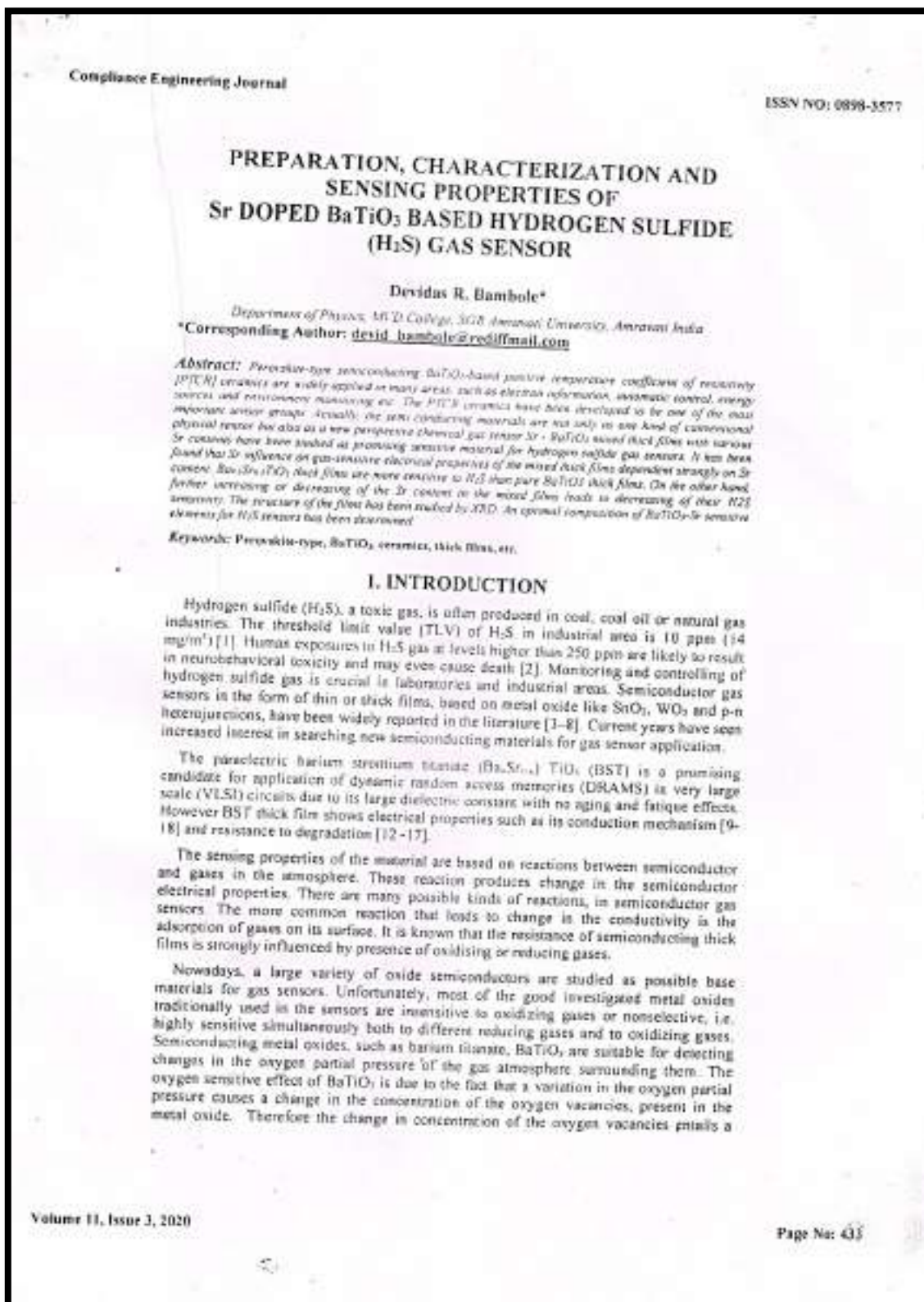
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Preparation, characterization and sensing properties of Sr doped BaTiO₃ based hydrogen sulfide (H₂S) gas sensor

Dr. D.R.Bambole



change in the concentration of the electric charge carriers. This has a direct effect on the electrical conductivity of the metal oxide. Sensors can be used for detection of toxic gases in environmental industrial surrounding mines and house hold and have direct application in providing the warning of the crossover of safety conditions of corroding gases involved [19].

In the present study, we have investigated the effects of additives on sensing characteristics of BaTiO₃ thick film for H₂S gas sensors has been examined. Chemically modified BaTiO₃ doped with different concentrations of Sr shows good sensitivity and selectivity towards H₂S sensor. The sensitivity to H₂S gas sensor has been compared with other interfering gases like H₂, CO, LPG. The sensitivity and selectivity of Ba_{1-x}Sr_xTiO₃ sensor element shows maximum sensitivity for H₂S gas at an operating temperature 300 °C.

2. Experimental Details

Ba(OH)₂·6H₂O, SrCO₃ of a chemical pure grade and chemically modified TiO₂ were use as starting materials. Perovskites were synthesized via a ceramic route by sintering at 650 °C for 6 hrs in air. To fabricate a sensor element, Ba_{1-x}Sr_xTiO₃ (x = 0.2, 0.4, 0.5, 0.8) were mixed with an aqueous solution of 2% polyvinylalcohol (binder) and the resulting paste was applied onto alumina tube substrates provided with two platinum wires as electrodes. The element was then sintered at 650 °C for 6 hrs in air, to impart it ceramic properties.

For the gas sensing measurements of the sensor element, electrical resistance of the element in dry air is measured by means of conventional method in which the element is connected to an external resistor in series. The output voltage across the external resistor at a circuit voltage of 10V is used to calculate the electrical resistance of the element. The sensitivity *S* is defined as the ratio of change in resistance of the sensor in presence of gas, *R_g* to the value of the sensor resistance in air *R_a*.

The gas sensing phenomenon is a surface effect of gas-solid interaction. A large specific surface area of the sensing material is essential for obtaining high sensitivity. Nanocrystalline particles, exhibiting a large surface area with diameter less than 100 nm, might be favorable for improving the sensitivity of gas-sensing material. Besides, in order to improve selectivity for particular application, surface modification by proper choice of additives or dopants to the base material is often used. The doping is generally based on the selection of most effective additives, which modulate specific chemical reaction on the semiconductor sensor surface.

The noble metals, well known as active catalysts, have been confirmed to possess the promoting effects on many semiconductor gas sensors [20 - 23]. Perza et al. incorporated additives, such as Pt, Pd or Au, to WO₃ and tested the sensor response towards NO₂ and NO [20]. Manorama et al. reported the preparation of BaSnO₃ doped with noble metals (Pt, Pd, Rh, Ru, Ag) and studied the gas sensing responses to LPG, CO and CH₄ [21]. All these results suggested that noble metals played vital roles in sensor response improvement of gas sensors. The mechanism of catalytic effect was also proposed to rely on the nature of noble metals and the microstructure of the base materials. In some preliminary experiments, it has been observed that NiFe₂O₄ nanopowder synthesized by solid-state reaction and NiFe₂O₄ doped with Au, Pd and Pt by impregnation technique possess excellent gas-sensing responses to H₂S.

3. RESULT AND DISCUSSION

3.1 X-ray diffraction:

X-ray diffraction (XRD) with CuK α radiation is used to determine the phase structure and lattice constant of the Ba $_{0.9}$ Sn $_{0.1}$ TiO $_3$ film. The XRD pattern confirms that the film maintains the perovskite structure with lattice constant of (0.3948 nm).

XRD results demonstrated that bulk ceramics possessed a polycrystalline structure. There was no apparent change in peak intensity resultant of the material fabrication process indicating that bulk ceramics well crystallized at the sintering temperatures 650°C.

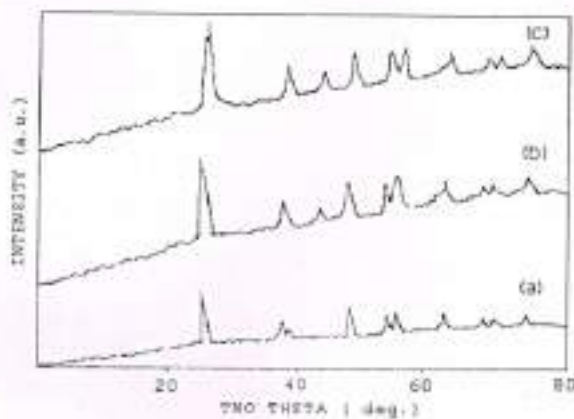


Fig. 1.1. X-ray diffraction of (a) undoped TiO $_2$ calcined at 650°C, (b) undoped BaTiO $_3$ calcined at 650°C and (c) Ba $_{0.9}$ Sn $_{0.1}$ TiO $_3$ sensor element calcined at 650°C

3.2 GAS SENSING CHARACTERISTICS OF Ba $_{0.9}$ Sn $_{0.1}$ TiO $_3$:

3.2.1 SYSTEM Ba $_{0.9}$ Sn $_{0.1}$ TiO $_3$:

Fig. 1.2 is for Ba $_{0.9}$ Sn $_{0.1}$ TiO $_3$ powder calcined at 650°C for 6 hrs. This sensor element shows sensitivity versus operating temperature to sense H $_2$ S and LPG, to a large extent as compared to the other gases like CO, H $_2$. This graph shows that H $_2$ S detection starts at operating temperature of about 150 °C and reaches to a maximum of 0.52 at about 250 °C. LPG, CO and H $_2$ detection improves from 200 °C onward and reaches maximum to 0.39, 0.23 and 0.09 at about the temperature of 300 °C.

3.2.2 SYSTEM Ba $_{0.9}$ Sn $_{0.1}$ TiO $_3$:

Fig. 1.3 is for Ba $_{0.9}$ Sn $_{0.1}$ TiO $_3$ powder calcined at 650 °C for 6 hrs. This sensor element shows sensitivity versus operating temperature to sense H $_2$ S and LPG, to a large extent as compared to the other gases like CO, H $_2$. This graph shows that H $_2$ S detection starts at operating temperature of about 150 °C and reaches to a maximum of 0.54 at about 250 °C. LPG, H $_2$ and CO detection improves from 200°C onward and reaches maximum of 0.30, 0.17 and 0.08 at about the temperature of 300 °C.

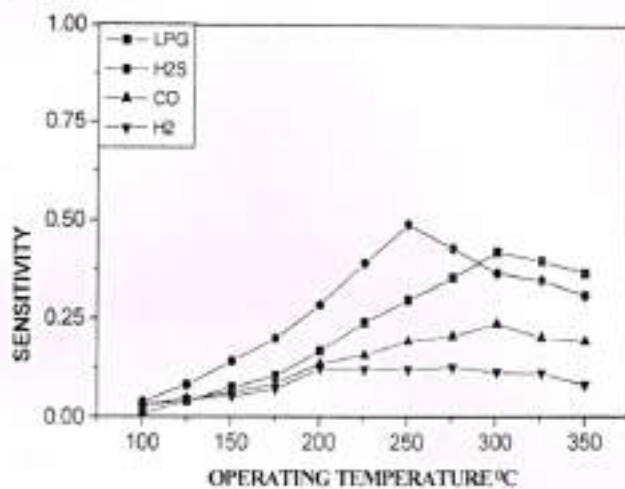


Fig. 1.2 Sensitivity as a function of operating temperature for Ba_{0.12}Sr_{0.88}TiO₃ for LPG, H₂S, CO, and H₂.

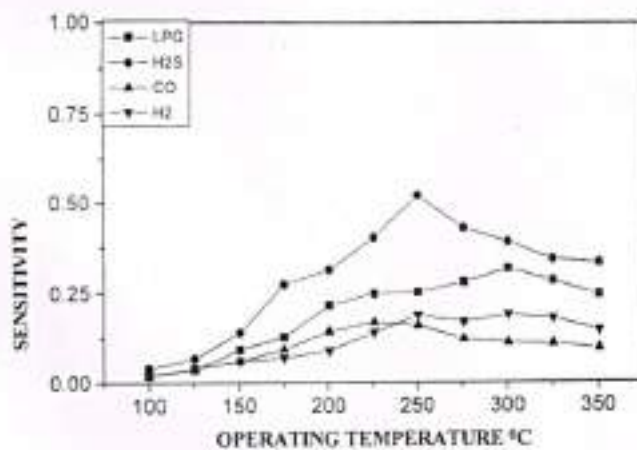


Fig.1.3 Sensitivity as a function of Operating temperature for Ba_{0.14}Sr_{0.86}TiO₃ for LPG, H₂S, CO, and H₂.

3.3.2 SYSTEM: $Ba_{0.5}Sr_{0.5}TiO_3$

Fig. 1.4 is for $Ba_{0.5}Sr_{0.5}TiO_3$ powder calcined at 650 °C for 6 hrs. This sensor element shows sensitivity versus operating temperature to sense H_2S and LPG, to a large extent as compared to the other gases like CO, H_2 . This graph shows that H_2S detection starts at operating temperature of about 150°C and reaches to a maximum of 0.92 at about 250 °C. LPG, CO and H_2 detection improves from 200°C onward and reaches maximum of 0.25, 0.10 and 0.06 at about the temperature of 300 °C.

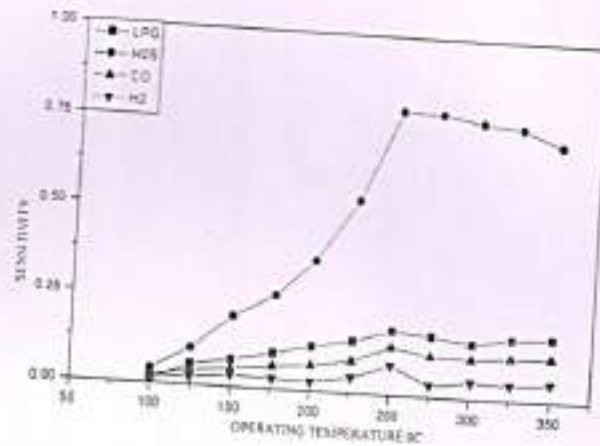


Fig. 1.4 Sensitivity as a function of Operating temperature for $Ba_{0.5}Sr_{0.5}TiO_3$ for LPG, H_2S , CO, and H_2

3.3.4 SYSTEM $Ba_{0.5}Sr_{0.5}TiO_3$

Fig. 1.5 is for $Ba_{0.5}Sr_{0.5}TiO_3$ powder calcined at 650 °C for 6 hrs. This sensor element shows sensitivity versus operating temperature to sense H_2S and LPG, to a large extent as compared to the other gases like CO, H_2 . This graph shows that H_2S detection starts at operating temperature of about 150 °C and reaches to a maximum of 0.38 at about 250 °C. LPG, CO and H_2 detection improves from 200 °C onward and reaches maximum of 0.25, 0.38 and 0.12 at about the temperature of 300 °C.

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Fig. 1.6 Sensitivity as a function of Operating temperature for 5 wt% Pd, Pt, Ag doped $Ba_{0.8}Sr_{0.2}TiO_3$ for H_2S .

Operating Temperature (°C)	LPG	H ₂ S	CO	H ₂
100	0.05	0.05	0.05	0.05
150	0.08	0.35	0.08	0.08
200	0.10	0.65	0.10	0.10
250	0.12	0.85	0.12	0.12
300	0.12	0.82	0.12	0.12
350	0.12	0.80	0.12	0.12

FIG. 1.7 Sensitivity as a function of Operating temperature for $Ba_{0.8}Sr_{0.2}TiO_3$; 0.5 wt% Pd for LPG, H_2S , CO, and H_2 .

Concentration of Pd	Sensitivity
0.1	0.40
0.2	0.60
0.3	0.70
0.4	0.80
0.5	0.90
0.6	0.80
0.7	0.70
0.8	0.60
0.9	0.50

Fig. 1.8 Sensitivity as a function of concentration of Pd doped for $Ba_{0.8}Sr_{0.2}TiO_3$ for H_2S .

Conclusion :-

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Sensor based on Sr doped BaTKO₃ thick films (Ba_{0.9}Sr_{0.1}TiO₃) have been found to exhibit excellent sensitivity and fast response for H₂S. The sensitivity of the sensors has been observed to be high. The detection of H₂S is usually based on the fact that H₂S molecules react with surface oxygen. It was found that Sr doped BaTKO₃ annealed at 650°C had higher sensor response at operating temp 100°C.

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Child Health: The Role of Indian Government in Newborn Health and Nutrition Related Interventions

Ms. P.B.Bhamburkar

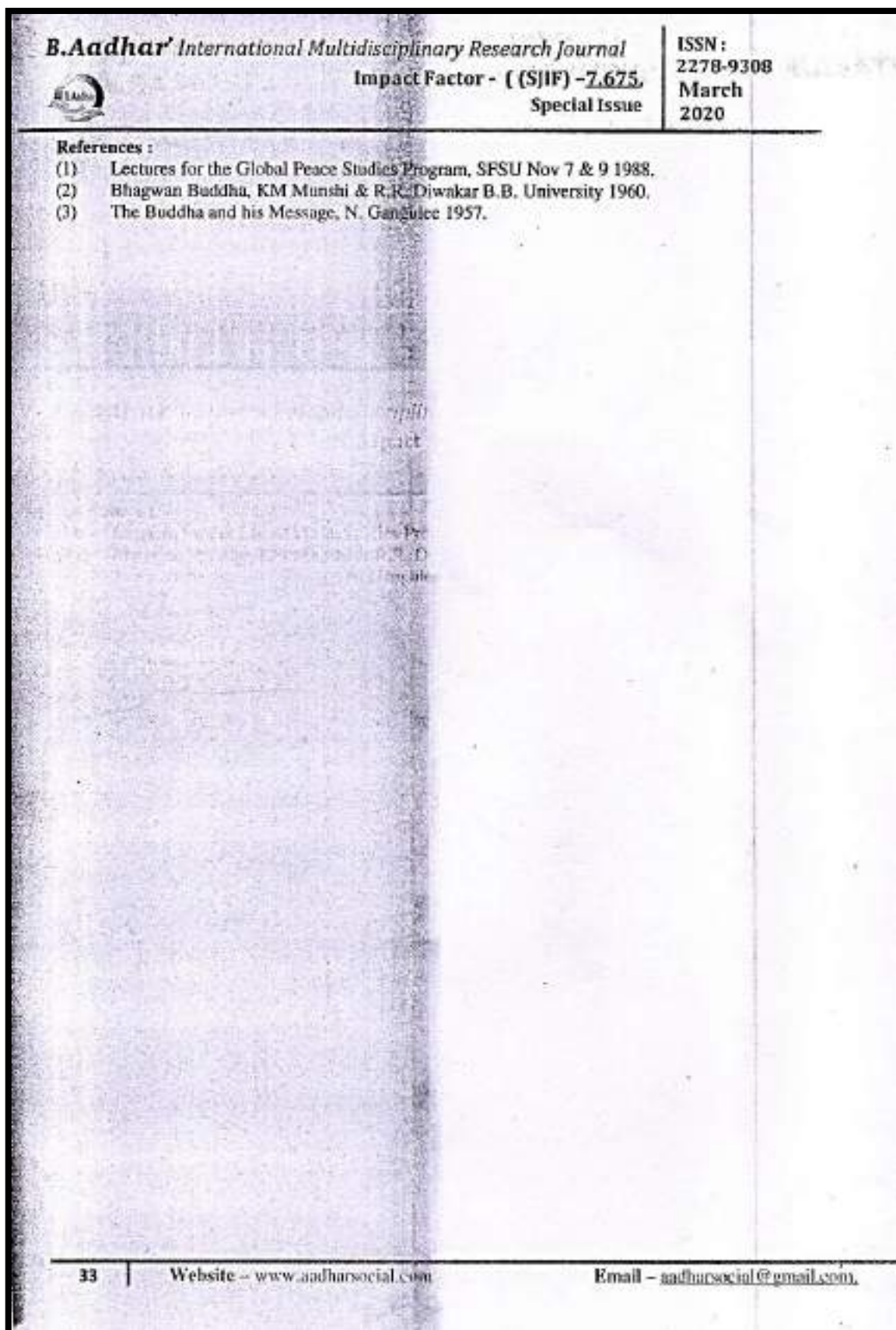
<p>B.Aadhar' International Multidisciplinary Research Journal</p>  <p>Impact Factor - (SJIF) -7.675, Special Issue</p>	<p>ISSN : 2278-9308 March 2020</p>
<p>Child Health: The Role of Indian Government in Newborn Health and Nutrition Related Interventions. Prachi B. Bhamburkar, Matoshri Vimlabai Deshmukh Mahavidyalaya, Amravati.M.S.India.</p>	
<p>Abstract: In this informatics paper author describe The Role of Indian Government in Newborn Health and Nutrition Related Interventions, with help of Ministry of Health & Family Welfare Government of India. The Child Health programme under the Reproductive, Maternal, Newborn, Child and Adolescent (RMNCH+A) Strategy of the National Health Mission (NHM), comprehensively integrates interventions that improve child health and nutrition status and addresses factors contributing to neonatal, infant, under-five mortality and malnutrition. The National Population Policy (NPP) 2000, the National Health Policy 2002.</p> <p>Key words:Newborn Health, Nutrition, Child Care, Health and Family Welfare.</p>	
<p>1.Introduction: Our country has witnessed an exciting phase of development and in tune with the philosophy of development for all, Health is embedded in the growth story. Our work this year enabled progress towards the commitments of the National Health Policy, 2017. The launch of Ayushman Bharat last year marks a significant landmark in the history of health in India. Ayushman Bharat is India's road to Universal Health Care, and when fully operational will ensure universal, accessible, equitable and affordable health care for all. It comprises of two inter-related components. The first component is the creation of 1,50,000 Health and Wellness Centres (HWCs) by transforming PHCs/SCs to provide Comprehensive Primary Health Care (CPHC).</p>	
<p>The Child Health programme under the Reproductive, Maternal, Newborn, Child and Adolescent (RMNCH+A) Strategy of the National Health Mission (NHM), comprehensively integrates interventions that improve child health and nutrition status and addresses factors contributing to neonatal, infant, under-five mortality and malnutrition. The National Population Policy (NPP) 2000, the National Health Policy 2002, Twelfth Five Year Plan (2007-12), National Health Mission (NRHM - 2005 - 2017), Sustainable Development Goals (2016-2030) and New National Health Policy, 2017 have laid down the goals for child health.</p>	
<p>2. Child Mortality: 2.1 Situation of Child Mortality in India: As per latest Sample Registration System, 2016 Report; The U5MR in India is 39/1000 live births, IMR is 34/1000 live births and NMR is 24/1000 live births. This translates into an estimated 9.6 lakh under-5 child deaths annually. The U5MR has declined at a faster pace in the period 2008-2016, registering a compound annual decline of 6.7% per year, compared to 3.3% compound annual decline observed over 1990-2007. Four States together contribute to 56% of all child deaths in the country, namely-Uttar Pradesh (2.45 lakhs), Bihar (1.2 lakhs), Madhya Pradesh (1.0 lakh) and Rajasthan (0.75 lakh). About 46% of under-five deaths take place within the first 7 days of birth, 62% within first one month of birth.</p>	
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Buddha's Teaching and World Peace

Dr. S.D.Thakare

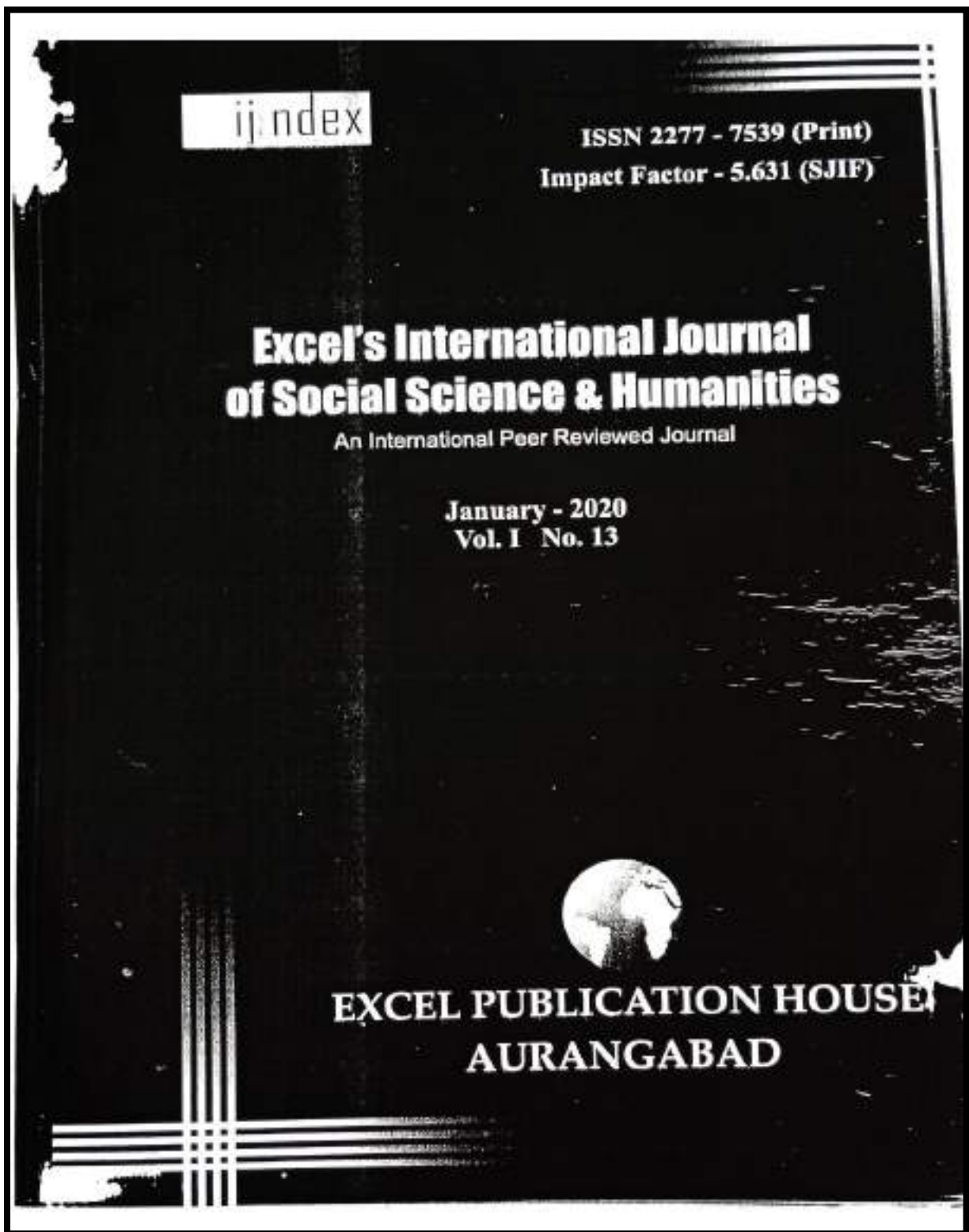
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<p>BUDDHA'S TEACHING AND WORLD PEACE</p>	
<p>Prof. Dr. Mrs. Savita D. Thakare Assistant Professor, Dept. of English Matoshree Vimalabai Deshmukh Mahavidyalaya, Amravati Email : smita.thakare03@gmail.com, Mobile No. 9421822103</p>	
<p>More than 2,500 years have rolled by since Buddha passed into eternal beatitude (Mahaparinirvana). It is a very long lapse of time, long enough for anybody to forget everything about any great person or event. Today more than four hundred millions of Indians look upon Buddha as the ninth incarnation of Vishnu, the Supreme Lord. Most of the Buddhists consider him to be the saviour, who through numerous transmigrations attained Buddhahood and showed people The Way. It may not be wrong to say that nearly half the world is attracted in one way or the other by Buddha and his teachings.</p> <p>The facts and experiences of life as they struck Buddha were, that man was suffering everywhere and at all times and stages, and that he was earnestly but helplessly hankering after freedom from this curse of suffering. Buddha is right when he says that there is a constant struggle to overcome suffering and to conquer it once for all.</p> <p>Buddha and his teaching starts from the data of personal experiences which is available to one and all. Then the cause of all these experiences is traced to desire, which is in a way the root of all experiences also. Buddha exhorted everyone to recognize no other authority except his own experience and his own reason based on that experience. By this, he cut across all the barriers of religious hierarchy, created in everyone a self confidence and a sense of responsibility for solving one's own problem and attaining a steadier, nobler and a happier state of consciousness. He emphasized on the clarity of perception of the truth of experience, the inevitable logic of facts and the light of reason. These alone, he said, should be our real guides.</p> <p>In an 'Invocation to the Buddha' Rabindranath Tagore writes -</p> <p style="padding-left: 40px;">"The world today is wild with the delirium of hatred, the conflicts are cruel and unceasing in anguish, crooked are its path, tangled its bonds of greed, All creatures are crying ----- Wipe away all dark stains from the heart of this earth".</p> <p>The concept of global peace must include not only peace in the world but peace and contentment within each nation, each community, each family and indeed in each individual. It is the unique contention of Buddhism and emphasized in the cultures of particularly the Asian countries that inner peace is the spiritual advancement which gives a person freedom from greed, hatred and delusion. It is an absolutely necessary condition to begin, to think about the welfare of others with empathy, in a spirit of brotherhood and in tranquility.</p> <p>Buddhism teaches that whether we have global peace or global war is up to us at every moment. Peace or War is our decision. The fundamental goal of Buddhism is peace, not only peace in this world but peace in all worlds. Buddha taught that the first step on the path to peace is understanding the causality of peace. When we understand what causes peace, we know where to direct our efforts.</p> <p>In the modern age the choice between peace and war can be a crucially difficult task because conflicts arise not so much between nation, states or within the boundaries of one state. Such armed conflicts between those who are virtually brothers and sisters sharing the same land resources and culture introduce complex dynamic differences from those that arise in the traditional wars between states. Today reportedly there are nearly 60 countries in which internal conflicts keep booming at different levels of intensity. Dealing with such conflicts which have sometimes caused great loss of</p>	
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<p>life and suffering requires great patience, personal courage and commitment. In Buddha's words, "War begins in the heart of man that only in the mind of man can the defenses of peace be built".</p> <p>The Modern age we live in promises to be the most complex and difficult, and also the most exciting , millennium in human history. The unparalleled advancement of science and technology has given mankind the power to either destroy itself or make our world a veritable Heaven of plenty and contentment, peace and harmony where all the world's people can become truly brothers and sisters. Buddha's concept of Love is universal and all encompassing. It includes every living thing; not only one's family or race, or caste or religion but everything that is sentient including the animal world. It is found on the principle of non-violence-ahimsa employed by Modern India's greatest Son's Mahatma Gandhi and Jawaharlal Nehru in the march to freedom and beyond.</p> <p>As expressed in Buddhism the road to Peace needs to have two pathways. The first is the cultivation of the right mental attitudes. The second is the resolution through right effort of the underlying material conditions which gave rise to conflict, whether due to poverty or under-development or alienation or exclusion. Improving the human condition so that the poor and the deprived in our societies are provided with the basic necessities of life - like food, drinking water, health facilities and education of the children which Buddha has engaged in so resolutely, is in total fulfillment of this. Second pathway is complementary and essential in building sustaining and strengthening global peace.</p> <p>The Buddhist vision is a world in which all life is sacred, in which selfishness, in the guise of greed, anger and foolishness, does not interfere with the basic interconnectedness of all living beings. That inter-connectedness, when freed from the distortion of selfishness, is based upon the potential of enlightenment that every being shares. King Ashoka, the Mauryan emperor of India who was coronated in 268 BC, was converted to Buddhism after experiencing personal revulsion in the aftermath of his bloody conquest of Kalinga. Thereafter he prohibited any form of killing and encouraged human treatment of all peoples and animals. The Tibetans were blood thirsty and warlike before conversion to Buddhism. Likewise, their neighbours the Mongols, the missionaries subsequently transformed them into one of the most peaceful peoples of Asia. So we should work on the systematic extension of compassion towards others. From the level of our own minds, to our Speech and then our actions, we can work on generating compassion to those who are closest to us, the members of our families and their progressively extend our compassion to our communities, countries and the entire world.</p> <p>Conclusion :-</p> <p>Buddha, his rational approach, his moral emphasis and his psychological discipline still hold the ground and attract the attention of great thinkers and leaders of thoughts all over the world. The ideal of the Bodhisattva is to voluntarily return to our world of suffering, life after life to teach the Way to permanent inner peace, which is the only way to true peace in the world.</p> <p>That is the relevance of Buddhism not only in modern life, but in all life. We try to pay attention to our emotions, our attitudes, and the projections we are making, which are the bases for the attitudes. We analyze the compulsiveness of our thinking, speaking, and acting. That compulsiveness is brought on by the projections we are making, and we try to apply deconstruction methods to see more clearly the reality of what is going on. In this way, Buddhist science and philosophy are relevant in daily life to minimize the suffering that we cause ourselves. As we experience the up and downs of being happy and then being unhappy in our daily life, we try not to be like a thirsty person. When we are happy we enjoy it while we have it, because it will not last. But we do not make a big deal out of it – we just enjoy it for what it is. And if we are unhappy, we remember that everyone is unhappy sometimes – it is quite normal. We just continue doing whatever it is that we need to do, and in this way we go through life without inflating the importance of anything that happens. In other words, we refrain from inflating situations with our own projections. In that way, life becomes very joyous, because when we are not totally preoccupied with "me" and what I want, then we can see the joy in all the everyday, little things of life.</p>		
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Literature, Identity and Culture: A Review

Dr.S D Thakare



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

Literature, Identity and Culture : A Review

Dr. Savita D. Thakare

Introduction

The nature of textual creation from a blank page - of all creation, really - is an exercise in identity politics: Each entity fashioned depends on inclusions and exclusions. Thus literary texts achieve selfhood via the delicate balance of their various constituent parts - just as humans are products of their DNA. So are literary texts, the result of the countless phenomena occurring between their covers. They are unique entities, themselves possessing a sort of identity to which we bring our own experiences and resultant identities, therewith interacting to produce a distinct and original product, our individual, respective interpretations of a text.

From the emergence of the term Utopia in Thomas Mores book of the same name, many controversial and prolific discussions have appeared throughout time. These discussions involved not only cultural and sociological aspects, but also those concerned more with the inner dimension of the self: his desires, ambitions and transformations. What More really meant by using this term we have no certainty, because in it he refers to several different factors that have an effect in the life of the island portrayed in his book. In opposition to Utopia, meaning "a happy place where a person has nothing to worry about because his/her government provides everything they need", there is Dystopia, which could be defined as "a society being controlled by a repressive state, in both individual and collective ways".

Anna Blume in Paul Auster's "*In the Country of Last Things*" immersed in a dystopian city nearly to be extinguished and conditioned by spaces that exert powerful forces on the prevalence of the self. Hence, literature serves as a conduit not only to the world in which an author writes but also to our very selves. Naturally, this idea of self - of who we are - plays an important role in the dissection of literature.

"Identity refers to" the collective aspects of the set characteristics by which a thing is definitively recognizable or known". In other words, what makes a person unique or distinctive. "Identity" as a theme can be somewhat problematic concept, however, because authors and poets often construct complex and unfathomable characters. Writer will often construct characters who perform a false identity; Villains such as Shakespears Iago, for instance. A persons identity can be determined by their self-conception as well as their social presentation, how they behave within civilization.

Thus it is important for us as a reader to contemplate the contextual background of a literary text because it is this that determines what would have influenced the norms of behaviour and therefore, a strong indication of why an author, poet or playwright would construct their characters in the way that they do. Furthermore, the construction of identity may be influenced by stereotypical views of a characters, gender or culture, for instance, and writers often choose to complicate their plotlines by transforming a characters identity.

Identity : Coming to know One's self through literature

In this time of great change, emotionally, psychologically and physically, we should be able to feel comfortable with our metamorphosis. Adolescents should be given the opportunity to understand and comment on their own change as well as the change of others through reading, discussing, writing, research and other forms of expression. Reading literature that addresses these great changes opens the door for a dialogue between readers or researchers on difficult topics related to the formation of identities.

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Often one's identity is formed from a combination of these many different identities. This unit will look at literature, some of which is written by young adults, that addresses the idea of living or developing several different identities – some of the works are written about individuals whose identity is partially decided by society, and the individual must negotiate this identity. “*Whoever Tells the Story of Her Adolescent Childhood*” by Elizabeth Gorey, a young adult writer. This poem will give us an opportunity to see the importance of one's identity and the way in which we negotiate how our identity is seen to society at large. The character in the poem is confronted with the opportunity to ignore her true identity or to embrace it. The poem deals with this struggle.

It is important to realize that part of our identity is related to our own culture and our interaction with other cultures. Many different cultures mix in our society today, so we must look at our own identity in relation to our culture as well as our identity with other cultures. Another multicultural work is Amy Tan's “*Fish Cheeks*”. In this short memoir Amy Tan must deal on both sides of the chasm between the identity of her Chinese family and the American identity she is attempting to create. Teens often find themselves in conflict with their parents – their culture identity. “Youth from a cultural minority have an especially difficult time forging an identity when the values of their culture may clash with the values and standards of dominant culture” (Irvine 23). A great deal of this conflict erupts out of the conflict they are experiencing between these two cultural identities.

Culture, Identity and Interaction in Literature Classroom

The teaching of literature and literary history has been narrowly linked to the building of a nation state and the development of a national cultural identity during the 19th century.

Within literature studies the question of culture is often linked with the national identity of the author, the social, ethnical or religious background of the student and with the literary text as a cultural artifact. But the underlying concept of culture which has formed the curriculum of the research field seems too static to hold the complex situation in the literature classroom where different cultural practices and contexts of understanding meet and interact.

Culture takes many forms in literature classrooms, and each perspective on culture is connected with special pedagogical aims and interests. But another way of seeing culture in literature classrooms is to turn the gaze to the world-views, values and discourses involved in the learning making processes, and to the search for a common ground for interpretations. The pedagogical goal will then slightly change because this focus points at reflections on reality conditions and frames of interpretations.

Identity in Literature

Identity is a strong premise in many literary texts, possibly because a writer must always construct several identities in order to produce interesting characters. In William Blake's poetry, for instance, he exploits his romanticist views and synthesises his concerns with individualism by constructing identities which highlight his ideas. Throughout his works “the representation of various cultural myths and identities” are used to exemplify his disapproval of circumstances which he held strong opinions about. In the Nineteenth-Century, realist novel, *Silas Marner*, by George Eliot, the theme of identity is explored in a different manner. The protagonist lives as a social recluse because he does not conform to the idyllic identity which the community constructed. Thus, Eliot focuses her novel on Silas Marner reconstructing his identity as an outsider.

In one poem from the collection, titled “*Infant Joy*”, Blake not only focuses on the gift of life but also deals with the lack of identity that comes with a new-born child. The new-born

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could be seen, metaphorically, as a blank canvas because of its lack of experience. Thus, it allows Blake to construct an identity purely on his ideals, rather than something which has been influenced by its encounters.

In his epic poem, *Beowulf*, Seamus Heaney presents the literal interpretation of identity by discussing who his characters are and where they came from, their patriarchal history, for instance. In medieval Scandinavia, family lineage was a vital influence on an individual's identity and due to the fact that Beowulf comes from a long line of royalty, he is highly respected. This concept is explored throughout the poem and it is evident that characters cannot be introduced without a mention of their family lineage.

Heaney constructs an identity for his characters, not only based on their family lineage, but also through the enhancement of their reputation. The characters attempt to create a solid positive representation of themselves, often by boasting of their achievements and exploits. The lines "Anyone with gumption, / and a sharp mind will take the measure of two things: what's said and what's done" highlight the importance of every action in medieval Scandinavia, what they say is equally important as what they do, forever developing their status. This desire to be renowned is perhaps a method of ensuring that one's individual identity will remain, even after death.

Conclusion

Across several forms of literature, the theme of identity is prominent because characters work as the basis to a text and shape the plot. No matter what point in history a text was written, it is always important for readers to scrutinize a character's identity and consider why they are the way they are and why they behave the way they behave, thus grasping a more through understanding of the overall content. Teaching literature benefits from a double concept of culture, which embraces authors, texts, students backgrounds and different cultural contexts of understanding. A dynamic concept of culture in empirical classrooms implicates reflections on the framing of classrooms dialogue, negotiations of reader identities, and highlights interaction in literature pedagogy.

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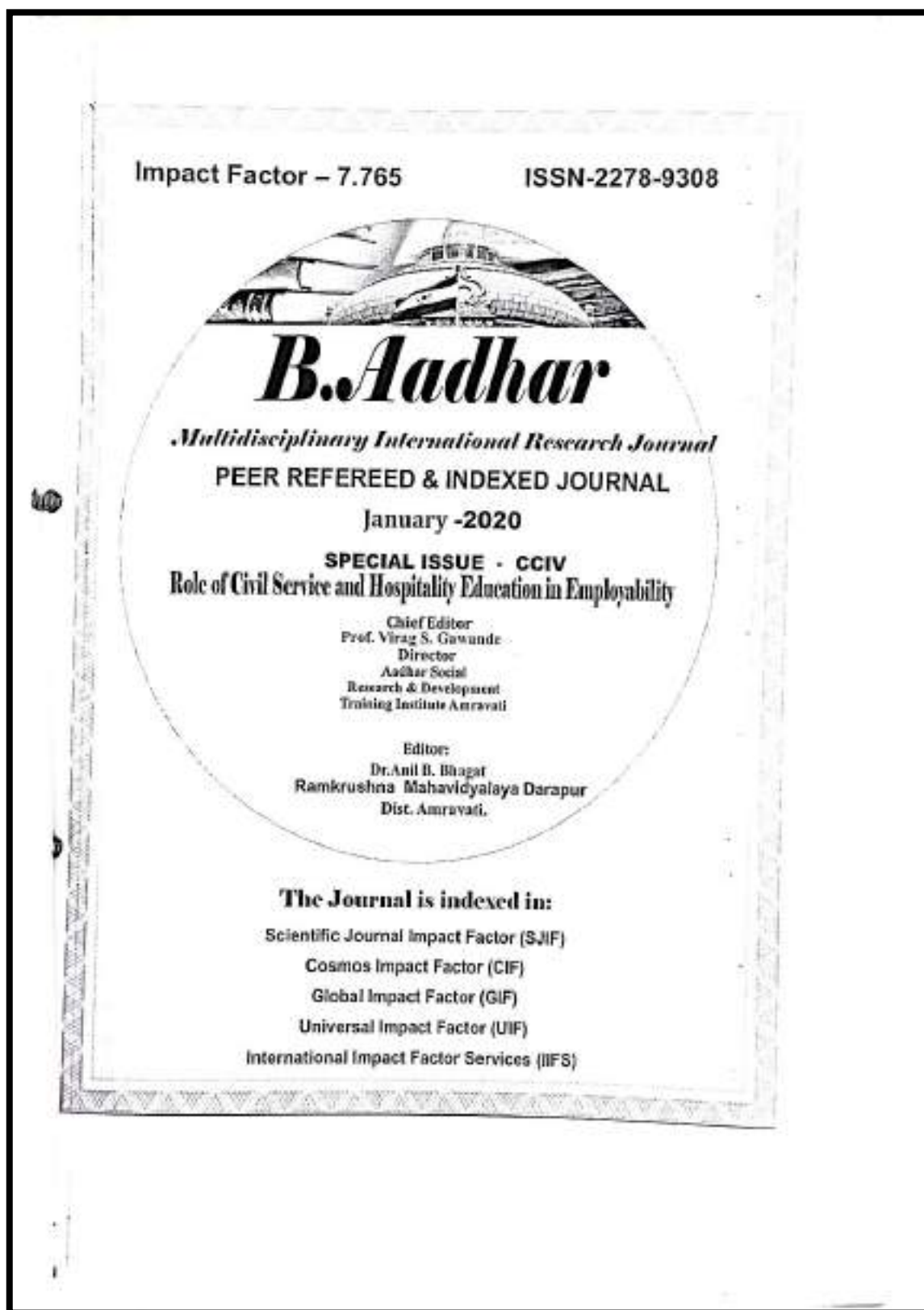
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Effective Ethics, Accountability and Challenges in Civil Services

Dr.S.D.Thakare





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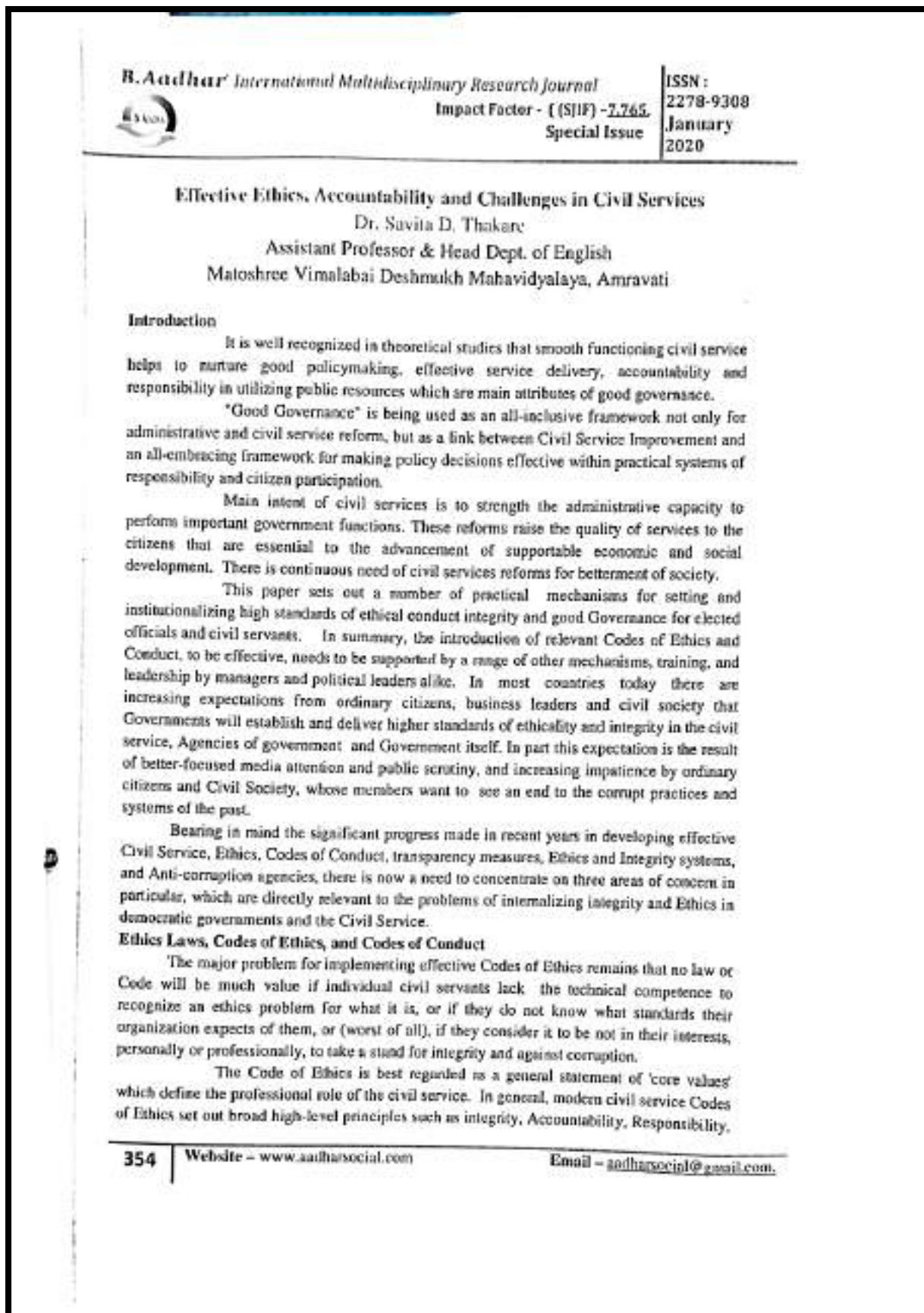
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Trustworthiness, etc., but give little attention to how these principles are to be applied in specific circumstances. By contrast, Codes of Conduct usually set out specific standards of conduct expected in a range of realistic circumstances, representing a particular organization's preferred or required interpretation of the core values or principles which are seen as important to its work.

The new generation of civil servants born after the 1960's could not be assumed to share the same 'core values' of their predecessors, or alternatively, the civil service of the 1980's was very different from that of the 1970's, and was changing rapidly, so that 'core values' became harder to assert with any certainty.

Most modern Civil Service Ethics laws, and Codes of Ethics for civil servants and public officials, endorse the following minimum set of principles : Serving the Public interest, Transparency, Integrity, Legitimacy, Responsiveness, Efficiency and Effectiveness.

In general, whistle blower protection laws require government agencies to provide appropriate and effective administrative procedures for making a public interest disclosure, and for ensuring that the identity of the discloser is kept confidential to the maximum extent possible consistent with the effective investigation of the disclosure.

Government organization are also required to provide an appropriate and effective procedure for ensuring that a person who makes a public interest disclosure is protected from reprisal. For example, the law can provide that a person who discloses improperly the identity of a person who has made a public interest disclosure commits an act of misconduct if the person is a civil servant or public official, or a breach of the Criminal Code if the person is private citizen.

The restriction of protection to disclosures made to a 'proper authority' effectively prohibits disclosures to the media. The restriction of protection to disclosures which are reasonably believed to be true is intended to discourage malicious attempts to damage reputations. No person should be able to disclose the identity of a whistleblower without proper authority. This is important to ensure that the protections available to the person who discloses wrongdoing are effective.

To enhance accountability in civil services, experts have recommended following measures :

- Strengthening and streamlining reporting mechanisms
- Streamlining and fast-tracking departmental enquiries
- Linking performance with incentives
- Overhaul of employee grievance
- Action on audit findings
- Code of conduct for civil servant
- Lack of expertise and poor capacity building
- Alienation from the public and they do not have good understanding of what people want.
- Inefficient incentive systems that do not appreciate upright and outstanding civil servants but reward the corrupt and the incompetent.



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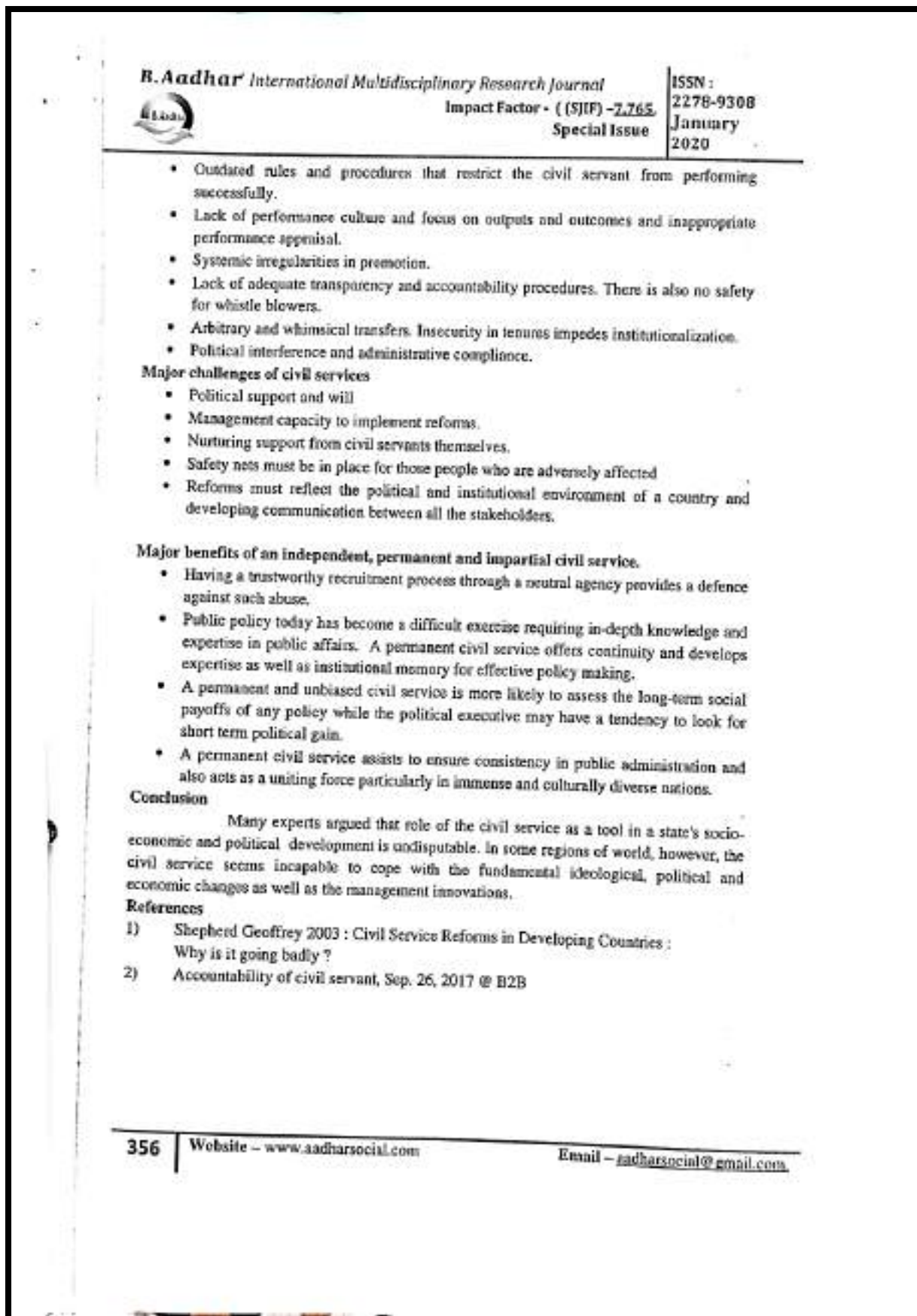
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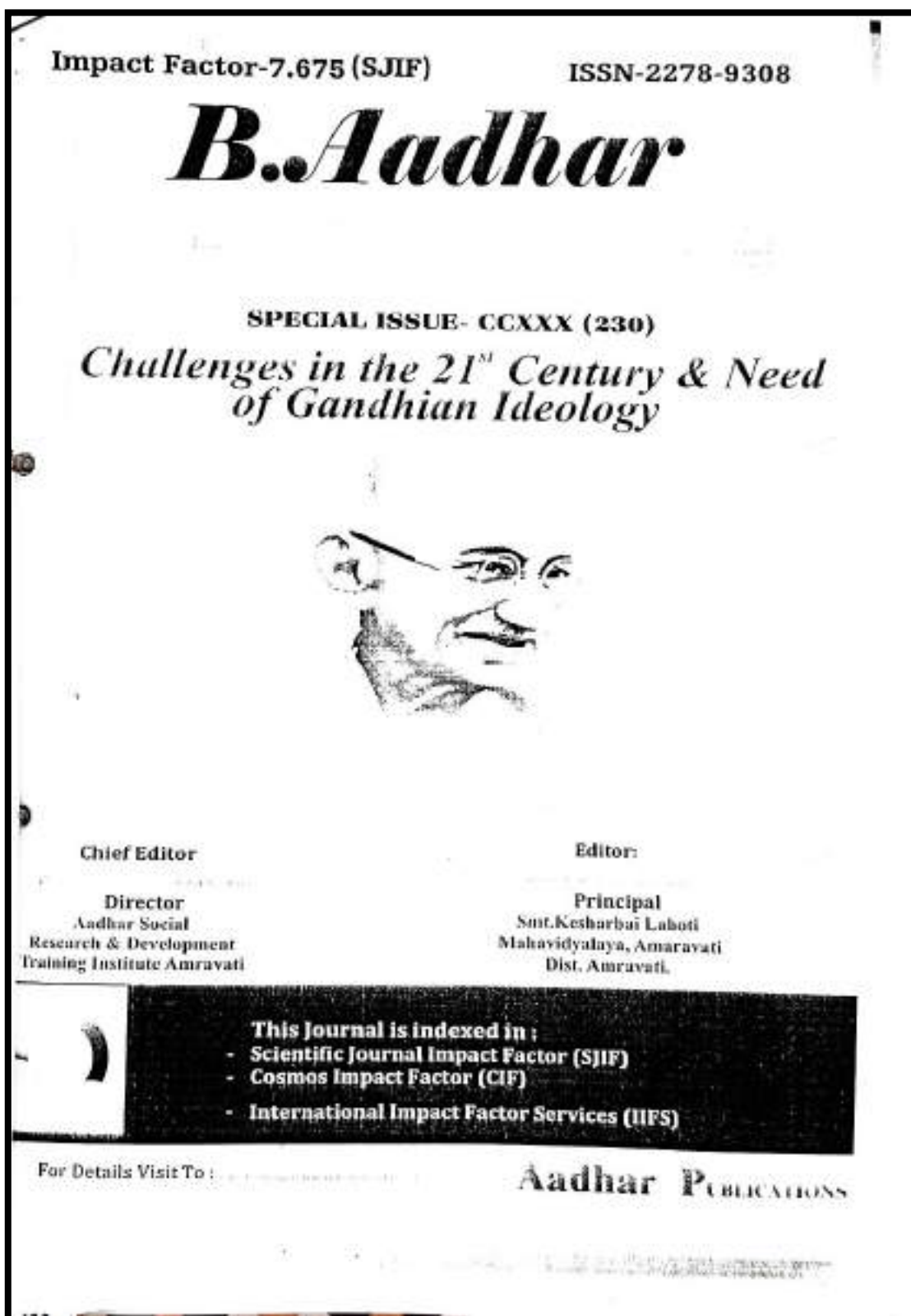
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Gandhiji's Impact on Post Colonial Literature

Dr. S.D.Thakare



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<p>Gandhiji's Impact on Post-Colonial Literature Dr. Savita D. Thakare Asst. Prof. & Head Dept. of English Matoshree Vimalabai Deshmukh Mahavidyalaya, Amravati</p>		
<p>Introduction :</p> <p>Mahatma Gandhi, the saint revered by the world without a doubt, has left a great mark on Indian Literature and the literature produced in the 'golden age' of Indian prose fiction glorifies his ideology in a very great breadth.</p> <p>In the field of literature, numerous writers motivated by the principles of Gandhian ideology have inscribed a seal in the stream of literature. They brilliantly expressed a realistic atmosphere of society by creating wholesome and standard literary types. During pre-independence period society witnessed a high voltage wave of revolution in each and every field. There is hardly any area in the pre or post independence era that he had left untrammelled for the sake of Indian development and independence. He has influenced every aspect of human consciousness and there is hardly any discipline that he has left uncommented. Whatever Gandhiji's influence may have been on political and economic spheres of the country, there is hardly any doubt that he has left a deep impression on our literature. Though he himself never worked on any literary topic or genre, he is mine of themes for writers and commentators. The inspiration and influence which our literature of all languages have imbibed from him is well noted in the theatre, folk activities and literary writings based on his life, preaching and ideologies and ofcourse his welfare activities nationwide. Gandhiji insisted on high thinking and simple living.</p> <p>There are indeed only a handful of iconic personalities who have caught the imaginations of as many writers as Gandhi has. And one is wonderstruck at the diverse set of books that have been written on him or are inspired by him. Even 70 years after his death, the process has not stopped, but only gained momentum.</p> <p>From Mulk Raj Anand to Sarojini Naidu, Dominique Lapierre to George Orwell and Khuswant Singh to V.S. Naipaul, almost all "during-Gandhi", "post - Gandhi" and contemporary writers have somewhere referred to the life of "Bapu" in their works.</p> <p>Gandhiji was so much part and form of any literary genre of that period that he made appearance in many dramas, novels, stories and in poems.</p> <p>Gandhiji's social activities were development oriented and his idealism was democratic, rural and homogeneous in nature. It was not only the literary writers who played an active role in reflecting the then Gandhi-mania of the entire country but also the nationalist Press and local newspaper and journals which portrayed the bhakti cult of the Mahatma through different anecdotes, feature articles, soft news and of course, snippets, thereby proving the immense popularity of the political figure who was slowly turned into a divine entity, a messiah who was sure to bring a revolution in human history as Buddha or Christ could. Newspaper like the 'Swadeshi', 'Aaj', 'Abhyudaya', 'Gyan Shakti' and local dailies, pamphlets etc all contributed accordingly and respectively in portraying the local reactions in favour of Gandhiji and thereby popularizing him. The myth of the Mahatma was a result of the projections of the existing patterns of popular beliefs about the worship of the holy miraculous suges in rural India. Gandhi-teachings became so popular that they were pronounced as everyday bread and butter facts and the more they got discussed the more did they gain in importance, magnitude, and matter. As a result of this many new things got assimilated in the name of the Mahatma and rumors made room in accordingly, thereby increasing his popularity by leaps and bounds, that neither the Mahatma nor the Congress circulated. Stories like Mahatma walking through the fire</p>		
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unhurt, the Mahatma bringing independence in 1921, Mahatma insisting vegetarianism and condemning fish and meat in people etc. were some common subversions made in Gandhi's name.


The writers of this era were also influenced by his philosophy. Raja Rao, R.K. Narayan and Muk Raj Anand were the significant writers of this period and they were considerably influenced by the philosophy of Gandhi. Raja Rao's *Kanthapura* is testimony to this and R.K. Narayan's novels *Waiting for the Mahatma*, *The Financial Expert*, *The Vendor of Sweet* and *The Guide* and clearly delineate the influence of Gandhian values.

The story of *Waiting For The Mahatma* delineates the struggle for freedom and through the heroine Bharti and Sriram, Narayan depicts the common persons taking part in freedom struggle which forms the backdrop of romance between the two. The revolutionary ideas of Mahatma Gandhi are contrasted with the conservative ideas of the locals. The locale is the same like his other novels i.e. *Maigudi*, the fictional town. The influence of Gandhiji is quiet noticeable when Shriram believes in the sanctity of Khadi when a shopkeeper at salour, asks Shriram to have biscuits when he purchase two plantain and a bottle of soda. He was travelling in connection with Quit India Movement

The Vendor of Sweets depicts Jagan leading his life in accordance with Gandhian principles. Jagan is a man of high principles. He is proud of his son, Mali. He recites The Bhagwad Gita to his minions, spins the wheel. He goes by the word but not by the spirit. He thinks he is leading his life according to Gandhian principles. Later, he becomes aware of his shortcomings and tries to live by the message of The Bhagwad Gita. He says to his cousin "conquer taste and you will have conquered the self". said Jagan to his listener, who asked, "why conquer the self?" Jagan said, "I do not know but all our sages advice us so." (7). He tries to influence Mali to lead his life according to Gandhian philosophy but to no avail. He has to bear the consequences of his karma and he lands himself in jail for drunk driving. Jagan realizes that all his life he had been chasing false ideals. He realizes that his salvation lies in realizing the ultimate truth. Jayant K. Biswal thinks that it echoes Rosie's idea of Karma and he must suffer for his Karma (27). Jagan may not be successful in his goal but he starts his quest for the truth. The theme of attachment and its consequences is prevalent throughout the story.

In *Untouchable* Mulk Raj Anand gives Gandhi a place towards the end. According to K.R. Srinivasa Gandhi is too big to be given a minor part; on the other hand, he is sure to turn the novel into a biography if he is given a major or a central part. The best thing according to him for the contemporary novelist would be to make his influence felt indirectly. Mulk Raj Anand has delineated the plight of a person belonging to lower caste in his novel. Gandhiji was agonist the exploitation of people in the name of caste. M.R. Anand has explored various ways of abolishing this evil but the protagonist finds Gandhi's solution to the problem the most acceptable. Gandhi called these people Harijan which means people of God and wanted that there should be no exploitation of people. He was against the caste system. The Gandhian principles and the direct and indirect influence of his philosophy finds place into the works of these novelist and gives an aura of historical authenticity to these works. The inspiration and influence which our literatures of all languages have imbibed from his is well noted in the theater, folk activities and literary writings based on his life, preachings, and ideologies and of course his welfare activities nationwide. Such a medium produced an immediate feedback from the audience from all parts of the country, as things got well assimilated into their hearts and minds, and the whole of India could respond unitedly at his call. The anti-Gandhians might feel the above view as biased and unreal but it is a veritable truth that Gandhiji was represented as a sage by the Indian Congress in its political campaigns, policy wise and his accessories esp. the lion cloth, his stick and very nominal life style were modes that themselves spoke for the Mahatma and helped in establishing him as a saintly preacher and a sincere freedom worker. This worked havoc in the Indian minds especially in the village folk, who were basically religion bound and not at all conscious about the then political and economic domination of the country.

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<p>Conclusion:</p> <p>Indian history never saw such an upsurge of faith, unity in action, united will, community feeling and social development, without any expensive spending as in the Gandhian Age from the grass root level. He himself was a means of communication for the people between the British and the Indians, as he had a well formed conception about the motherland and her people, their needs and their mind set which helped him to attain millions of disciples and act as a positive social worker with the help of traditional ways of communication. Scopes for further research lies in the fact whether Gandhiji's motives, ideals, teachings etc. and their consequences were right or not but it must be undoubtedly concluded that nothing but such tactful means of communication through the Folk media them realize the need for change and self-development. It was my sincere effort to unveil the logic behind Gandhiji's use of myths, puranas, harinaam-keertans and padayatras as primary tools behind his freedom campaigns and what effects they produced in the minds of the people together with how he could bring certain and ideological betterment in the villages, their social life and attitude towards life, at least as portrayed by the the-then literary writers.</p>		
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राष्ट्रसंत तुकडोजी महाराजांचा ग्रामरक्षक मूल्यात्मक दृष्टिकोन
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डॉ. मंदा माणिकराव नंदुरकार
मातोश्री विमलाबाई देशमुख महाविद्यालय, अमरावती


श्रीतशब्द: राष्ट्रसंत तुकडोजी महाराज, ग्रामरक्षण, मूल्ये, दृष्टीकोन
श्रींशब्द:

छात्र भारत हा खेडपामध्ये वसलेला आहे. परंपरागत व्यवसाय करून ग्रामीण भागात उदरनिर्वाह करून घेणे स्वराज्याचे व सुराज्याचे सर्वोपेत धान ठेवून ग्रामोन्नीतनाडे राबवण्याचे, इतरांचे राष्ट्रसंत तुकडोजीमहाराज हे खऱ्या अर्थाने राष्ट्रसंत होते. गावाचा विकास साधावण्याचा असेल तर गावातील समस्यांचे निराकरण करावयास हवे असे राष्ट्रसंत म्हणतात, तर सार्वजनिक मूल्यांचे जतन करून दुर्जनांचा प्रतिकार केल्यास गावाचा विकास होतो. संघटना, एकतेचे महत्त्व ग्रामरक्षकांना कसे महत्त्वपूर्ण ठरते हे शुद्ध राष्ट्रसंत तुकडोजी महाराज आपल्या विचारातून घटवून देतात. दया-दान-धर्म या संदर्भाने सज्जनांचे संरक्षण व दुर्जनांचे निर्दोषण हेच खरे धर्मनिरपेक्ष असल्याचे राष्ट्रसंत सांगतात. सार्वजनिक व दुर्बलेपणा यातील फरक ओळखता यावेत हेच, गावातील सहकार्याची भावना याहीच सावण्याबद्दल व ग्रामोन्नीची निर्मिती केल्यास ग्रामोन्नी सशक्त होते असे ज्योत्सल विचार आपल्या चाखीतून व कृतीतून राष्ट्रसंत तुकडोजी महाराज सांगतात. प्रस्तुत शोधनिबंधात राष्ट्रसंत तुकडोजी महाराजांचा ग्रामरक्षण विषयक मूल्यात्मक दृष्टीकोन व संदर्भाने विचार केलेला आहे.

प्रस्तावना :

भारत हा खेडपाचा देश आहे अर्थात खेडपत राहणाऱ्या लोकांचा जीवनआधार हा शेती आहे. त्यामुळे जवळी शेतीला संरक्षणी ही दुर्धनित संरक्षणी आहे पूर्वी खुलासम सुधनसयज अशा सुधन समस्येच्या आमच्या पूर्वकांची होती, म्हणूनच तर ते जवळपाचे इतर शेत, मध्यम व्यापार वन धनित घाफने, त्यांचा जवळपास आत्मसन्मान होत त्यानंतर खेड प्रदलता आरता स्थलांत निळाले. तिथल्याच प्रचर आणि प्रचर ज्ञाना बदलत्या काळातूनसार भावसांचे जीवन शेती बदलली, भौतिक मूळापासोखडी भडाखेड सुधन इतले, श्रेष्ठ जनिणदात्याचे निवड वल्ले, इतरपट श्रीमती बदलल्यात पंखर काम करवाय शोषण राबवारा सामान्य माणूस त्यांच्या श्रमाला प्रतिकार दिली नाही. रकताचे फागी वन इडाचे यगी करून शेतात मोठी निश्चिंता दान झाला, गेल्या दशकात महाराष्ट्रात आर्थिकतेच बदलल्यास हजारी शेतजनांची आपली जीवनयात्रा संपविली. शेतकऱ्यांच्या शोषण करणाऱ्या अनेक समस्या आगही जितल्यात आहेत. या कष्टकरणांना शेतकऱ्यातून मुक्त करणाऱ्या राष्ट्रसंतजींनी ग्रामोन्नीतलेत एकंधलीस अध्यायाच्या माध्यमातून सामान्य उच्चय सुधनिते आहेत. महत्त्वा गागी वनी घडिलेले समस्येचे स्थान प्राथेक याच स्वधेपुर्ण व समस्येने सुधी याचे हे राष्ट्रसंतजींनी ग्रामोन्नीच्या ओपीओपीतून मांडण्याचा प्रकल केला आहे. राष्ट्रसंतजींचा ध्यास हा ग्रामोन्नीकरलेवर होला. ग्रामोन्नीत लोकांनीनाचे प्रतिबंध उमटले आहे. ग्रामोन्नीची रचना ओपीओपी असून त्यातील ओपीओपी ४६७५ इली आहे. सामान्यजनांना सल्ल आकलन याचे म्हणून सहज सोप्या आणि ओपीओपी भावनेतील राष्ट्रसंतजींनी ग्रामोन्नीची निर्मिती केली. ग्रामोन्नीत एकूण एकंधलीस सध्या असून त्याची विभागणी आठ पंचकात केली आहे.

छात्र भारत हा खेडपामध्ये वसलेला आहे. परंपरागत व्यवसाय करून ग्रामीण भागात उदरनिर्वाह करून घेणे स्वराज्याचे व सुराज्याचे सर्वोपेत धान ठेवून ग्रामोन्नीतनाडे राबवण्याचे, इतरांचे राष्ट्रसंत तुकडोजीमहाराज हे खऱ्या अर्थाने राष्ट्रसंत होते. गावाचा विकास साधावण्याचा असेल तर गावातील समस्यांचे निराकरण करावयास हवे असे राष्ट्रसंत म्हणतात, तर सार्वजनिक मूल्यांचे जतन करून दुर्जनांचा प्रतिकार केल्यास गावाचा विकास होतो. संघटना, एकतेचे महत्त्व ग्रामरक्षकांना कसे महत्त्वपूर्ण ठरते हे शुद्ध राष्ट्रसंत तुकडोजी महाराज आपल्या विचारातून घटवून देतात. दया-दान-धर्म या संदर्भाने सज्जनांचे संरक्षण व दुर्जनांचे निर्दोषण हेच खरे धर्मनिरपेक्ष असल्याचे राष्ट्रसंत सांगतात. सार्वजनिक व दुर्बलेपणा यातील फरक ओळखता यावेत हेच, गावातील सहकार्याची भावना याहीच सावण्याबद्दल व ग्रामोन्नीची निर्मिती केल्यास ग्रामोन्नी सशक्त होते असे ज्योत्सल विचार आपल्या चाखीतून व कृतीतून राष्ट्रसंत तुकडोजी महाराज सांगतात. प्रस्तुत शोधनिबंधात राष्ट्रसंत तुकडोजी महाराजांचा ग्रामरक्षण विषयक मूल्यात्मक दृष्टीकोन व संदर्भाने विचार केलेला आहे.

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<p>बिमानवांचल विक्रि दिली व त्याने ती दाह, गानात ज्वर केली तर ती दया भाडी कामाची तरवार नाही. दिवसा सधुवा चेा परिधान करणे व खोला घोरी करणे अशा व्यक्तिवर दया दाखवून साधू भयून सोडून देणे गावाच्या हिताचे तरवार नाही. तातपर्ये असे की, मनुष्यांच्या अंगी चांगुलपण असताच जेव्हा त्याचा अपसंग तारतम्य ठेऊनच केला पाहिजे. अन्यथा समकालीन भौंडू लोक भोळक जनतेच्या श्रेयातू भावनांचा गैरफायदा घेतात म्हणून राष्ट्रसेतेच्या मते सज्जनचे संरक्षण व दुर्नर्नाचे निर्दालन हेच खरे धर्मोपदेश आहे. साहित्यक आणि सात माणूस कोलाकतूनही फलविल्या जात नाही. फक्तिया त्याला आवडत नाही आणि परदुःख पाहून त्याला दुःख होते. अडकलेल्यांना तो प्रसंती मदत करतो. पाठिमागी कौभाची निदा मालसुती करता नाही. जे कौलापर्ये ते त्यांच्या तोंडावर बोलतो. तो निर्णय आचुन त्यांचे अंतःकाया स्फटिकासखे निर्पेक असते त्याला अस्वच्छता मूळीय आवडत नाही. चांगल्या लोक्यांची स्तुती करून त्यांच्या सहयात सामाव्यातून तो भटपडत असतो. सर्वेसा वंपुषावाने चांगून कोशल्याने लोभजोड करून जनवामुलीचे कार्य करता तो निर्णय आणि संकटाला न घबरणारा असतो. हाच खरा शांत व सल्लिचक पुरुष होय असे पुरुषच गावाचे हित साधतात.</p> <p>गांव संघटनेच्या कार्यावर प्रकटा टाकताना राष्ट्रसेत संघटनेद्वारे गावात व्यावहारिके कार्य करावे, कोणत्याही अन्वय होऊ देवू नवे असे सांगतात.</p> <p>परस्पराना मदत करावी अटीअटधर्मी तो निमवाचो सर्वांकडुनि कांनि घ्यावी योग्य सेवा</p> <p>सहकार्यांचे उदरगत देणांन राष्ट्रसेत सांगताना सवाजप्रत्ये पध्यादा ज्वरनीच मुलामुलीचे जग लागू असेल तर वा कार्यावलिता आपले काम सोडून सर्वांनी धवून यावे, सर्वांनी मदत करावी अशी सेवा प्रत्येकाने आधरली तर गावात कोनासाही कलाधोही कमी पडणार नाही. असो सहकार्यांची भवना प्रत्येक गावात राष्ट्रसेताना अर्पित आहे.</p> <p>गावावर येणारे संकट रोकाव्यासखी गावामध्ये प्रामसेना निर्माण करव्याचे राष्ट्रसेताना सांगितले आहे.</p> <p>निष्कर्ष</p> <ul style="list-style-type: none"> • सत्य हे मूल्य अंगिकारल्यान गावाचा विवरस होणे • सज्जनचे संरक्षण व दुर्नर्नाचे निर्दालन सत्य व दुर्लभ हा फरक ओळखता आल्यास गाव सुंदर बनता पोते आहे राष्ट्रसेत तुकडोनी प्याराज म्हणतात. • प्रामसेतनेच्या माध्यमतून गावाला वैभव प्राप्त होऊन स्वगांतील नदनबनाचे स्वरुप प्राप्त होऊ शकतो असे राष्ट्रसेत तुकडोनी प्याराज म्हणतात. <p>संदर्भ</p> <p>प्रामसेत संघटक सुदाम सावरकर, श्री. गुलनेज इमामीना प्रालिप्यन</p>		
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लोकशाहीत आणाभाऊ साठे यांच्या लोकनाट्यातून आविष्कृत होणारे समाज प्रबोधन –

Dr. M.M.Nandurkar

शा.प्र.नि.प्र.ध.

**लोकशाहीर अण्णाभाऊ साठे यांच्या लोकनाट्यातून
आविष्कृत होणारे समाजप्रबोधन**

डॉ. मंदा माणिकराव नांदुरकार
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बीज शब्द : लोकशाहीर अण्णाभाऊ साठे, लोकनाट्य, समाजप्रबोधन.

सारांश-

अण्णाभाऊ साठे मराठीतील महत्त्वाचे साहित्यिक, दर्जेदार शैलीकार, साम्यवादी विचारसरणीचे प्रवर्तक, शाहीर वाङ्मयाचे विपुल लेखन करणारे, लावणी व पोवाड्याला नवे रूप देणारे, कथा-कादंबरी, नाटक, प्रवासवर्णन आदि चतुरस्र लेखन करणारे प्रतिभावंत लेखक शाहीर वाङ्मयाला परिवर्तनवादी प्रबोधनरूप देणारेच नव्हे त्यात मन्वंतर घडवणारे, तमाशाचे लोकनाट्यात रूपांतर करणारे अर्थात् नव्या शाहीरी वाङ्मयाचे जनक ठरतात. अण्णा भाऊ साठे यांचे आयुष्य आणि साहित्य सामाजिक बांधिलकीची यथार्थता सिद्ध करणारे दिसून येते. दलित, शोषित, पीडित यांनी आपल्यावरच्या अन्यायाचा प्रतिकार करावा, तो स्वतः सुरक्षित होऊन, सुसंस्कृत होऊन संघटितरीत्या समर्थ होऊन-ही अण्णा भाऊ साठे यांची इच्छा साहित्यातून प्रकट होताना दिसून येते. अण्णा भाऊ साठे हे लोकनाट्याचे प्रवर्तक आढळतात. त्यांच्या लोकनाट्यातून तत्कालीन समाजाचे प्रतिबिंब दिसून येते. डॉ.सदा कन्होडे म्हणतात, परंपरागत तमाशाची सुरावट घेऊन अण्णाभाऊंनी शाहीरीची नवी सजावट केली. या अर्थाने की पोवाडे, लावण्या, गीते, गण, बर्ग इत्यादि तेवढे रचनाजंघ त्यांनी स्वीकारले परंतु त्यात नवा आशय भरला. हा नवा आशय समकालीन होता, वास्तवाधिष्ठित होता तसेच भविष्यदर्शीही होता. त्यामुळे या परंपरागत कलेला नवी प्रतिष्ठा मिळाली. शाहीरीची ही नवी सजावट लोकनाट्य या अर्थपूर्ण नावाने ओळखली गेली. शाहीर अण्णा भाऊ साठे यांचा कलावंत म्हणून आदर करायचा तो लोकनाट्याचे प्रवर्तक म्हणूनच. समाजपरिवर्तन आणि क्रांतीसाठी लोकसंजनापेक्षाही लोकशिक्षणाची आवश्यकता म्हणून अण्णाभाऊंनी लावणी व तमाशा या रंजनकलांना लोकशिक्षणाकडे वळविलेले दिसून येते. लोकनाट्यातून शेतकरी-कामगारांच्या समस्या, अडचणी, दलित पीडित शोषितांच्या व्यथा वेदना या सर्व अण्णाभाऊंनी चटपटीत आणि हृदयस्पर्शी संवादांतून श्रोत्यांनुद्दे मांडले. ग्रामिकांच्या एकजुटीचे सामर्थ्य, अन्यायाचा प्रतिकार करू शकणारी

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संगठित शक्ती आणि विश्वभतेच्या पत्तीकडे पाहणारा साम्यवादी विचार त्यांनी जनतेपुढे ठेवला. लोकनाट्य या लोककलेला कालानुरूप करून अण्णा भाऊ साठे आधुनिक लोकनाट्याचे जनक ठरतात.

लोकशाहीर अण्णा भाऊ साठे हे मराठी वाङ्मय व समाज परिवर्तनाच्या वाटेवरील दीपस्तंभ होते. अंधाराची अक्षरे हाती घेऊन प्रकाशाचे दान वाटणारे महान कलावंत होते. अण्णा भाऊ हे गायक, नट, शाहीर, नाटककार, लोकनाट्याचे जनक व जीवनवादी कथाकार होते. अण्णाभाऊंची वृत्ती विधायक व लोककलावत् जीवनवादी ठरते. भ्रमानुभवाप्रमाणेच साम्यवादाचा अण्णाभाऊंनी केलेला स्वीकार हे त्यांच्या व्यक्तिमत्त्वाचे व पर्यायाने वाङ्मयाचे विलोभनीय वैशिष्ट्य ठरते. ते साम्यवादी व कम्युनिस्ट पक्षाचे पुरस्कर्ते होते. मार्क्स, लेनिन, एंजल यांच्या विचारांचा प्रचार त्यांनी जाहीरपणे केलेला दिसून येतो. अण्णाभाऊ साठे यांची सामाजिक बांधिलकी अतिशय तीव्र आढळते. १९४२ साली बंगालमध्ये दुष्काळ पडला. अण्णाभाऊंनी त्या परिस्थितीवर 'बंगालची हाक' नावाचा पोवाडा लिहिला. अण्णाभाऊंवर लिहिलेल्या मृत्युलेखात शाहीर अमरशेख म्हणतात, शाहिरात जनमन सागरात सर्वभर संचार करून नव्हे तर त्यांच्या तळाचा ठाव घेऊन त्यात चाललेल्या भावनोद्रेकाचा आविष्कार आपल्या लेखणीच्या लालित्यपूर्ण ढंगाने व्यक्त करून अथवा जनमानस हेलकावूनच नव्हे तर त्या सागराच्याच कणाकणाला ऊब देऊन त्यांच्या लाटांवर आरूढ होऊन गगनालाही गवसणी घालावी तीच 'मराठी शाहीर' ही विशेष उक्ती सार्थ करणारे अण्णाभाऊ हे एकमेव शाहीर होते.

उद्दिष्टे-

अण्णा भाऊ साठे यांचे साहित्य नव्या पिढीला प्रेरणादायी ठरते.

अण्णा भाऊ साठे यांचे साहित्य प्रबोधनात्मक व दिशादर्शक दिसून येते.

अण्णा भाऊ साठे हे आधुनिक लोकनाट्याचे जनक आहेत.

अण्णा भाऊ साठेच्या लोकनाट्यातून समाजप्रबोधन दिसून येते.

शासनाने तमाशावर बंदी आणली असता तमाशाचे त्यांनी लोकनाट्य असे नामांतर केले नाही तर वीरसयुक्त पोवाडे व शृंगारप्रचुर लावण्या यांचीच त्यांत अधिक रेलचेल असून मनोरंजन हाच तमाशाचा प्रधान व एकमेव हेतू होता. अण्णांनी तमाशाचे मनोरंजनात्मक स्वरूप बदलवून त्याला समाज प्रबोधनात्मक व लोकजागृतीचे प्रभावी माध्यम केले. त्यांनी समाजप्रबोधनासाठी नाट्ये लिहिली व सादर केली. त्यातील गणेश वंदन त्यांनी बंद केले व राष्ट्रवंदन व राष्ट्रपुरुषांना वंदन सुरू करून तमाशातील गौळणीत गौळणी व कृष्ण यांच्या शृंगारचैष्टा तसेच अशिल्ल विनोद असत. अण्णाभाऊंनी त्या सर्व बंद केल्या व नमनानंतर शेट वग सुरू केला. वगातील पात्रे बदलून शेतकरी,

। अक्षरवैदर्भी । फेब्रुवारी-२०२० । ४६ ।

सावकार, मजूर, मंत्री अशी पात्रे कालानुरूप आणवली. शेतकरी, कामगार, दलित, पीडित, शोषित यांच्या समस्या, प्रश्न उडवणी व चेदना त्यांनी वगातून भांडल्या. त्यांचा वग हा खऱ्या अर्थाने प्रबोधनात्मक होता. मनोरंजनातून समाज प्रबोधन करण्याचे क्रांतिकारी कार्य अण्णाभाऊंनी केले. अण्णाभाऊंनी कामगार, भटत्या जाती, स्वाभिमानी बागवाच्या, कष्टकरी, कलावंत व स्त्री बद्दल अतीव आदर होता. त्या शीलवान, स्वाभिमानी, चारित्र्यसंपन्न, देशभिमान बाळगणाऱ्या दिसून येतात. अण्णाभाऊंचे लेखन कामगारांप्रिय असो किंवा समाजातील कोणत्याही वर्गासाठी असो, त्यांची आस्था सर्वांसाठी दिसून येते. सर्व मरणास जाती जमातींसाठीचे आढळते. मराठी आणि मानवी जीवनाला सुधारणावादी, समतावादी विचारसरणी देऊन मराठी साहित्य संपन्न केले.

अण्णा भाऊ साठे यांनी लोककलांना नवी दृष्टी दिली. तमासातील स्त्रीला लोकनाट्यात आणताना अण्णाभाऊंनी तिचा सन्मान, आपलेपण सहजपणे वाढवल्याचे लक्षात घेता येते. मनोरंजनातून समाज प्रबोधन कसे करता येते याचा वस्तुपाठव अण्णाभाऊंनी समाजापुढे ठेवला. लोकनाट्यामध्ये, अकलेची गोष्ट, शेटजीचे इलोकेशन, येकायदेशीर, माझी मुंबई अर्थात मुंबई कोणाची, भूक, मिरवणूक, लोकनाट्याचा दौरा, पेंचाचं लग्न, दुष्काळात तेरावा, पुढारी मिळाला, विलंदर बुडवे इत्यादि लोकनाट्ये आढळतात.

प्रथम मायभूच्या चरणा

छत्रपती शिवाजी चरणा

स्मरणी गातो (कवण)

बहिऱ्या नमनाचा मान राष्ट्रपुराणां हुतात्मे, मातृभूमी यांना देऊन अभिमानास्पद बदल करून राष्ट्रप्रेमाला दिलेली साद अभूतपूर्वच ठारते. लोकनाट्यात नवी दृष्टी देण्याची सजगता त्यांच्या ठिकाणी दिसून येते. मुंबई कोणाची? या लोकनाट्यात तर-

महाराष्ट्राच्या शिरी मुकुट जो मानाचा चढला

मानवतेने मुंबापुरी एक हिरा त्यात जडला

अमोल मणी ला कोण धन्वाचा धावा कोणाला

मुंबापुरी कोणाची चहूकडे बाद सुरू झाला

महाराष्ट्रामध्ये वारस आहे सधेमाजी बसला

माझी मुंबई शांत ऐकावी विनंती सकळाला

'माझी मुंबई' या लोकनाट्यातून अनेक विषयांवर प्रबोधन करून जनजागृतीचे कार्य अण्णाभाऊंनी लोकनाट्याच्या माध्यमातून केलेले आढळते.

| अक्षरवेदर्भी | फेब्रुवारी-२०२० | ४७ |

* अण्णा भाऊ साठे यांनी उपेक्षितांचे, दलितांचे अनोखे जग सुखदुःखासह मांडल्याचे दिसून येते.

* लोकनाट्यांच्या माध्यमातून समाजप्रबोधन व जनजागृती केल्याचे दिसून येते.

* गावकुसाबाहेरील भाषावित्तेय, व्यक्तिविशेष, समाज जीवनरीली दर्शविणारी विशिष्ट पद्धतीची मांडणी लोकनाट्यात आढळते.

* एकूणच तमाशालाच लोकशिक्षणाकडे वळलेले दिसून येते.

एकूणच अण्णा भाऊ साठे यांच्या लोकनाट्यातून समाजप्रबोधन आविष्कृत होताना दिसून येते.

संदर्भ-

(१) लोकशाहीर अण्णा भाऊ साठे : निवडक वाङ्मय, महाराष्ट्र राज्य साहित्य आणि संस्कृती मंडळ, मुंबई.

■ ■ ■

घरपण...

घरात भरलेला किमती वस्तूंचा बाजार
सोफा, दिवाण, बंगई, डायनिंग,
बॉयसिंग मशिन, बेसिन, फ्रिज, आलमारी...
माझ्या डोक्यांतल्या बाहुलीत
मूल्यहीन ठरते हे सर्वाकाही...

घराच्या श्रीमंतीचं मूल्यांकन करताना
गीण ठरतंय हे
ऑडीट मध्ये माझ्या...!

घरात असावे लागतात किमती मंदू
सद्गुणांच्या, संस्कारांच्या, माणूसपणाच्या
वर्दळीत जोपासलेले, चाढलेले...!

घरातली माणसं दिसावीत उदून
ठळकपणे
एकापेक्षा एक बुद्धिमत्तेने सरत...!

उजळून निघाया घराचा नकाशा
सुंदर तर्कशुद्धतेने
हल्ली मी असतो अशा घराच्या
शोभात...
मी नाही कुणाच्या ऐश्वर्य-संपदेच्या
बिरोधात...
मला इव आहे बदलत्या वर्तमानात
तग धरून राहिललेलं
घराचं घरपण...!

-प्रा.नंद वानखडे
पु.पो.मुंगळ (ता.मालेगाव, जि.वाशिम)
मो.९४२३६५०४६८

| असरवेदर्भी | फेब्रुवारी-२०२० | ४८ |

मराठी साहित्यातून प्रकट होणारा गांधी विचारांचा प्रभाव
Dr. M.M.Nandurkar

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डॉ. मंदा माणिकराव नांदुरकर
मातोश्री विमलाबाई देशमुख महाविद्यालय, अमरावती

प्रस्तावना :
स्वातंत्र्यप्राप्त होऊन सामाजिक उन्नयनाच्या चळवळीचे महात्मा गांधींनी हे विस्ताराने सातत्याने एक अत्यंत महात्वाचे व प्रभावी नेतृत्व ठरवून, एकूणच नव्या तन्वयानाचा आणि कार्यरचनेचा गौरवान्वित साहित्यकार पदलेला दिसून येतो. इतिहासाच्या प्रभावी कालखंडातूनही इतर अतिशय मान्यतापूर्वीच्या महत्वाचे अनुभव घेऊन गांधींनी वास्तव्य केले. १९३२ च्या गांधी विचारांमध्ये समाजाच्या आर्थिक, सांस्कृतिक व अध्यात्मिक विकासचा विचार समावेश व जीवन्युक्त होत गेलेला दिसून येतो. महत्त्वा गांधी अतिशयूनून परत आल्यानंतर आर्थिक कवचालेले नेत्याने घेतलेला यांचा गौरव दुसरे गांधी म्हणून केला जातो. गांधी विचार सारणीचा प्रभाव सर्व जणूक पडलेला दिसून येतो. महत्त्वाजीचे सत्य अहिंसा व शब्दाचे अर्थ रूढ अर्थाने फक्त वेगळे आहेत सत्य म्हणजे वैतिक मूळे वैदिक आधारण म्हणजे सत्य आचार्य, सत्याचे प्रयोग वैतिक आधारणाचे प्रयोग आहेत. स्वतंत्रतेकर काळातील प्रथम साहित्य चळवळी साहित्य परिवर्तनाची साहित्याने गांधीवादातून काही मूल्ये निवडून घेतली डॉ. आनंद यादव म्हणतात, गांधीजींची दृष्टी राजकारणासह सर्व जीवनशाळा व्यापणारी होती. गांधीजींनी खंडकांच भारतीय चोपनातील स्वतंत्र नव्या आर्थिकसंग्रह पद्धत दिले त्यामुळे या सर्वांचा परिणाम साहित्यावर होणे अनिहय होतो. तरतु परिणाम घ्याय अतिव साहित्य विषयक अनुकूल भूमिका त्यावेळी साहित्य, क्षेत्रातील प्रवृत्ती होती. संत गाडगेनामा व राष्ट्रसंत तुकडोजी महाराज यांचे गांधीवादी विचार मराठी साहित्यास प्रेरक ठरलेले दिसून येते. गांधीवादी विचारांचा प्रभाव मराठी साहित्यावर दिसून येतो.

उद्दिष्टे :

- गांधी विचारसरणी नमूद करणे
- साहित्यावर पडलेला गांधीजींच्या विचारांचा प्रभाव जाणून घेणे
- महात्मा गांधीजींच्या विचारांची वैयक्तिक अभ्यासणे

महात्मा गांधींनी आणि डॉ. बाबासाहेब आंबेडकर यांचे राष्ट्रवादाच्या मुद्रयावर समतल विचार असले तरी सत्य परिवर्तना विषयी दोघांच्याही वास्तव्यतेत मत भिन्नता होती. घनसाच्या मुक्ती तडकाच्या अंतिम उद्दिष्टांकरडे जाणाऱ्या ध्येवांशिर्षी गांधी आणि आंबेडकर परस्पराने फुटूक होते. हे विचारमूळ गांधी विचारवैत गांधी, सरदार गांधी आणि आंबेडकर या प्रभावात प्रकट करतात गांधीजींचे विचारसरणी विचारसरणीत होती. सत्य आणि अहिंसा ही दोन मुख्यत्वे त्यांनी जन्मपर पट्ट घरण ट्रेकली होती. काही सर्व वास्तविक सातत्यानेसुद्धा संपोषिता बदल करण्याच त्यांची तयारी होती. गांधींनी धर्मग्रंथ, मातंग्रंथी, आत्मसंघट्ट टपपदी जुने शब्द वास्तव्य वास्तव असले तरी त्यात त्यांनी स्वतःचा छान नवा आशय जेतण्याचे प्रयत्न केले. विश्वेवर्षिकर आणि मन्तेवरी याना त्यांच्या समत विरोध होता असे यांच्या सरदार लिहिलेले तर गांधींनी सर्वपर्यंतनभाव आणि धर्म निरपेक्ष शासन यांची गळता केली नाही असे विधान विल्ली पंडित याने केलेले आहे. वैचारिक नियंत्रण गांधीवादाचा प्रभाव जाणवतो. खांडेलकर यांनी गवाकळा व वैतिकातून संगीत दे १२पदी संगीत मंत्रण सरदार नटकापधून गांधीवादाचा पुरस्कर केला. अर्थतिकाबाई गोखले, सी.के. दामले, वीरकासराव जोशी, भा.सी.कडके, संकरराव देव, सने गुरजी, टपपदींनी गांधी यांचे लिहिले. आचार्य विवेक वने, काका कालेलकर, दादा भागीधरजी, संकरराव देव, प्रेम कंठक, खने पुळगी, गाडगीळ, लखनगरासो जोशी, या गांधी यादी निबंधकारांनी गांधीवादाचा प्रचार आपल्या निबंधातून केलेल्याचे दिसून येते. गांधीजींच्या अठरावणी सांगणारी काही पुरतके आहेत. प्रेम कंठक, लख आणि कामिनी उरनीयान, यान, जोशी - इंदु काळे, सरला जोशी, वि.स. खांडेकर, अशोकवध, यपती, ए.न. कडकेकर - आधाळापुसावली, वि.का. शिरगाडकर - वैभव नान्दकी, न.म. जोशी अर्थिक, श्रीरुग्ण विलवकर-सुनेता, प्रीषद जोशी - विस्कारलेले घर भूमिपूज, मुण्डलिनरी देसाई - पुन घनवावा यासारख्या धर्मवर्षिकर गांधी वादाचा प्रभाव दिसून येतो.

सतो वे गुणाभ, तुरुंगव्यलल, संगीत वेळकी, राम खिन्न, उण्डुणो, उष्य संगीत खेपती, गांधी टोपी, यासारख्या नटकांचर गांधीवादाचा प्रभाव जाणवतो तरुने गौडयाकरडे पल बाई खेडयाकरडे पला हा नारा महात्माजींनी दिला. रामोवराता विचार मंडल, त्यातून प्राणीव साहित्य निमित्तीव प्रेरणा मिळाली. महात्मा गांधींनी जगतले सर्वत धर विमुगी महत्त्व, सने गुळजीचे साहित्य

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गंधीजींच्या चर्चीतून ताचून सुलायून निघाव्हेले साहित्य आहे. साने गुरुजीनी बालकंदर युवकंदर, संस्कार करणारे साहित्य निर्माण केले आहे. साने गुरुजी सयंध स्तरात मर्यात लोकप्रिय लेखक असून स्वयंता वस्तु विकले जाणारे व चाफले जाणारे त्यांचे साहित्य आहे. फथांदारे सोप्या पध्तीने स्वयंता पांधीवाव मंडला. आचार्य अडे, पुल, देशपांडे, बालचंद्र वेपाडे यांनी साने गुरुजीचे साहित्य शोध दर्जाचे साहित्य असल्याच निर्याळा विला आहे. एखी त्यांचो गंधी व गंधी वादवर लिप्या होती गंधी वादनेच इंधापनी आहे, बडपडणारी भुले, आस्तिक सासथे त्यांचे लेखन अजरामर झालेले दिसून येते.

गंधी वादात अधिक च सामाजिक सफलेच अंतर्भाव असून त्याला अदधण मडो अविचल आहे. उच्च-निचता, असह्यस्ता त्यांनी स्वयंतावाला मारक मान्ती आहे. असह्येद्वार सामेद्वाराच त्यांचा भर आहे. आमोद्वारविवाय देशोद्वार राजव वाडी कारण खरा देश हा सामाजिकेच घाय करतो. त्यांना अहिंसात्मक समान रचना व अहिंसात्मक राष्ट्रपना अपेक्षित आहे. अहिंसात्मक लोकसाही त्यांनी प्रतिपादलेली दिसून येते.

निष्कर्ष

1. लेखकंदर गंधीजवायाचा झालेला प्रभाव लक्षात घेता येतो
2. गंधीजवांची निचारसरणी साहित्याचून प्रकट झेताना दिसून येते
3. एकुनच मराठी साहित्याचून महत्त्वा गंधीजींच्या निचारांचा प्रभाव जाणवतो.

संदर्भ

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कोरोना संचारबंदी आणि लोककला
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कोरोना संचारबंदी आणि लोककला

डॉ. मंदा माणिकराव नांदुरकर
मातोश्री विमलाबाई देशमुख महाविद्यालय अमरावती

शोधनिबंधाचा सारांश.....

लोकजीवनाची जडणमडण लोकरासंस्कृतिक घटकांवर अवलंबून असते जनसामान्यांच्या जीवनाचे प्रतिबिंब असलेल्या लोककलांनी आपली संस्कृती समृद्ध आणि वैभवशाली असलेली आढळते. लोकमानसातील श्रद्धा भावभावना आणि लोकजीवनातील प्रचलित माध्यमे स्वीकारून लोकांच्या आवडीनिवडी लक्षात घेऊन नृत्य, संगीत, गायन, कथा, संवाद या कलांच्या सोबतीने लोककला सादर केल्या जातात, त्या-त्या प्रदेशातील लोकजीवन, वातावरण, सामाजिक पर्यावरण त्या लोक संस्कृतीवर तसेच लोकजीवनावर प्रतिबिंबित होताना दिसून येते. स्थानिक लोक देवता, रीतीरिवाज, श्रद्धा, संकेत, परंपरा, रूढी या सर्वांचा परिणाम त्या ठिकाणी होणारे सण, उत्सव यावर आढळतो. सण, उत्सव, जत्रांच्या विविधतेमुळे लोककलांचे वेगळेपण लक्षात घेता येते... कोरोनाविषाणू चा वाढता प्रसार त्यामुळे सर्वत्र असलेली संचारबंदी यामुळे लोककला सादर करणाऱ्या लोककलावंतांसमोर मोठा प्रश्न दिसून येतो. लोकजीवनातील लोककला समृद्ध आहेत. लोकजीवनाचे प्रतिबिंब लोककलांमधून आविष्कृत होताना दिसून येते. कोरोना संचार बंदीचा परिणाम लोककलांवर झालेला दिसून येतो.

एकूणच लोकजीवनाचे प्रतिबिंब लोककलांमधून आविष्कृत होत असल्याकारणाने कोरोना विषाणूचा प्रसार, संचार बंदी चे पडसाद लोककलां मधून प्रतिबिंबित होताना दिसून येतात. तंत्रज्ञानाच्या या युगात ऑनलाइन माध्यमातून संचार बंदीच्या काळात लोककलांचे जतन व संवर्धन तसेच जनजागृती होत असल्याचे काही प्रमाणात आढळते, प्रस्तावना -

तंत्रज्ञानाच्या या आधुनिक युगात पारंपरिक लोकजीवन जगण्याच्या पद्धतीत अनेक बदल झालेले दिसून येतात. लोकसंस्कृती ही काळाच्या प्रवाहाबरोबर एक पिढीपासून दुसऱ्या पिढीपर्यंत संक्रमित होताना दिसून येते. सहज, ओपवते, प्रवाहीपण जीवनाचे वास्तविक व भावनिक चित्रण लोककलांमधून घडताना दिसून येते. लोकमानसातील श्रद्धा भावना लोकजीवनातील प्रचलित माध्यमे स्वीकारून लोकांच्या आवडीनिवडी लक्षात घेऊन नृत्य संगीत गायन कथा संवाद या कलांच्या सोबतीने लोककला सादर केल्या जातात. लोककलांवेदात्मक समृद्ध आढळते, दैवी शक्तीची निसर्ग शक्तीची आपल्यावर सदैव कृपा असावी, आपल्या संकटातून रक्षण होऊन जीवन सुखी व समृद्ध व्हावे हाच या लोककलांमागील उद्देश लक्षात घेता येतो. लोकजीवनात लोककलांना अविभाज्य स्थान असल्याचे लक्षात येते, या लोककलां मधून समाज जीवनाचे चित्रण केल्या जाते

तमाशा, गोंधळ, दंडार, वासुदेव बहुरूपी, विधिनाट्य, लोकनाट्य, विविध पूजा यांच्या माध्यमातून करण्यात येणाऱ्या पूजा तसेच आदिवासी समूहातील विविध लोककला समाजातील विषयांचे चित्रण करून या लोककला अधिक समृद्ध झालेल्या आढळतात. कोरोनाचे भीषण संकट, संचारबंदी या सर्वांचा परिणाम लोककलांवर झालेला लक्षात घेता येतो.

उद्दिष्टे –

- * लोकजीवनातील लोककला समृद्ध आहेत.
- * लोकजीवनाचे प्रतिबिंब लोककलांमध्ये आविष्कृत होते.
- * कोरोना, संचार बंदीचा परिणाम लोककलांवर झालेला दिसून येतो.
- कोरोना चा प्रादुर्भाव रोखण्यासाठी , अनेक लोककलावंत जनजागृती करण्यासाठी ऑनलाइन माध्यमातून पुढे सरसावले आहेत . थारुड, प्रवचन, लोकनाट्य च्या माध्यमातून लोककलावंत ऑनलाइन येऊन जनजागृती करताना दिसून येतात

"आपल्या हाताने हे जीवघेणे संकट ओढवू नका ...

बांधवांनो घराबाहेर पडू नका.

तर काही ठिकाणी

"जगात आला अन वाणवा केला ..

हा असा कसा कोरोना

नको घेऊ कोणाचा वास

नाहीतर होईल सत्यानास

एकमेकांची काळजी घरा

कोरोना ने धिंगाणा केला

सा-या लोकांले म्हणतो मरोना,,"

तर काही आदिवासी लोककलावंत आपल्या आदिवासी लोक नाट्यतून समाज बांधवांना सज्जन करताना दिसून येतात.

चायना देशसे आयो...

अपना देशमा तबाई मचो

डेंजर डेंजर कोरोनाव्हायरस

मास्क पहनलो

रूमाल बांधलो

हाय हाय कोरोना

कब जायेगा कोरोना

यासारख्या गीतांमधून कोरोना चा प्रादुर्भाव रोखण्यासाठी लोककलावंत आपल्या लोककलांच्या माध्यमातून जनजागृती करताना दिसून येत आहेत.

लोककलांच्या माध्यमातून हातावरचे पोट असणाऱ्या लोककलावंतांची मात्र परिस्थिती बिकट असल्याचे लक्षात येते प्रत्येकच लोककलावंतांना ऑनलाईन येऊन आपली लोककला सादर करता येणे शक्य होताना दिसून येत नाही. कारण अनेक अडचणी आहेत. लोककलावंतांचा जगण्याचा प्रश्न गंभीर असल्याचा लक्षात येते. लोककलेची एक समृद्ध अशी परंपरा आहे. सांस्कृतिक क्षेत्रातील व्यापक, बहुआयामी, सकारात्मक जीवन दृष्टीचा आविष्कार अशा अनेक लोककला लाईव्ह माध्यमातून सांस्कृतिक भूक आणि उपासमार शमवण्याचा प्रयत्न करत असताना दिसून येत आहे त. आदिवासी समूहातील म्हणी, वाचप्रचार, लोकोक्ति, आदिवासी कथांचे वाचन वेगवेगळ्या प्रदेशातील लोकसंगीताची धाटणी, सादरीकरण

हिंडता कशाला?

कोरोनाची लागण

होईल तुम्हाला

अशी आर्त हाक ऑनलाईनच्या माध्यमातून कानावर पडताना दिसून येते. अखंड विषय सोपे करून सांगण्याची प्रभावी कला व जनसामान्यांना कळणाऱ्या भाषेत आपल्या दिनाखदर शैलीत लोककलांच्या माध्यमातून लोककलावंत जागरूक करताना दिसून येतात... लोकसंस्कृती ही काळाच्या प्रवाहावर एका पिढीपासून दुसऱ्या पिढीपर्यंत संचरित होताना दिसून येते सहज उगवते प्रवाहीपण जीवनाचे वास्तविक व भावनिक चित्रण लोककलांमध्ये ऊन घडताना दिसून येते आधुनिक युगात पारंपरिक लोकजीवन जगण्याच्या पद्धतीत अनेक बदल झालेले दिसून येतात... कोरोनाचे सावट व संचारबंदी यामुळे दैनंदिन जीवनात झालेला बदल, या बदलांना सामोरे जात लोककलावंत आपली भूमिका ठामपणे मांडतांना दिसून येतात. दैवी शक्तीची निसर्ग शक्तीची आपल्यावर सदैव कृपा असावी आपले संकटातून रक्षण होऊन जीवन सुखी व समृद्ध समृद्ध व्हावे हाच या लोककलेला मागील उद्देश लक्षात घेता लोकजीवनातील या लोककलांना अविभाज्य स्थान असल्याचे दिसून येते. या लोकलांमधून तत्कालीन स्थितीचे समाजजीवनाचे चित्रण केल्या जाते.

फैला कोना कोना

वर्ल्ड मे फैला..

जिसका नाम है

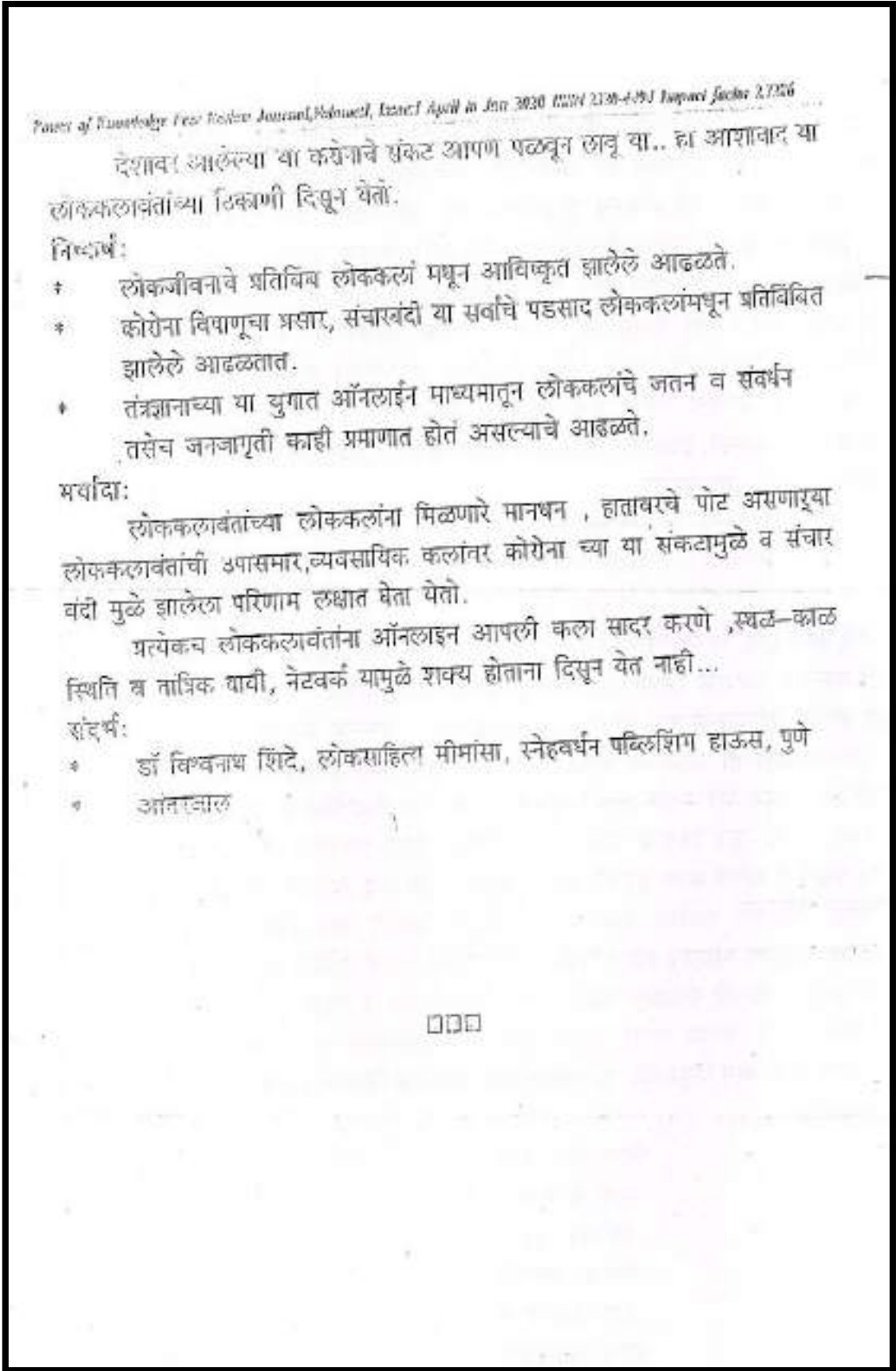
कोरोना कोरोना

पुरा व्हायरल मे

फैला कोना कोना

जिसका नाम है

कोरोना कोरोना.....



Sol-Gel Citrate Synthesized Zn doped MgFe₂O₄ nanocrystals: A promising Supercapacitor electrode material

Dr. D. R. Bambole



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

transition metal oxide as the electrode material and the specific capacitance arises from faradaic reaction at the electrode interface. The pseudocapacitor has higher energy density than the EDLCs, as the bulk material reacts and for the efficient redox reactions the transition metals can provide the variable oxidation states [9]. Recently, transition metal oxides with variable oxidation states are receiving considerable research attention due to abundant availability with low cost, flexibility in the structure and morphology, high specific capacitance, environmental friendly nature etc. and thus are widely investigating as an electrode material for supercapacitor.

In view point of application as electrodes for supercapacitor, binary metal oxide are most preferred since these binary metal oxides show high electrochemical ion exchange capacity between electrode and electrolyte material, large specific surface area, large pore diameter and volume [10,10]. In this scenario, because of the feasible oxidation states and high electrical conductivity, the binary metal oxides such as CoFe_2O_4 [11,12], ZnMn_2O_4 [13,13], NiCo_2O_4 [14], ZnCo_2O_4 [15], CuMoO_4 [16], MnCo_2O_4 [17], CuFe_2O_4 [18], ZnV_2O_4 [19] etc. have been extensively used as the electrode material for pseudocapacitor [1,17].

Spinel ferrites are important types of ferrites owing to their large magnetic crystalline anisotropy, high chemical stability and high conductivity. In particular, the binary spinel ferrites such as MgFe_2O_4 [20], NiFe_2O_4 [21], MnFe_2O_4 [22], CoFe_2O_4 [23], Fe_3O_4 [24] etc. have been receiving the greater attention for the electrode material for pseudocapacitor [25]. Among the different spinel ferrites, MgFe_2O_4 is one of the important one [26,26]. However, the poor electrical conductivity and wide bandgap (3.9–4.5) of the spinel MgFe_2O_4 limits its electrochemical application [27,27]. The better electrochemical properties require control of the electrical properties through suitable doping [28,28]. Moreover, controlled doping significantly increases the carrier concentration by creating free charge carriers [29]. Recently, some studies have proven that doping with external impurity ions such as Cu^{2+} , Mn^{2+} , Zn^{2+} , B^{3+} improve the electrical, magnetic and electrochemical performances of MgFe_2O_4 . Many researchers have reported doped ferrites with enhanced electrical and supercapacitor properties. To quote a few, Zaki et al. have studied the effect of copper doping on the structural, electrical and magnetic properties of magnesium-zinc ferrite nanoparticles [30]. Selven et al. investigated the structural, morphological, electrical and magnetic properties of $\text{CuFe}_2\text{O}_4/\text{NiO}$ nanocomposites [31]. Kuo et al. investigated the electrochemical behaviour of NiFe_2O_4 with NiO electrolyte. Further, Bashir et al. reported the study of copper doped manganese ferrites nanoparticles anchored on graphene nano-sheets for high performance energy storage applications etc.

Nanostructured electrode materials in supercapacitor has many advantages over the bulk material, such as high energy density, high power density, high specific surface area, low voltage change during ion insertion/de-insertion, short electrons and ions transfer pathway, etc. [32,32]. Several methods for synthesis of nanostructured magnesium ferrites including chemical method, polymeric precursor method [33], sol-gel auto-combustion method [34], self combustion method [35], etc. have been reported by several researchers. Hence, in this paper, we are reporting the Zn doped nanocrystalline magnesium ferrites [$\text{Mg}_{1-x}\text{Zn}_x\text{Fe}_2\text{O}_4$] ($x = 0.02, 0.03, 0.04$) synthesized via sol-gel citrate method as the electrode material for supercapacitor. The as-synthesized material was characterized by various physicochemical characterization methods viz. XRD, FTIR, TG-DTA, FE-SEM, TEM and optical absorption. The supercapacitive behaviour of Zn doped MgFe_2O_4 nanocrystals was compared and studied by cyclic voltammetry in $1 \text{ mol L}^{-1} \text{ Na}_2\text{SO}_4$ aqueous solution as electrolyte.

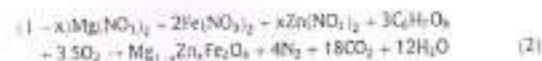
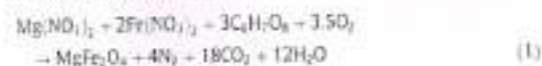
2. Experimental

2.1. Materials

The magnesium nitrate [$\text{Mg}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$], ferric nitrate [$\text{Fe}(\text{NO}_3)_3 \cdot 9\text{H}_2\text{O}$], Zn($\text{NO}_3)_2$ and citric acid ($\text{C}_6\text{H}_8\text{O}_7$) were used as starting material. All chemical reagents were of analytical grade and were used as received. All these were purchased from Qualigen SO. fine chemicals Ltd. India.

2.2. Synthesis of Zn doped MgFe_2O_4 nanocrystals

Zn doped MgFe_2O_4 nanocrystals were synthesized by facile sol-gel citrate method. Methanol was used as solvent throughout all synthesis steps. In a typical synthesis process, the stoichiometric amount of magnesium nitrate hexahydrate [$\text{Mg}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$] and ferric nitrate hexahydrate [$\text{Fe}(\text{NO}_3)_3 \cdot 9\text{H}_2\text{O}$] with the molar ratio 1:2 were dissolved in methanol. To this solution, the specific amount of citric acid was added (molar ratio of nitrates to citrate was maintained to be 3:1) [41]. The solution was stirred for 20 min using a magnetic stirrer and then the appropriate amount of zinc nitrate (0, 2, 3 and 4 wt%) was added to solution, which was followed by vigorous stirring at 80 °C on the hot plate of magnetic stirrer for 3 h. The highly viscous, homogeneous, thick gel so formed was further transferred to a pressure bomb. The pressure bomb was sealed and heated up to 120 °C for 12 h and subsequently cooled to room temperature naturally. The obtained dried samples were further ground and calcined at 550 °C up to 6 h using alumina crucible in furnace. The as-synthesized products with various Zn contents (0, 2, 3 and 4 wt%) were labelled as S1, S2, S3 and S4 respectively. The possible reaction mechanism during the formation of MgFe_2O_4 and Zn doped MgFe_2O_4 nanocrystals are described as follows [41].



2.3. Fabrication of electrode

All the electrodes were fabricated on stainless steel (SS) substrate. Stainless steel (SS) of grade 304 was used as current collector. Before use, the SS substrate was cleaned by using detergent and dipped in 4 N HNO_3 for 10 to 15 min, washed alternatively by acetone and double distilled water, and finally dried in oven.

The Zn doped MgFe_2O_4 sample as electroactive material was loaded on stainless steel substrate following the standard procedure protocol used for supercapacitive measurement [31,31]. Thus, the 75 wt% of active material, 15 wt% acetylene black as a conductive additive and 10 wt% Poly (vinylidene fluoride) (PVDF) as a binder were mixed and ground in mortar results a homogenous mixture. This mixture was further dispersed in dimethyl formamide (DMF) to form slurry. This slurry was coated on pretreated stainless steel (SS) substrate using doctor blade and dried at 60 °C.

The electrochemical studies such as cyclic voltammetry, galvanostatic charge/discharge and impedance spectroscopy were performed using the CHI 6002C and CHI 604E electrochemical workstation forming an electrochemical cell comprising fabricated electrode as working electrode, platinum as counter electrode and Ag/AgCl as a reference electrode in $1 \text{ mol L}^{-1} \text{ Na}_2\text{SO}_4$ electrolyte.

2.4. Characterization

The structural properties and phase identification of the samples was done by Philips X-ray diffractometer (XRD) with filtered Cu-K α radiation of wavelength $\lambda = 0.1541874$ nm. The morphology was determined by Field emission scanning electron microscopy (FE SEM) (Model JSM 6701F, JEOL, Japan) and transmission electron microscopy (TEM) (model-Philips 200). The N_2 adsorption-desorption for estimation of surface area, pore size distribution and pore volume of samples was determined by Brunauer-Emmett-Teller/Barrett-Joyner-Halenda (BET/BJH) measurements using surface area analyzer (Model Quantachrom Nova Win, Nixa Station A).

Cyclic voltammetry, galvanostatic charge discharge and impedance spectroscopic measurements were performed using the CHI 6002C and CHI 604E electrochemical workstation. An electrochemical impedance spectroscopic investigation was carried out within the frequency range 1 Hz to 100 kHz at open circuit potential and at 5 mV AC perturbation.

3. Result and discussion

3.1. Structural properties

The crystal phases and structure of as-synthesized samples were investigated by the X-ray diffraction (XRD) analysis. The XRD pattern of as-synthesized samples are shown in Fig. 1. All the diffraction peaks can be indexed to the standard cubic MgFe $_2$ O $_4$ spinel structure with $Fd\bar{3}m$ (2 2 7) space group as per JCPDS file number (JCPDS: 88-1942) [14]. The peaks appearing at 30.27, 35.05, 41.77, 46.45, 53.85, 57.21, and 62.95, corresponds to lattice planes (2 2 0), (3 1 1), (4 0 0), (4 2 2), (1 0 2), (5 1 1), and (4 4 0) of cubic MgFe $_2$ O $_4$, respectively. Further, no diffraction peaks of Zn or

other impurity phases were found in the XRD patterns of samples, suggesting the substitution of Zn $^{2+}$ ions in the Mg $^{2+}$ sites or the tetrahedral sites in the ferrite lattice. The well crystalline single phase structure was described by the well intense peaks. The average crystallite size D was calculated using the Debye-Scherrer formula [15]; Eq. (3), where λ is the characteristic wavelength of Cu-K α radiation, β is the full width half maxima of the diffraction line at half the maximum intensity and θ is the Bragg diffraction angle.

$$D = \frac{0.9\lambda}{\beta \cos \theta} \tag{3}$$

The average crystallite size of the synthesized sample S1, S2, S3 and S4 was found to be 30.458 nm, 28.475 nm, 23.283 nm, and 22.28 nm respectively. The lattice constant 'a' calculated from most intense peak (3 1 1) for the samples S1, S2, S3 and S4 was found out to be 8.334 Å, 8.331 Å, 8.335 Å and 8.337 Å respectively which is in good agreement with theoretical value ($a = 8.39$ Å).

The results reveal that, the average crystallite size decreases and the values for lattice constant 'a' found to increase with increasing the Zn concentration. These results can be attributed to differences in the ionic radii of Mg $^{2+}$ (0.78 Å) and Zn $^{2+}$ (0.83 Å). Since the ionic radius of Zn $^{2+}$ (0.83 Å) is higher than the ionic radius Mg $^{2+}$ (0.78 Å), the partial replacement of Mg $^{2+}$ by Zn $^{2+}$ leads to expansion of spinel lattice; thereby increasing the lattice constant. Similar behavior in Zn substituted magnesium ferrites was reported by Khan et al [47].

From the XRD Pattern, it has also been observed that the peak intensity is almost same in all samples irrespective of the varying Zn doping concentrations. It implies that the small Zn doping concentrations has no effect on the crystal structure of MgFe $_2$ O $_4$, however, a variation in crystallite size from 30.4 and 22.2 nm with increasing Zn doping concentration was observed.

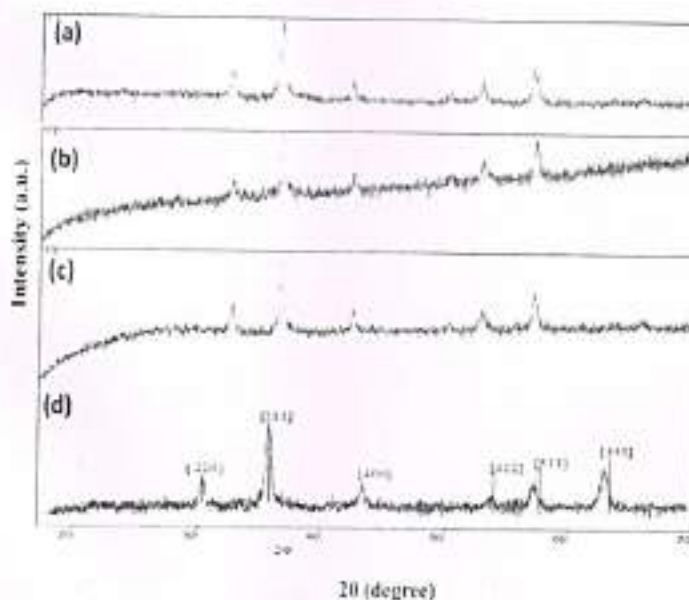


Fig. 1. X-ray diffraction (XRD) patterns of magnesium ferrite with different Zn concentrations.

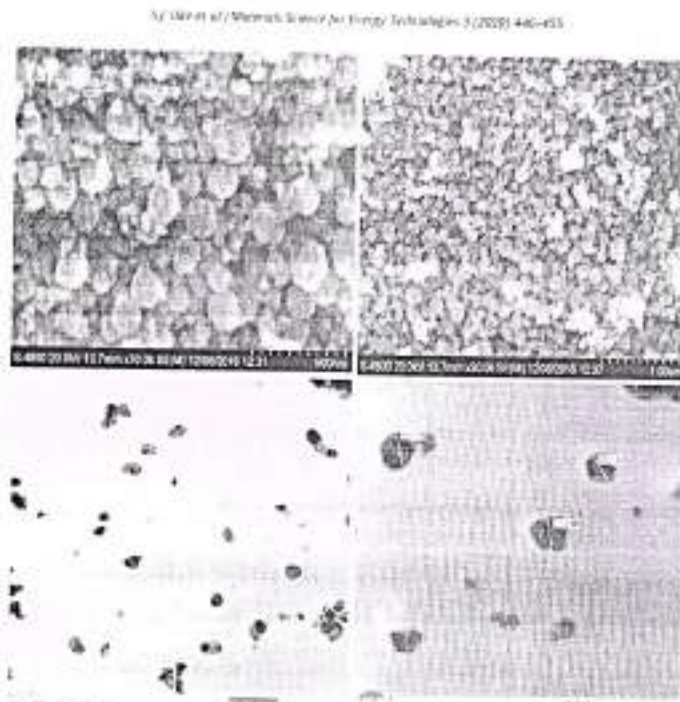


Fig. 2. FESEM (a, b) and TEM (c, d) images of representative Zn doped MgFe₂O₄ sample (sample S2).

3.2. Morphological study

The surface morphology of as-synthesized sample was investigated by field emission-scanning electron microscopy (FE-SEM) and transmission electron microscopy (TEM). (a) and (b) demonstrates the FESEM image of as-synthesized representative Zn doped MgFe₂O₄ sample (sample S2). The results reveal that the product consists of spherical grains of variable sizes ranging from 50 to 100 nm. Corresponding high magnification FESEM image depicted in (b) suggests that the smaller grain sizes clustered with each other to form clusters which is well explained on the basis of nucleation and coalescence process in previous reports. The morphology of the representative sample S2 was further confirmed by TEM characterization as shown in (c, d). The TEM images with different magnifications further confirms the spherical morphology of the as-synthesized sample.

3.3. Surface area analysis

To evaluate the specific surface area and pore size of the as-synthesized material, the Brunauer-Emmett-teller/Barenet-Jaynes-Halenda (BET/BJH) measurements were carried out. Fig. 3 depicts the N₂ adsorption-desorption isotherm and corresponding BJH pore size distribution plot of representative Zn doped MgFe₂O₄ sample S2. From figure, sample S2 exhibits the type IV isotherm with small hysteresis loop. In the lower relative pressure range, the absence of initial jump in the isotherm shows absence of micropores in the material, which (micropores mainly) is mainly responsible for higher magnitude of specific surface area, resulted in higher values of double layer type capacitance, which is mainly due to formation of compact double layer in micropores. This also

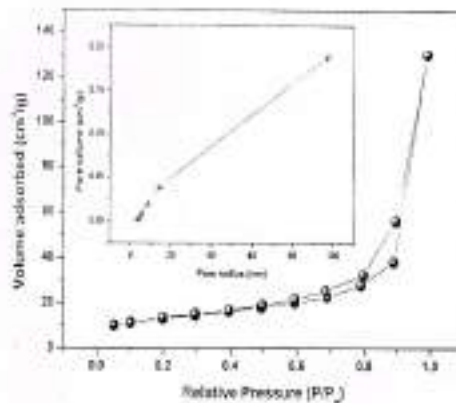


Fig. 3. Nitrogen adsorption-desorption isotherm with corresponding pore size distribution curve (BJH) of representative Zn doped MgFe₂O₄ (sample S2).

can be observed from the pore-size distribution; the amount of pore-volume almost dropped to zero in the micropore range of pore radius. Therefore, the double layer type of charge storage in the voids of electrode material has been ruled out by this feature of isotherm (absence of initial jump owing to the micropores). A slight steep of nitrogen adsorption-desorption branching occurs at a

relative pore size 0.6 to 0.97 indicating the presence of mesopores.

The predominant area covered by hysteresis loop in desorption, strongly favors presence of large amount of mesopores, which provides large channels for bulk flow of electrolytic fluid. Large amount of mesopores does not contribute much to the surface area of the material. Generally mesopores facilitate interactions with the reactive species exist in the vicinity of these pores. In the basis of the N_2 adsorption-desorption isotherm, the BET surface area, average pore diameter and pore volume of the sample S2 was found to be $41.533 \text{ m}^2 \text{ g}^{-1}$, 50.7 nm and $0.2024 \text{ cm}^3 \text{ g}^{-1}$ respectively. This mesoporous structure of sample S2 might provide the easier access for the electrolyte ions and short diffusion path for intercalation and de-intercalation [32]. Furthermore, the nano-sized spherical MgFe_2O_4 could provide a large surface, which could lead to high electrochemical capacities and power capabilities of Zn doped MgFe_2O_4 nanocrystals.

3.4 Supercapacitive performance analysis

For the better performance of the supercapacitor device, the selection of electrolyte is a crucial part. The selection of electrolyte material is primarily based on the two important factors: Equivalence versus resistance of the electrolyte and trend of migration speed of hydrated ions in the bulk electrolyte and in the inner pores of electrodes [33]. Properties of solvents in electrolytes have great impact on the size and migration speed of the solvated ions. H_2SO_4 , Na_2SO_4 , KCl , KOH , K_2SO_4 , LiSO_4 etc. are the widely accepted electrolytes for the electrochemical supercapacitors. Out of the different electrolyte Na_2SO_4 has many advantages such as, low cost, abundance in nature, low equivalent series resistance,

comparable ions size, high ionic conductivity, non hazardous, non-corrosive and neutral (pH = 7) etc. [35,36]. Here, we investigated the electrochemical performance of the as-synthesized Zn doped MgFe_2O_4 electrodes by using $1 \text{ mol L}^{-1} \text{ Na}_2\text{SO}_4$ aqueous solution as electrolyte.

3.4.1. Cyclic voltammetry study

Fig. 4. (a)-(d) represents the cyclic voltammogram curves of supercapacitors cells based on nanocrystalline Zn doped MgFe_2O_4 electrode samples (S1, S2, S3 and S4) at different scan rates $5\text{--}100 \text{ mVs}^{-1}$ within the operating potential window 0 to 0.4 V vs. Ag/AgCl in $1 \text{ mol L}^{-1} \text{ Na}_2\text{SO}_4$ electrolyte. The cyclic voltammogram curves reveal that the current under the curve slowly increases with scan rate, implying the voltammetric current is directly proportional to scan rate; furthermore, the broad peaks as well as rectangular shaped cyclic voltammogram of as-synthesized samples, originated from the redox reaction, are responsible for the pseudocapacitance. This almost rectangular shape of CV curves indicates facile oxidation-and reduction process, which is reversible in nature. CV curves also show high rate-capability of intercalation and de-intercalation, this high performance rate is facilitated by mesopores structure of electrode materials. There is easy switching of solvated ion in to the mesopores of electrode materials. The almost constant current with increase and decreasing voltage is indicative of lower cell resistance, which is further confirmed by impedance spectroscopy of these electrochemical supercapacitor cells. The magnitude of the area under the curve of cyclic voltammogram is responsible for the calculation for the specific capacitance [37]. Remarkably, the area under the curve in the cyclic voltammogram increased largely for the sample S2.

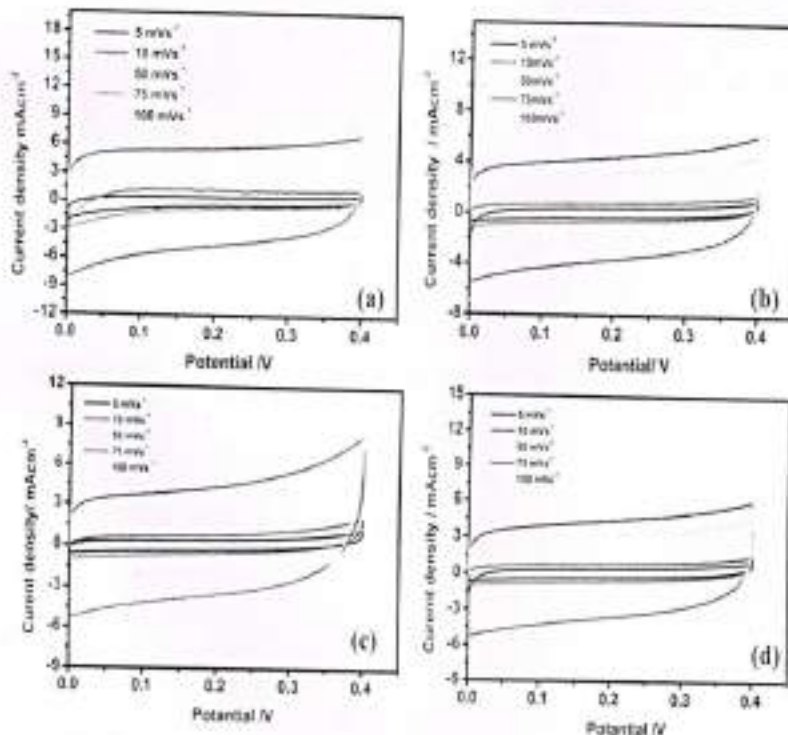


Fig. 4. Cyclic voltammogram curves of nanocrystalline Zn doped MgFe_2O_4 electrode samples (a) S1, (b) S2, (c) S3 and (d) S4 at different scan rates in $1 \text{ mol L}^{-1} \text{ Na}_2\text{SO}_4$ electrolyte.

leading to the enhanced specific capacitance, which may attributed to high conductivity, perfect substitution of Zn²⁺ ions in the Mg²⁺ site and efficient utilization of mesoporous nanocrystals. The synergistic effect of doping is observed for the lower doping concentrations of Zn to the bare material, which is observed by cyclic voltammetry.

From the cyclic voltammogram curves, the specific capacitance (C_s (Fg⁻¹), energy density E (Whkg⁻¹) and power density (Wkg⁻¹) were calculated by using following relations (Eqs. (4), (5) and (6)) respectively.

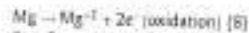
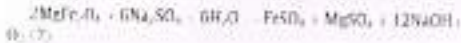
$$C_s = \frac{1}{m(V_2 - V_1)} \int_{V_2}^{V_1} i(V) dV \quad (4)$$

$$E = \frac{0.5 \times C_s (V_{oc}^2 - V_{dc}^2)}{2.6} \quad (5)$$

$$P = \frac{E \times 3600}{t_d} \quad (6)$$

where m is the mass (in gm⁻¹) deposited, i is the response current (in mA) of the MgFe₂O₄ electrode for unit area, V is the scan rate, (V₁ - V₂) is the operational potential window (V), t_d is the discharge time, i_d is the discharge current, V_{oc} anodic current and V_c cathodic current.

The redox reactions of 1 M Na₂SO₄ electrolyte with Zn doped electrodes may be resulted in formation of MgFe₂O₄/FeSO₄ and MgSO₄ redox pair, which can be explained via following redox reactions:



Above mentioned reactions are responsible for apparent charge storage, which give rise pseudocapacitance. This apparent charge storage is basically equivalent to the reaction energy.

3.5. Galvanostatic charge-discharge study

For the better understanding of the behavior of Zn doped MgFe₂O₄ electrode samples for supercapacitor application, the galvanostatic charge-discharge measurements at various current densities are carried out. Fig. 5 (a)-(d) shows the galvanostatic charge-discharge cycles performed at 1-5 mAcm⁻² vs. Ag/AgCl for nanocrystalline Zn doped MgFe₂O₄ electrode samples (S1, S2, S3 and S4) in 1 mol L⁻¹ Na₂SO₄ as an electrolyte. The galvanostatic charge-discharge curve shows the decreasing discharge time with increasing the current density, suggested that at higher current density, all the active sites are not accessible for the electrolyte ions to perform the electrochemical reactions [10]. Notably, sample S2 exhibits relatively longer discharge time compared to S1, S3 and S4 sample electrodes at the same current density. These results suggest that the improved specific capacitance due to high surface area, mesoporous nanocrystals, which is also possibly due to the diffusion effect of ions within the nanocrystalline Zn doped MgFe₂O₄ electrode samples [25,26]. The specific capacitance (C_s) (Fig. 4) can also be calculated from the galvanostatic charge-discharge curve using Eq. (4), in which i_d is the discharge current (A), V is the operational potential window (V), t_d is the discharge time (s), and m is the mass of active material (Fig. 4).

The specific capacitance (C_s) (Fg⁻¹), energy density E (Whkg⁻¹) and power density (Wkg⁻¹) obtain for the electrodes samples S1, S2, S3, and S4 at different current density is shown in Table 5.

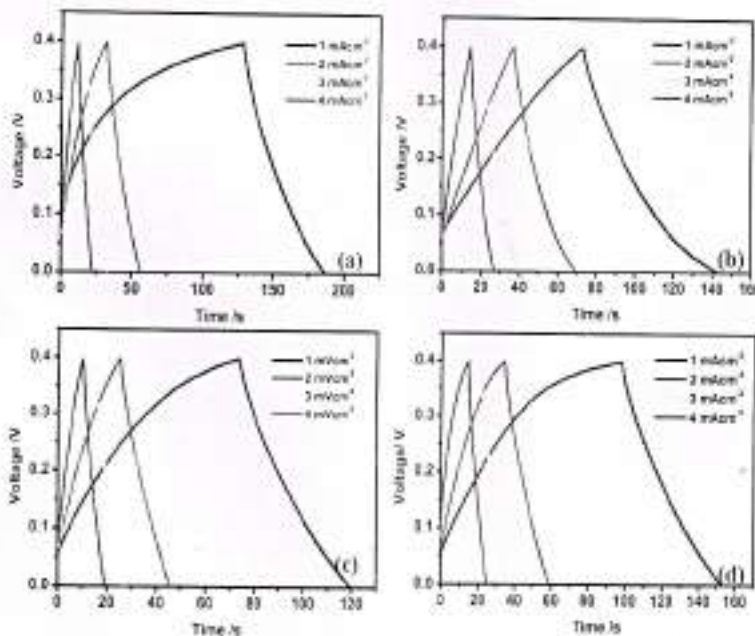


Fig. 5. Galvanostatic charge-discharge curves of nanocrystalline Zn doped MgFe₂O₄ electrode samples (a) S1, (b) S2, (c) S3 and (d) S4 at different current densities in 1 M Na₂SO₄ electrolyte.

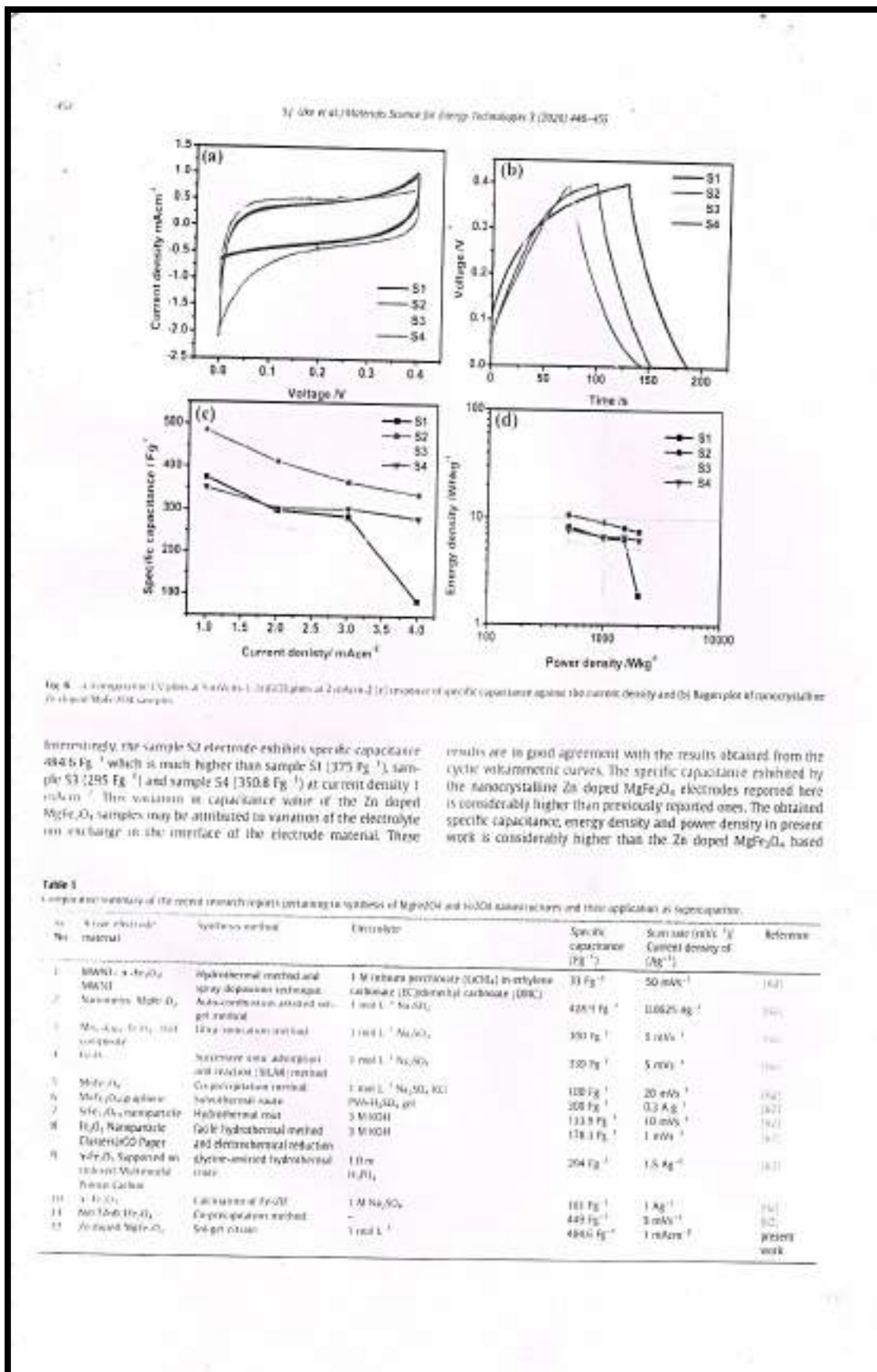


Fig. 4. Comparison of CV plots at 2 mV/s. (a) Cyclic voltammograms at 2 mV/s. (c) Dependence of specific capacitance against the current density and (b) Ragone plot of nanocrystalline Zn-doped MgFe₂O₄ samples.

Interestingly, the sample S2 electrode exhibits specific capacitance 484.6 F g⁻¹ which is much higher than sample S1 (375 F g⁻¹), sample S3 (295 F g⁻¹) and sample S4 (350.8 F g⁻¹) at current density 1 mA cm⁻². The variation in capacitance value of the Zn doped MgFe₂O₄ samples may be attributed to variation of the electrolyte ion exchange in the interface of the electrode material. These

results are in good agreement with the results obtained from the cyclic voltammogram curves. The specific capacitance exhibited by the nanocrystalline Zn-doped MgFe₂O₄ electrodes reported here is considerably higher than previously reported ones. The obtained specific capacitance, energy density and power density in present work is considerably higher than the Zn-doped MgFe₂O₄ based

Table 1
Comparative summary of the recent research reports pertaining to synthesis of MgFe₂O₄ and Fe₃O₄ nanostructures and their application as supercapacitor.

No.	4-For electrode material	Synthesis method	Electrolyte	Specific capacitance (Fg ⁻¹)	Scan rate (mV s ⁻¹) / Current density of (Ag ⁻¹)	Reference
1	MWNTs-Fe ₃ O ₄	Hydrothermal method and spray deposition technique	1 M sodium perchlorate (NaClO ₄) in ethylene carbonate (EC)/dimethyl carbonate (DMC)	33 Fg ⁻¹	50 mVs ⁻¹	[62]
2	Nanowires MgFe ₂ O ₄	Azobenzene assisted sol-gel method	1 mol L ⁻¹ NaOH	428 Fg ⁻¹	118625 Ag ⁻¹	[63]
3	Mg _{0.9} Fe _{0.1} O ₄ and composite	Hydrothermal method	1 mol L ⁻¹ NaOH	390 Fg ⁻¹	5 mVs ⁻¹	[64]
4	Fe ₃ O ₄	Solvothermal synthesis and reduction (SRM) method	1 mol L ⁻¹ Na ₂ SO ₄	320 Fg ⁻¹	5 mVs ⁻¹	[65]
5	MgFe ₂ O ₄	Solvothermal method	1 mol L ⁻¹ Na ₂ SO ₄ KCl	110 Fg ⁻¹	20 mVs ⁻¹	[66]
6	MgFe ₂ O ₄ nanoparticles	Solvothermal route	PVA-H ₂ O ₂ gel	308 Fg ⁻¹	0.3 Ag ⁻¹	[67]
7	Fe ₃ O ₄ nanoparticles	Hydrothermal route	3 M NaOH	133.9 Fg ⁻¹	10 mVs ⁻¹	[68]
8	Fe ₃ O ₄ Nanoparticle Electrode/GC Paper	Two step hydrothermal method and electrochemical reduction	3 M NaOH	178.1 Fg ⁻¹	1 mVs ⁻¹	[69]
9	Fe ₃ O ₄ Supported on reduced Vulcanized Polyaniline Carbon	glycine-assisted hydrothermal route	1 M Na ₂ SO ₄ H ₂ O ₂	204 Fg ⁻¹	1.5 Ag ⁻¹	[63]
10	Fe ₃ O ₄	Calcination of Fe-ZIF	1 M Na ₂ SO ₄	181 Fg ⁻¹	1 Ag ⁻¹	[64]
11	Mn _{0.5} Fe _{1.5} O ₄	Co-precipitation method	-	449 Fg ⁻¹	3 mVs ⁻¹	[62]
12	Zn doped MgFe ₂ O ₄	Sol-gel route	1 mol L ⁻¹	484.6 Fg ⁻¹	1 mAcm ⁻²	present work

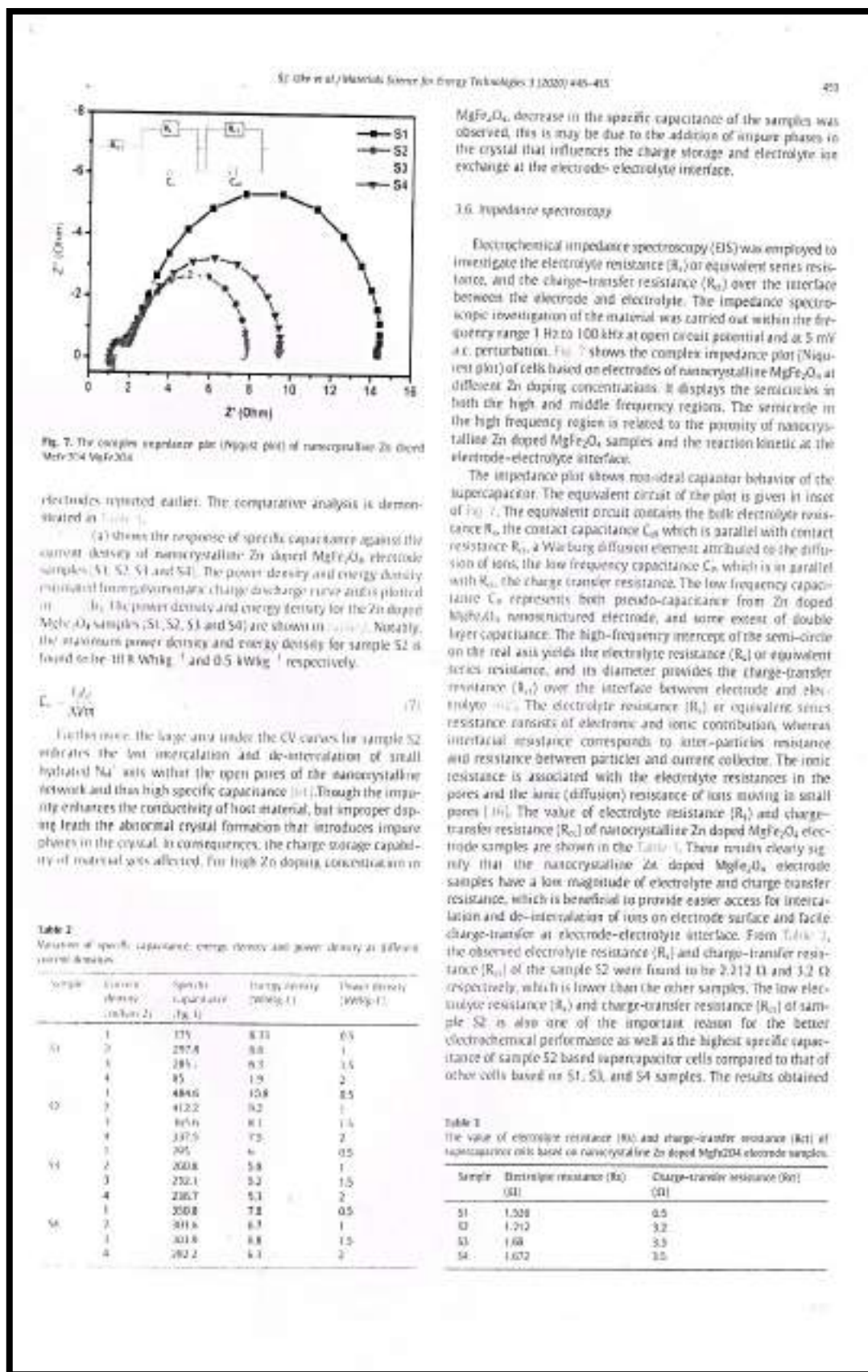


Fig. 7. The complex impedance plot (Nyquist plot) of nanocrystalline Zn doped MgFe₂O₄

electrodes reported earlier. The comparative analysis is demonstrated in Table 2.

(a) shows the response of specific capacitance against the current density of nanocrystalline Zn doped MgFe₂O₄ electrode samples (S1, S2, S3 and S4). The power density and energy density estimated from galvanostatic charge/discharge curve and is plotted in (b). The power density and energy density for the Zn doped MgFe₂O₄ samples (S1, S2, S3 and S4) are shown in (c-d). Notably, the maximum power density and energy density for sample S2 is found to be 118 Wh/kg⁻¹ and 0.5 kWh/kg⁻¹ respectively.

$$C_s = \frac{I \Delta t}{\Delta V} \quad (7)$$

Further, the large area under the CV curves for sample S2 indicates the fast intercalation and de-intercalation of small hydrated Na⁺ ions within the open pores of the nanocrystalline network and thus high specific capacitance [11]. Though the impurity enhances the conductivity of host material, but improper doping leads the abnormal crystal formation that introduces impure phases in the crystal. As consequences, the charge storage capability of material was affected. For high Zn doping concentration in

MgFe₂O₄, decrease in the specific capacitance of the samples was observed, this may be due to the addition of impure phases to the crystal that influences the charge storage and electrolyte ion exchange at the electrode-electrolyte interface.

3.6. Impedance spectroscopy

Electrochemical impedance spectroscopy (EIS) was employed to investigate the electrolyte resistance (R_e) or equivalent series resistance, and the charge-transfer resistance (R_{ct}) over the interface between the electrode and electrolyte. The impedance spectroscopic investigation of the material was carried out within the frequency range 1 Hz to 100 kHz at open circuit potential and at 5 mV a.c. perturbation. Fig. 7 shows the complex impedance plot (Nyquist plot) of cells based on electrodes of nanocrystalline MgFe₂O₄ at different Zn doping concentrations. It displays the semicircles in both the high and middle frequency regions. The semicircle in the high frequency region is related to the porosity of nanocrystalline Zn doped MgFe₂O₄ samples and the reaction kinetic at the electrode-electrolyte interface.

The impedance plot shows non-ideal capacitor behavior of the supercapacitor. The equivalent circuit of the plot is given in inset of Fig. 7. The equivalent circuit contains the bulk electrolyte resistance R_e , the contact capacitance C_{dl} which is parallel with contact resistance R_c , a Warburg diffusion element attributed to the diffusion of ions, the low frequency capacitance C_m which is in parallel with R_{ct} , the charge transfer resistance. The low frequency capacitance C_m represents both pseudo-capacitance from Zn doped MgFe₂O₄ nanostructured electrode, and some extent of double layer capacitance. The high-frequency intercept of the semi-circle on the real axis yields the electrolyte resistance (R_e) or equivalent series resistance, and its diameter provides the charge-transfer resistance (R_{ct}) over the interface between electrode and electrolyte [16]. The electrolyte resistance (R_e) or equivalent series resistance consists of electronic and ionic contribution, whereas interfacial resistance corresponds to inter-particles resistance and resistance between particles and current collector. The ionic resistance is associated with the electrolyte resistances in the pores and the ionic (diffusion) resistance of ions moving in small pores [16]. The value of electrolyte resistance (R_e) and charge-transfer resistance (R_{ct}) of nanocrystalline Zn doped MgFe₂O₄ electrode samples are shown in the Table 3. These results clearly signify that the nanocrystalline Zn doped MgFe₂O₄ electrode samples have a low magnitude of electrolyte and charge transfer resistance, which is beneficial to provide easier access for intercalation and de-intercalation of ions on electrode surface and facile charge-transfer at electrode-electrolyte interface. From Table 3, the observed electrolyte resistance (R_e) and charge-transfer resistance (R_{ct}) of the sample S2 were found to be 2.212 Ω and 3.2 Ω respectively, which is lower than the other samples. The low electrolyte resistance (R_e) and charge-transfer resistance (R_{ct}) of sample S2 is also one of the important reason for the better electrochemical performance as well as the highest specific capacitance of sample S2 based supercapacitor cells compared to that of other cells based on S1, S3, and S4 samples. The results obtained

Table 2. Variation of specific capacitance, energy density and power density at different current densities.

Sample	Current density (mA/cm ²)	Specific capacitance (F/g)	Energy density (Wh/kg)	Power density (W/kg)
S1	1	175	8.11	0.5
	2	257.8	8.8	1
	3	285	8.3	3.5
	4	95	1.9	2
S2	1	484.6	10.8	8.5
	2	412.2	9.2	1
	3	465.6	8.1	1.4
	4	337.5	7.5	2
S3	1	295	4	0.5
	2	300.8	5.8	1
	3	232.1	5.2	1.5
	4	236.7	5.1	2
S4	1	350.8	7.2	0.5
	2	301.6	6.7	1
	3	301.8	8.8	1.5
	4	282.2	6.1	2

Table 3. The value of electrolyte resistance (R_e) and charge-transfer resistance (R_{ct}) of supercapacitor cells based on nanocrystalline Zn doped MgFe₂O₄ electrode samples.

Sample	Electrolyte resistance (R_e) (Ω)	Charge-transfer resistance (R_{ct}) (Ω)
S1	1.528	0.5
S2	2.212	3.2
S3	1.68	3.5
S4	1.672	3.5

शिकंजे का दर्द आत्मकथा में अभिव्यक्त हाशिए समाज

Dr. S.B.Watane



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‘शिकंजे का दर्द’ आत्मकथा में अभिव्यक्त हाशिए का समाज

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साहित्य का सृजन मनुष्य की मानसिक, भावनिक और सामाजिक जरूरतों की सहज उत्पत्ति है। इसीलिए उसमें मनुष्य की भावनाएँ, विचार, व्यनस्था की अपेक्षाएँ, समाज के साथ संबंध, उत्पत्तियुक्त और प्रसंगवश समाज के लिए प्रेरक विषयों की अभिव्यक्ति होती है। हिंदी साहित्य के इतिहास की एक लंबी परंपरा रही है। साहित्य के इतिहास में अनेक परिवर्तन हुए जिन्होंने हिंदी साहित्य की मुख्य धारा को प्रभावित किया। आदिकाल, भक्तिकाल, रीतिकाल एवं आधुनिक काल तक हिंदी साहित्य में अनेक मोड़, विचारधाराएँ एवं परिवर्तन आते रहे हैं। वर्तमान युग का हिंदी साहित्य - नारी विमर्श, दलित विमर्श, आदिवासी विमर्श, निम्न विमर्श, वृद्ध विमर्श आदि आंदोलनों को लेकर जोर पकड़ता हुआ दृष्टिकोण हो रहा है। साहित्य को समाज का प्रतिबिम्ब कहा जाता है। साहित्य में समाज की समस्याओं के अनुरूप चित्रण होता रहा है। समय एवं परिस्थितियों के साथ आंदोलनों का स्वर बदलता रहा है।

हिंदी साहित्य में दलित जीवन से जुड़ी रचनाओं का प्रारंभ शिव डोग, निराला और प्रेमचंद जैसे रचनाकारों की रचनाओं से माना जाता है लेकिन उनकी रचनाओं की पहचान दलित साहित्य के रूप में कम गंभीर ढंग पर अधिक केंद्रीत प्रतीत होता है। १९६० के आसपास मराठी में दलित आंदोलन के उभार के साथ ही धीरे-धीरे दलित जीवन से जुड़ी रचनाओं का आना शुरू हुआ और १९८० तक हिंदी में भी दलित साहित्य के रूप में रचनाओं का आना आरंभ हुआ। दलित शब्द एवं दलित साहित्य को अनेक विद्वानों ने परिभाषित करने का प्रयास किया। एच.आर.गौटम इस संबंध में लिखते हैं- दलित कहा जाने वाला ही कभी छुद्र अनार्य, अछूत और गंधी जी का हरिजन कहा जाता है। इसमें आदिवासी घुमन्तू अपराधशील, बालीयाँ महिलाएँ और बंधुआपबद्ध भी सम्मिलित हैं। इनका अपमान, शोषण और प्रताड़ना होती रही है। पशुओं से भी बदतर इन्हें माना गया है। इनको छूना भी पाप माना गया है। भगवान और भाग्य का भव दिखाकर इन्हें यथा स्थिति में बने रहने के लिए विवश किया गया।¹

हिंदी गद्य साहित्य के अंतर्गत आत्मकथा साहित्य एवं जीवनी साहित्य की समृद्ध परंपरा है। आत्मकथा साहित्य में साठ के दशक में दलित आत्मकथाओं का आना सुफान की तरह था। प्रारंभ में मराठी में और फिर हिंदी साहित्य में दलित आत्मकथाओं का आना परिवर्तन एवं क्रांति का दौर चला जा सकता है। दलित आत्मकथाओं के बारे में बालमीकि जी कहते हैं, -किसी भी दलित द्वारा लिखी आत्मकथा सिर्फ उसका जीवन गाथा नहीं होता बल्कि उसके समाज की जीवन गाथा भी होती है। लेखक की आत्म अभिव्यक्ति होती है। उसके जीवन के दुःख, दर्द, अपमान, उपेक्षा आत्मकथा उसकी जाति एवं समाज के दुःख दर्द और अपमान, उपेक्षा इत्यादि को भी स्वर देता है।²

सुशीला टाकभोरे की आत्मकथा ‘शिकंजे का दर्द’ दलित नारी के शोषण के विरुद्ध के संघर्ष की गाथा है। सुशीला टाकभोरे की इस आत्मकथा ने अपने पारिवारिक और सामाजिक संघर्ष को जिस तरह शब्दबद्ध किया है। वह इसे दलित साहित्य में एक विशिष्ट स्थान देता है। एक स्त्री होने की पीड़ा और दलित जीवन की पीड़ा एवं चिसंगतियों को अभिव्यक्त करने में लेखिका को सफलता मिली है। लेखिका कहती है कि ‘शिकंजे का दर्द’ लिखने का उद्देश्य दर्द देने

वाले शिकंजे को तोड़ने का प्रयास है। जंगल में शिकारी द्वारा बिछाने गए शिकंजे में जब कोई जानवर फंस जाता है। मुक्ति करने के लिए छटपटाता है, दर्द उठाना ही बढ़ते जाता है। वह मजबूर, लाचार, होकर दर्द, पीड़ा, दुःख को लगातार सहता रहता है। ठीक इसी तरह दलितों में भी दलित समझी जाने वाली नारी पर सदियों से अन्याय, अत्याचार होते रहे हैं, शोषण होता रहा है। डॉ. सुनील जाधव का कथन इस पर गहरा प्रकाश डालता है - दलितों में भी दलित समझे जाने वाली नारी मनुवादी समाज, दलित समाज, मनुवादी मनोवृत्ति वाले पुरुषोद समाज के शिकंजे में बह कई वर्षों से फंसी भीतर से मुक्ति के लिए छटपटाती अपने नारी जीवन को कोसने के लिए विवश दिखाई देती है। जन्म से लेकर मृत्यु तक आत्मपीड़न पीड़ा, संक्रास छुटन, अन्याय अत्याचार, दुःख दर्द उपेक्षा को सहते- सहते मनुवादी समाज और मनुवृत्ति वाले पुरुषों के विरुद्ध आज की दलित नारी में आक्रोश और विद्रोह प्रकट हो रहा है।³

सुशीला जी का परिवार इसी शोषण चक्र का शिकार था। समाज के शिकंजे का वह पहला दर्द था। जिसमें उनका समाज छटपटाता रहा था उस समय लड़कियों को पढ़ने का रिवाज नहीं था। पढ़ने लिखने का रिवाज एवं हक सिर्फ लड़कों को था। वह भी दलितोत्तर जातियों को ही था। पढ़ने को लेकर सोच यह थी -बच्चों को पढ़ाकर क्या होगा ? अपनी जात तो बही रहेगी। नजर रोजगार तो अपनी जात के ही करतो पड़ेगा फिर क्यों बच्चों को परेशान करें ?⁴

लड़कियों को तो केवल विवाह एवं समुदाय में पति की सेवा का ही कर्तव्य था। सुशीला जी के माता-पिता तथा नानी ने यह अच्छी तरह समझ लिया था कि मनुवादी शोषण, जातिभेद एवं छुआछूत से मुक्ति पाना है तो उसके लिए आवश्यक है शिक्षा। ये शिक्षा के प्रति जागरूक थे इसीलिए उन्होंने कर्मभेद और जाति भेद की कठोरता के बावजूद सुशीला को यथा संभव पढ़ाया। सुशीला के मन में भी वह विचार बनना कि इस पीड़ा से मुक्ति का मार्ग शिक्षा ही है। -सच कह था-कब आवा थीवन, जान न पाया मन। शिकंजे में जकड़ा जीवन कभी मुक्ति भाव का अनुभव ही नहीं कर पाया। जिदगी एक निश्चित की गयी तिक पर चलती रही। वह उमंग कभी मिली ही नहीं जो जीवन का एहसास कराती। उम्र के साथ कष्ट अनुभूतियों के दश

महामुख होते रहे। पीछा ये छटपटाता मन मुक्ति का ध्येय लेकर आगे बढ़ता रहा। तब मुक्ति का मार्ग मैंने शिक्षा प्रकृति को ही माना था।¹⁸

'शिकंजे का दर्द' आत्मकथा में लेखिका ने अपनी लेखनी के माध्यम से अनेक घटनाओं द्वारा अपना प्रतिरोध अभिव्यक्त किया है। मनुवादी हिंदू धर्म में सुशीला ने बहुत दुःख सहा मनु धर्म ने दलित (भंगी) समाज को हमेशा उपेक्षा एवं हीन दृष्टि से देखा। सुशीला जी स्कूल का जन्मभूत लिखती है कि स्कूल में शिक्षक और विद्यार्थी सभी छुआछूत का पालन करते थे। उसे कक्षा में सबसे पीछे बर्त पर बैठना पड़ता था। दलित छात्र अपने हाथ से पानी भी लेकर नहीं पी सकते थे। इन बातों का सुशीला के मन पर गहव प्रभाव पड़ा उन्होंने स्वयं को हिंदू मानने से इनकार किया। दलित समाज समझ नहीं पाया कि वे हिंदू है या उनका कोई धर्म भी है। ऐसे ही दर्द को प्रकट करते हुए वे लिखती है- हमारे लोगों का अपना कोई धर्म नहीं था। हिंदू, मुस्लिम, सिख सभी धर्म के देवी-देवता, पीर-फकीर, गुरु और महापुरुषों को मानते थे। असल में वह मात्र अनुकरण था। हिंदू कभी किसी दूसरे धर्म की बातों को नहीं मानते। हम मानते थे मातलब हम हिंदू नहीं थे। हमें अपना धर्म पता ही नहीं था।¹⁹

सुशीला जी लिखती है वह बचपन में माँ, नानी और बहन के साथ भजन, रासलीला और कच्वाली सुनने जाती थी। उन्हें यह भी पता है कि गाँव के ब्राह्मण पंडित नानी- माँ को दीन-हीन जीवन जीने के आदर्श और सदाचार देते रहते थे शिकंजे का यह दर्द, यह छटपटाहट उनके मन में आक्रोश निर्माण करता है। उन्हें लगता है कि हिंदू धर्म में बौद्ध, पहाड़, पेड़, पौधे, जानवर सभी को महत्व और सम्मान दिया जाता है लेकिन अछूते मनुष्यों को स्वाम नहीं कोई सम्मान नहीं। सुशीला जी आक्रोश में लिखती है कि हिंदू धर्म के आडंबर में मिट्टी से बने पुतलों को भी भगवान की तरह पूजा जाता है मगर इंसान को इंसान नहीं मानते। उनके मतानुसार वह हिंदू धर्म की निरंभना है हिंदू संस्कृति का कलंक है लोग इसे ही धर्म कहते हैं।

विवाह के पश्चात सुशीला को पति और नन्द के द्वारा बहुत प्रताड़ित किया गया। अत्याचार करनेवाला तो अपराधी होता ही है, पर अत्याचार सहनेवाला भी अपराधी होता है वह बात लेखिका बहुत देर से समझ पाई। नारी नींद होकर अपना रोष प्रकट करे तो पुरुष का होश ठिकाने लग जाता है। इस बात की अनुभूति सुशीला को तब हुई जब उन्होंने 'वेप्पल अपार्टमेंट' का फ्लैट बुक किया था, जिसके लिए एक लाख का प्रबंध उन्होंने किया। रजिस्ट्री होने से पहले पति अक्षर कहते थे कि मैं फ्लैट बिट्टू (बेटा) के नाम कर दूँगा। तू उसके दरवाजे पर पेशेबानी की भीख माँगी नबर आओगी। पति की इस बात का उन्हें बेहद बुरा लगा और उन्होंने दृढ़ निश्चय किया कि फ्लैट सिर्फ मेरे नाम से खरीदेंगे, तभी मैं अपना बचपन दूँगी। नहीं तो एक पैसा नहीं दूँगी। चाहे फ्लैट खरीदो चाहे मत खरीदो। और फ्लैट उन्हीं के नाम खरीदा गया। आज भी भारत में पति द्वारा प्रताड़ित एवं पीड़ित पत्नीयों की संख्या बहुत है। उन्हें स्वयं निर्णय लेने का भी अधिकार नहीं। आर्थिक रूप से भी वे पति या पिता पर निर्भर हैं। डॉ.सत्य प्रसाद मिश्रा का निम्न कथन इस पर सटीक प्रकाश डालता है - ज्यादातर कामकाजी लिवों का स्वयं अपनी कमाई पर अधिकार

नहीं है। उसे खर्च करने का निर्णय उनके हाथ में नहीं है। अधिकतर उनकी नन्वाई पति, पिता या परिवार के मुख्य सदस्य हथिया लेते हैं और बाहर नौकरी करना उनके लिए मजबूरी बन जाती है। इस प्रकार से घर और बाहर के दोहरे काम का बोझ उठाते हुए वे दोहरे शोषण का शिकार होती हैं।²⁰

जाति भेद की लीला का अहसास सुशीला जी को तब हुआ जब उनकी शास का देहान्त हुआ। केवल जातिवादी मानसिकता के कारण मृत इंसान को कंधा देना तो बहुत दूर भी बात सहव उसे देखनातक मुनसिब नहीं समझा जाता है। सुशीला जी ने इस बात की अनुभूति सी। मानवता को कलंक लगाने वालेमानव का ऐसा धिनीता रु उन्हीं देखा। उनकी सहायता के लिए कोई नहीं आया। मनुष्य जातिभेद की समाज व्यवस्था में इतना संवेदनहीन कैसे हो सकता है ? शिकंजे के इस दर्द को अभिव्यक्त करते हुए वे लिखती है - जहाँ हम एक साल से रह रहे थे, उस मोहल्ले के लोग मुझसे एक शब्द नहीं बोले थे। इतनी बड़ी दुःखद घटना होने के बाद भी संवेदना सहानुभूति का भाव नहीं बता सके। किसी ने अपने बच्चों को भी नहीं झूलने नहीं दिया। ऐसा असामाजिक व्यवहार ?²¹ विल तरह किसी ताकतवर को शिकंजे में जकड़कर उसकी पूरी ताकत को नष्ट करना दिया जाता है, उसी तरह लेखिका को भी सामाजिक जीवन की मनुवादी विषमता ने, सर्कवादी- जातिवादी समाज व्यवस्था ने जकड़कर रखा, जिसका परिणाम पीड़ा, दर्द, छटपटाहट के सिवा कुछ नहीं है।

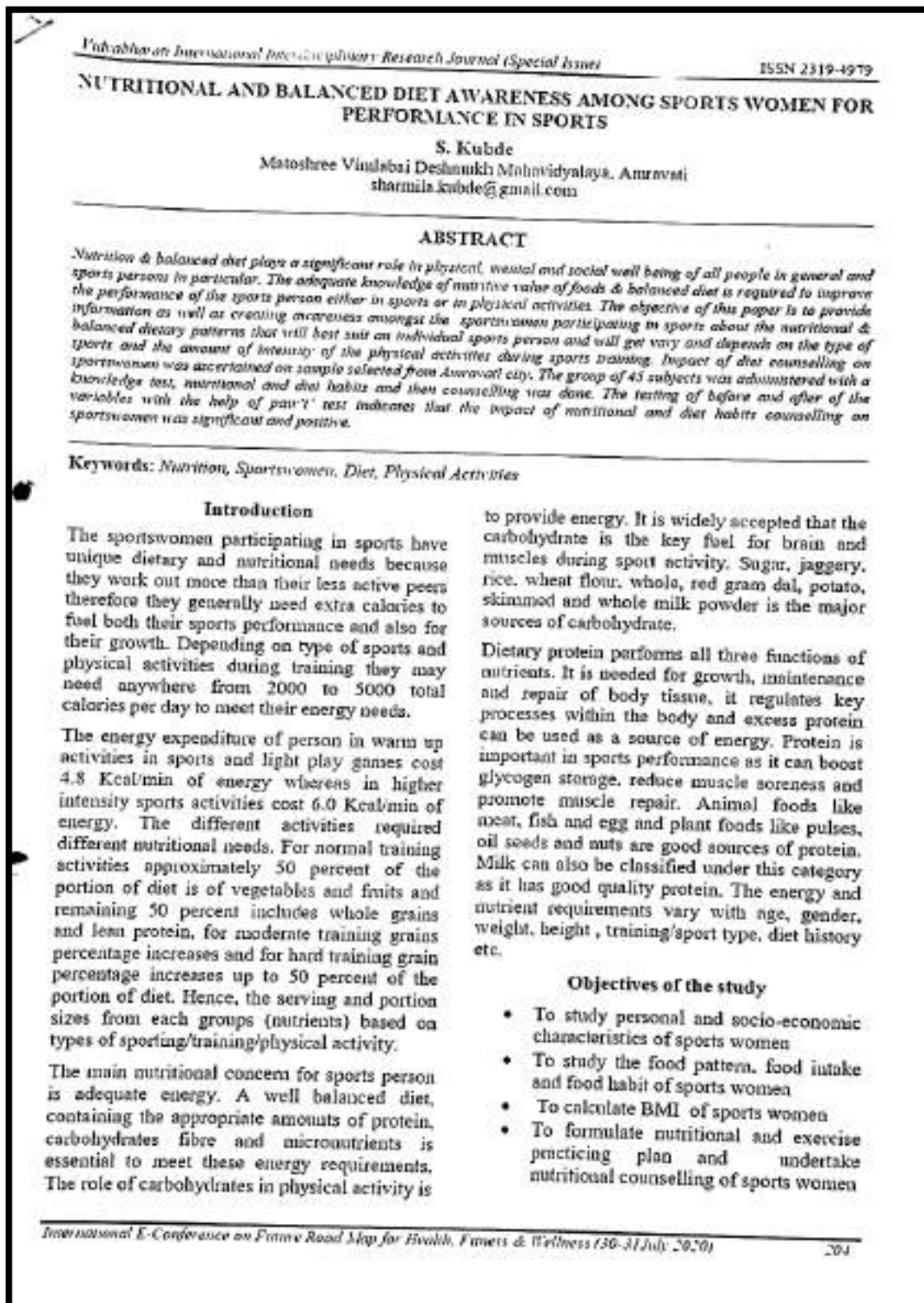
निष्कर्षतः कह सकते हैं कि दलितों में दलित समझे जाने वाली नारी की संवेदना की यह आत्मकथा है। वर्ग व्यवस्था की बदौलत नन्मी एवं पन्मी जाति व्यवस्था, छुआछूत की भावना एवंअकेले चलते एक मनुष्य के द्वारा दूसरे मनुष्य के साथ संवेदनहीन, मानवीयता हीन व्यवहार एक तरह से शिकंजे का दर्द ही है। सुशीला जी की यह कथा दोहरे स्तर पर है। एक तरफ दलित के रूप में मिलने वाला हीनव्यवहार और दूसरी ओर एक नारी के रूप में उससे भी हीन व्यवहार उन्हे अनुभूत किया। यथार्थ शैली में लिखी यह आत्मकथा सामाजिक व्यवस्था को फिलान, मरन के लिए विवश करती है। उन्होंने यह जान लिया था कि इस दोहरे स्तर पर होने वाले अन्याय, अत्याचार एवं शोषण से मुक्ति पाने का एकमात्र रास्ता शिक्षा है। मनुवादी गुलामी से निकलकर स्वयं और समाज को यदि सही नकने में विकसित करना है, तो समाज में परिवर्तन की लहर लानी होगी।

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Nutritional and Balanced diet awareness among sports women for performance in sports

Dr. S.R.Kubde



- To study the impact of diet counselling of sports women in terms of their knowledge and nutritional practice

Methodology

The present study emphasised on assessment of impact of dietary counselling on sports women can use. A before-after one group experimental design was used. The study was undertaken in Matoshree Vinlabai Deshmukh Mahavidyalaya, and Shivaji College of Physical Education, Amravati, State of Maharashtra. A random sample of 45 sports women was selected for the purpose of the study. The data were collected with the help of structured interview schedule. An interview schedule, the questions related to personal and family characteristics information on food-habit, diet pattern, knowledge about nutrition, nutritional practices, nutrient composition and exercise pattern. The observation schedule was also developed and used for recording observation pertaining to anthropometric measurement. A list of items for dietary counselling to the sports women was constructed by consulting the expert in nutrition, and health. The list included items related to food pattern and practices as well as exercise type. The data were collected at two point of time, that is, before dietary counselling and after a lapse of one month period after counselling. The data were then categorised, tabulated and analysed. The effect of diet counselling was ascertained before and after counselling and means were tested with the help of 't' test.

Results and Discussion

A total of 45 sports women were selected for the study. In the age- socio- economic profile the subject's selected 40% female sports player were in the age group of 18 years followed by 17 years. While only 4.44 % are of 16 years of age Table 1 and 84.4% belongs to nuclear family, whereas maximum 60% of sportswomen were from small family. Most of them are doing graduation. The monthly income of 60% of the families is in the range of 25000 to 40000 Rs. Per month and only 9% of the families having income more than 50000.

Table 1: Distribution of sports women according to their age-socio-economic characteristics

Sr. No.	Age wise distribution in years	Numbers	Percentage
1	16	02	04.44
	17	06	13.33
	18	13	28.90
	19	18	40.00
	20	06	13.33
2	Education		
	11-12 th Graduation	03 42	06.7 93.3
3	Family type		
	Nuclear Joint	38 07	84.4 15.6
4	Family size		
	Small (1-4) Medium (5-6) Large (above 7)	27 12 06	60.0 26.7 13.3
	5	Occupation of father	27
Farming		14	31.1
Service		00	00
Business Independent profession		07	15.6
6	Monthly income		
	Up to Rs. 25000- 40000 41000-50000 Above 50000	27 14 04	60.0 31.0 09.0

Table2: Distribution of sportswomen according to diet habits and meal pattern

Sr. No.	Particulars	Categories	No. (n=45)	Percentage
1	Diet habits	Vegetarian	30	66.67
		Non vegetarian	15	33.33
2	Meal pattern	Lunch+Dinner	20	44.45
		Breakfast+Lunch+Dinner	18	40.00
		+	02	4.44
		Lunch+Snacks+Dinner	05	11.11
		Breakfast+Lunch+Snacks+Dinner		

Knowledge about Nutritional and Dietary Habits

The awareness of the sportswomen about nutritional and dietary habits was ascertained with help of a knowledge test containing 22 items. The distribution of the sample of

sportswomen on the extent of knowledge possessed by them before and after counselling is depicted in Table 3. It was observed that before nutritional and dietary counselling majority of the women (57.8%) were in medium category of knowledge. It was followed by 31.1 percent in high and 11.1 percent in low knowledge category.

Table 3: Distribution of sportswomen according to their knowledge about nutritional and dietary habits

Sr. No.	Category	Before Counselling		After Counselling	
		No.	Percent	No.	Percent
1	Low (0-7)	05	11.1	00	0.00
2	Medium (8-14)	26	57.8	23	66.67
3	High (15-22)	14	31.1	42	93.33

However, after counselling about three fourth of the sportswomen (93.33%) showed that they possessed adequate knowledge and put under high category. The findings reveal that there had been appreciable increase in knowledge of sportswomen about nutritional and dietary habits after counselling.

Adoption of Nutritional and Dietary Habits

The actual use of identified nutritional and dietary habits by the sportswomen was studied before and after counselling and the results of the same are given in Table 4. It is evident from the distribution in Table 4. That nearly two third of the sportswomen (62.2 %) were observed in medium category of adoption before counselling. It was followed by 36.3 percent of sportswomen who were observed to have low adoption. Only a negligible percentage of the women had high adoption.

However, after counselling it was observed that as much as 82.22 percent sportswomen were included in medium category and remaining 17.78 percent were observed in high adoption level. None of the women was seen in low level of adoption.

The results clearly show the effect of nutritional and dietary habits counselling on

promoting the adoption of recommended nutritional and dietary habits by sportswomen.

Table 4 : Distribution of sportswomen according to adoption of nutritional and dietary habits.

Sr. No.	Category	Before Counselling		After Counselling	
		No.	Percent	No.	Percent
1	Low (Up to 4)	15	33.3	0	0.0
2	Medium (5-8)	28	62.2	37	82.22
3	High (Above 8)	02	4.5	08	17.78

Nutritional intake

The amount of various food stuffs consumed by the sports women during the whole day was ascertained (24 hour recall method) was used and from that amount the nutritional intake in terms of total calories, carbohydrates, proteins and fibre was worked out at two points of time, that is, before dietary and health counselling and after counselling. The findings are noted in Table 5. The intake of total calories by majority of sports women was found to be in normal (71.11%), however after counselling there had been lot of change and majority of the sports women (93.33 %) were observed in normal category of intake. Carbohydrate intake bring out that before counselling on (44.45 %) women were in below normal intake. However after counselling this percentage in normal category gone up to (93.33 %) Before counselling there were (53.33 %) women in normal category of protein intake. After counselling more than half of the sports women (66.67%) were observed in normal intake level. Intake of fibre showed that higher percentage of women (44.45 %) sports women had normal intake. However, their percentage in normal intake category gone up to 71.11 percent after counselling. The effect of dietary counselling on nutritional intake indicated that there had been a positive effect on the sports women. Their intake of total calories, proteins, carbohydrates and fibre has drastically been increased.

Table 5: Distribution of sports women according to nutritional intake

Sr. No.	Nutrients	Categories	Before counselling		After counselling	
			No.	Percent	No.	Percent
1	Total calories	Below normal (1200-1500) K.cal.	02	4.44	00	00.0
		Normal (1501-2000) K.cal.	32	71.11	42	93.33
		Above normal (Above 2000) K.cal.	11	24.45	03	6.67
2	Total carbohydrates	Below normal (Up to 200 gm)	20	44.45	03	6.67
		Normal (200-250 gm)	15	33.33	42	93.33
		Above normal (More than 250 gm)	10	22.22	00	00.0
3	Total proteins	Below normal (Up to 4 gm)	20	44.45	14	31.11
		Normal (4 to 50 gm)	24	53.33	20	66.67
		Above normal (More than 50 gm)	01	2.22	01	2.22
4	Total fibre	Below normal (Up to 40 gm)	09	20.0	05	11.11
		Normal (41 to 50 gm)	20	44.45	32	71.11
		Above normal (More than 50 gm)	16	35.55	08	17.78

Anthropometric measurement

The anthropometric measurements of height and weight of the sports women is the indicator of their health status. The health in respect of height and weight is the reflection of nutrition. The anthropometric measurement of selected sports women before and after dietary and health counselling were taken and their distribution is given in Table 6

Table 6: Distribution of sports women according to their anthropometric measurements.

Sr. No.	Particulars	Categories	Before counselling		After counselling	
			No.	Percent	No.	Percent
1	Height	Below normal	15	33.33	15	33.33
		Normal 153.2-154.8cm	28	62.22	28	62.22
		Above normal	02	4.44	02	4.44
2	Weight	Below normal	12	26.67	10	22.22
		Normal 45.2-46.6 kg	32	71.11	35	77.78
3	Body mass index	Normal 16.2-22	41	91.11	43	95.56
		Chronic energy deficiency <16.5	01	2.22	01	2.22
		Over weight >22	03	6.67	01	2.22

Body height measurements showed that majority of the sports women (62.22%) were in the body height group in 153.2 to 154.8 cm in normal category. Majority of the sportswomen were found to be in body weight normal category of 45.2- 46.6 Kg. both before and after counselling. Results also reveal that there were 95.56 percent sportswomen in normal category before counselling and only 2.22 percent sportswomen are overweight and chronic energy deficiency. A positive effect of nutritional and dietary habits counselling was observed on BMI of the sportswomen.

Impact of dietary counselling on sportswomen

The major emphasis in the present investigation was an assessing the impact of nutritional and dietary habits counselling on knowledge about nutrition and dietary habits, adoption of nutrition and dietary habits and nutritional intake of sportswomen.

The data collect at two point of time was therefore tested for mean differences of before and after counselling. The findings of the analysis are given in Table 7.

Table 7 : Testing of mean difference on knowledge, adoption of nutritional and dietary habits and nutritional intake of sportswomen before and after counselling.

Sr. No.	Parameter	Before Counselling		After Counselling		t' value
		Mean	SD	Mean	SD	
1	Knowledge about nutritional and dietary habits	14.5	5.1	20.4	3.5	10.32**
2	Adoption of nutritional and dietary habits	9.8	2.9	14.2	1.8	9.13**
3	Nutritional intake					
	Total calories	1528.8	239.8	2331.2	438.4	14.00**
	Carbohydrates	222.1	39.1	392.5	65.7	7.58**
	Proteins	39.6	6.3	56.7	7.4	3.13**
	Fibres	37.8	5.3	40.8	7.8	2.01*

** Significant at 0.01 level of probability

* Significant at 0.05 level of probability.

The results depicted in Table 7 reveal that there had been substantial addition in knowledge about nutrition and dietary habits in sportswomen as the mean knowledge score increased to 20.4 after counselling from 14.5 before counselling. The increase was also found to be positive and significant at 0.01 level probability as established by the significant 't' value (t=10.32). The hypothesis that dietary counselling of sportswomen has positive impact on their knowledge has therefore been proved.

With regard to adoption of nutritional and dietary habits (Table 7) also there had been increase in adoption. The mean adoption score

has indicated an increase from 9.8 before counselling to 14.2 after counselling, the difference between these mean when tested with the help of 't' test it was found to be significantly positive (t=9.17). Confirming the hypothesis it may be definitely said that the dietary counselling of sportswomen has resulted in promotion of adoption of nutrition and healthy food habits.

The impact of dietary counselling on nutritional intake of sportswomen shows that (Table 7) there had been a positive and significant effect on intake of total calories, carbohydrates, protein and fibres by the sportswomen as the 't' values in all the nutrition intake were significant.

The above results pointed out that the dietary counselling has produced a positive impact on knowledge, awareness and adoption of nutritional and healthy dietary habits as well as actual intake of various nutrients by the sportswomen.

Conclusions

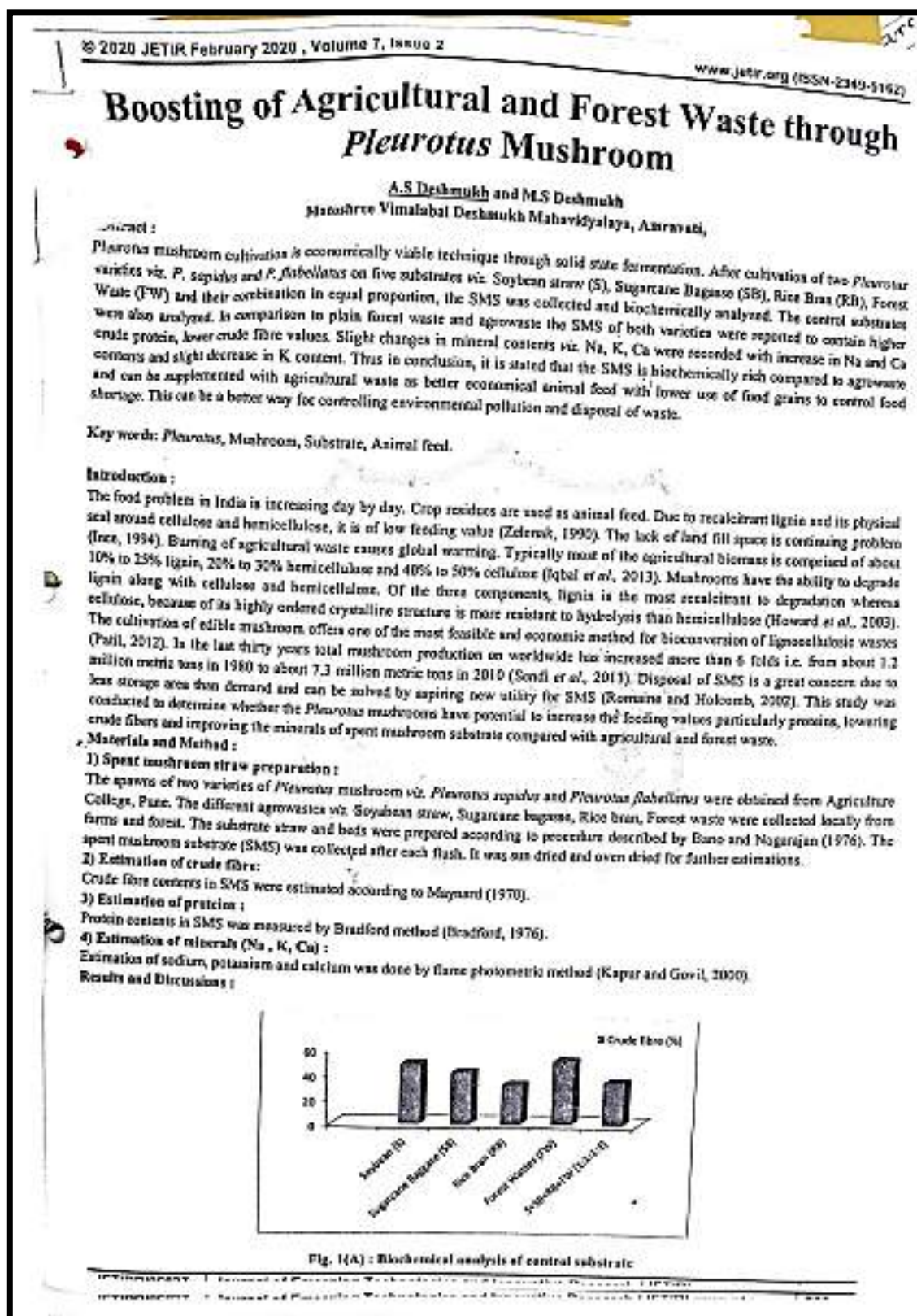
Healthy eating habits and the use of nutritive food is necessary to support energy needs for training, sport activity and physical exercise of sportswomen. The findings of the present study leads to the conclusion that the impact of nutritional and dietary habits counselling was found to be positive in increase in knowledge, awareness and adoption of nutritional and healthy food habits as well as intake of total calories, carbohydrates and fibres. There had also been increase in intake of protein. The effect of nutritional and healthy dietary habits on sports training and performance was observed to be positive.

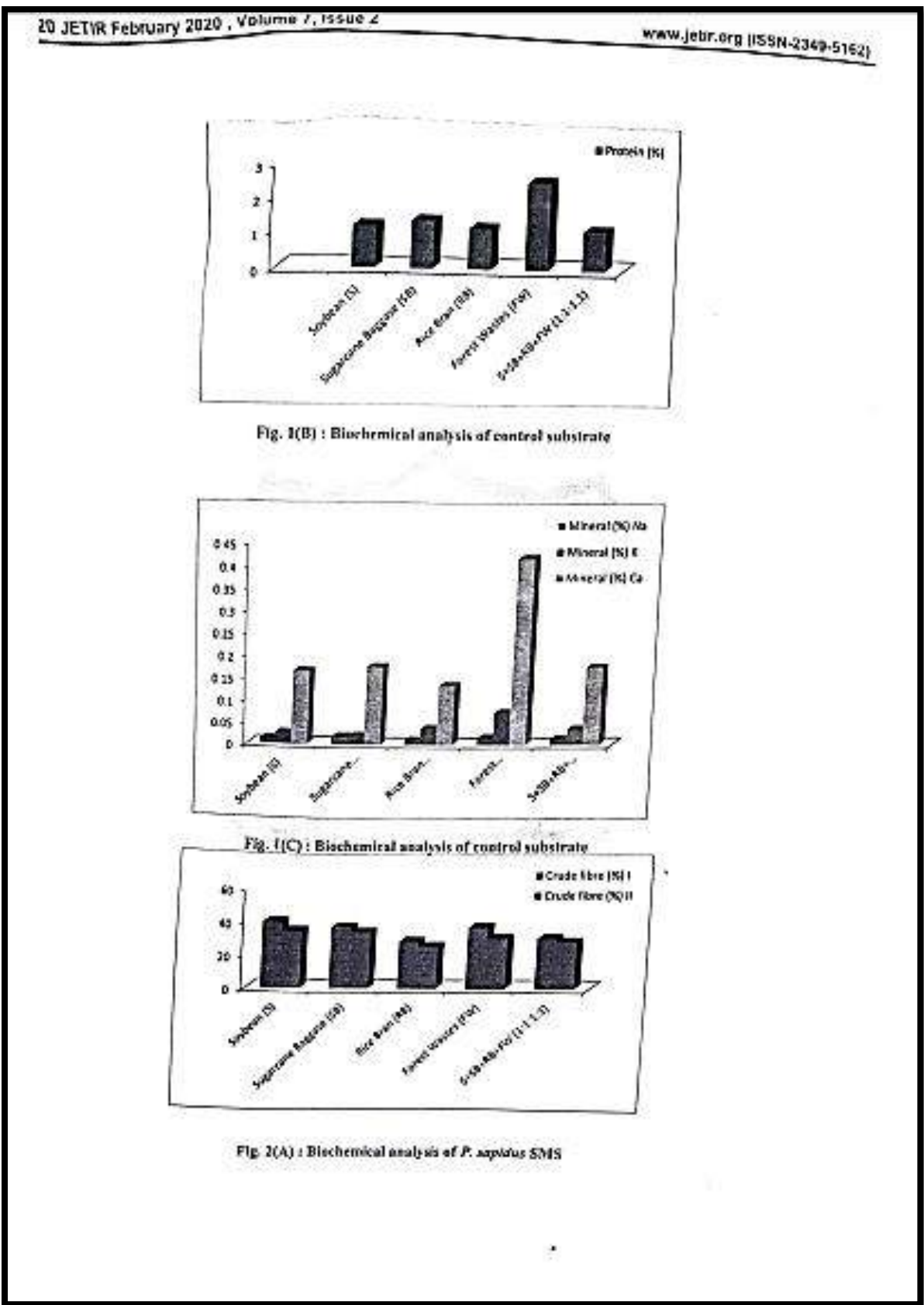
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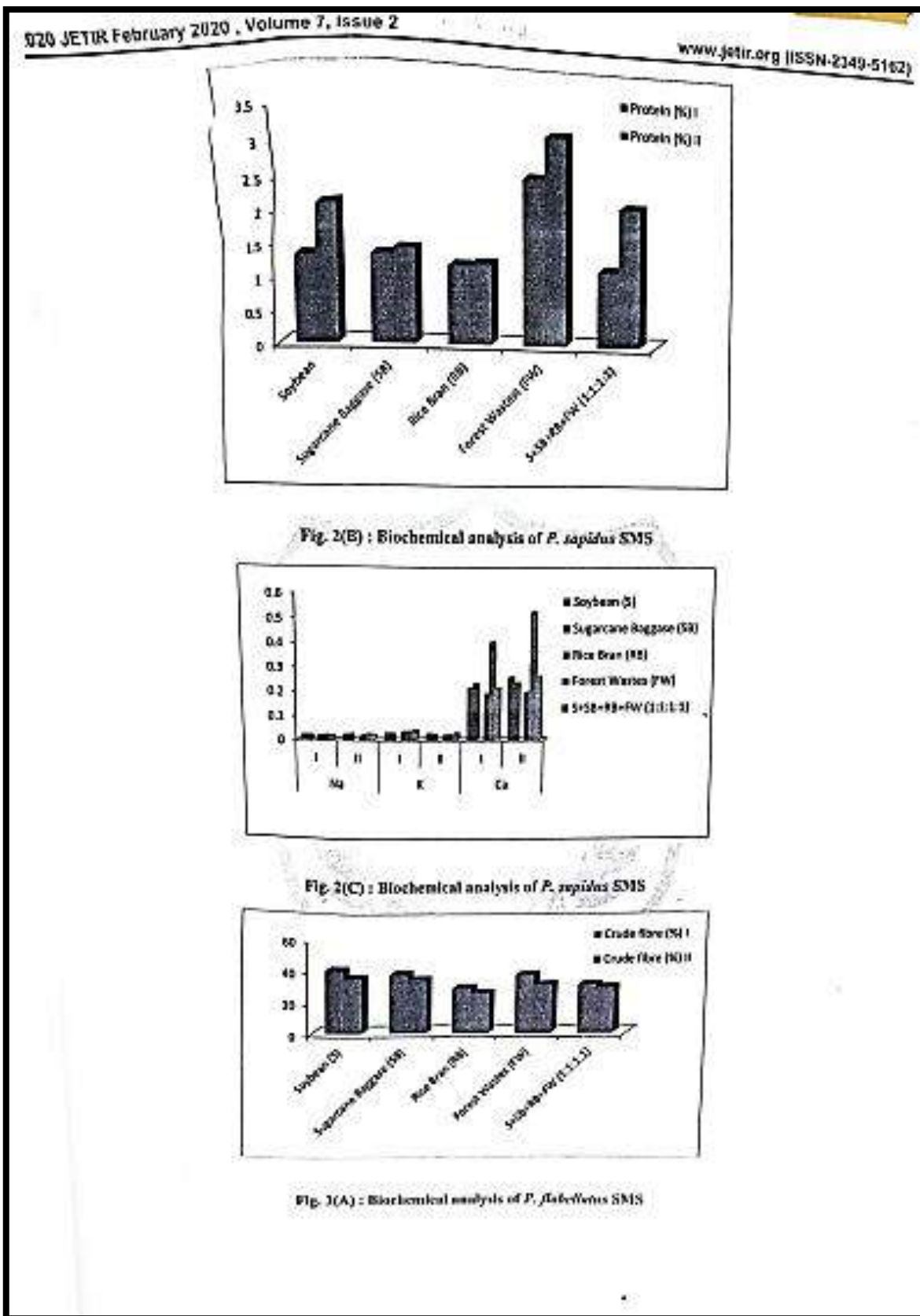
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Boosting of Agricultural and Forest Waste through Pleurotus Mushroom-

Dr.A. S. Deshmukh







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Substrate	Protein (%)
Soybean (S)	~1.4
Sugarcane Bagasse (SB)	~1.5
Rice Straw (RS)	~1.8
Forest Waste (FW)	~2.1
S+S+SB+RS+FW (1:1:1:1)	~2.3

Fig. 3(B) : Biochemical analysis of *P. fibulatus* SMS

Mineral	I (Control)	II (SMS)
Na	~0.01	~0.02
K	~0.02	~0.01
Ca	~0.15	~0.25

Fig. 3(C) : Biochemical analysis of *P. fibulatus* SMS

It was observed that the maximum decrease in crude fibre (%), the maximum increase in protein content (%) in SMS of *P. sapidus* and *P. fibulatus* were recorded as [42.5% (FW), 46.63% (S+SB+RS+FW)] [40.57% (FW), 43.37% (S+SB+RS+FW)] respectively. The range of increase in protein content is [5.25% to 46.63% (*P. sapidus*); 6.51% to 43.37% (*P. fibulatus*)] and extent of decrease in crude fibre content is [6.13% to 42.5% (*P. sapidus*); 17.14% to 40.57% (*P. fibulatus*)].

The extra cellular lignolytic enzymes secreted by *Pleurotus* species may be responsible for reduction in cell wall components and also increase in protein contents as well as diminution in crude fibre contents in SMS.

The present study reveals the augmentation in mineral contents viz. Na, Ca, whereas slight decrease in K contents is observed. According to Paul et al. (2010), *P. ostreatus* spent straw viz. soybean straw, wheat straw and their combinations presented similar results to our study as an increase in crude protein content (4.9% to 9.9%) decrease in crude fibre content (16.20% to 22.07%). Kut Lu et al. (2008) recorded the increase in crude protein content by 60% on wheat straw and 16% decrease in crude fibre content by inoculating with *P. florida*. The results are comparable to our study. Nifi et al. (2007) reported higher value of increased CP content of *Pleurotus* varieties (5.22 to 6.75g/100g) on rice straw. As compared to plain agrowaste slight differences in Na, K and Ca contents are observed. Only a slight increase in Na, Ca and decrease K contents is seen in both the SMS varieties. The mean values of spent *Agricus* mushroom from Pennsylvania for Na, K, Ca contents were 0.11%, 1.04%, 2.32% respectively (Fidanza et al., 2010). The values are higher as compared to our study.

Maruaha et al. (1990) reported that in vitro DM digestibility of wheat straw fermented with *P. sajor-caju* have higher concentration of CP. The *P. saevus* SMC had not only increased crude proteins (upto 16.34%) but it was also enriched in vitamins, amino acid, cellulose and used as feedstuff for animals such as beef, rabbits and pigs (JAIN, 2000). *Schizophora* SMC along with cow manure, banana peels were used as food material to raise number of earthworms. A total of 1318 earthworms were produced from 50 earthworms (Diao, 2003). Li Hao-Bin reported feeding different percentage (20%, 25%, 30%) of waste material from *Lentinus edodes* and *Pleurotus ostreatus* (WMLLE) and normal diet to non pregnant sows, pregnant sows and suckling sows. Living piglets number average weight of new born piglet, lactation ability of sows are all improved. Piglet mortality and diarrhea decreased (Li Hao-Bin, 2005). The fish feed stuff 3:7 of SMC and barley powder respectively increased fish production 35.91% and reduced feed cost 23.7% compared with that of feeding barley powder alone (Oei Peter, 2007).


Conclusion :
The present study concludes that both the *Pleurotus* varieties have ability to improve the nutritive value of agricultural waste as SMS. The most valuable SMS can be used as a supplement to agricultural waste due to high CP, less crude fibre and mineral contents. This can be economically able for reducing the use of food grains and the best solution for controlling environmental pollution.


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Food Consumption Pattern and Dietary Habits of Overweight Pregnant

Dr. S.R.Kubde

	<p><i>B.Aadhar International Multidisciplinary Research Journal</i> Impact Factor - (SJIF) - 2.675 Special Issue</p>	<p>ISSN : 2278-9308 March 2020</p>
<p>Food Consumption Pattern and Dietary Habits of Overweight Pregnant Women</p>		
<p>Sharmila Kubde Associate Professor</p>		
<p>Matoshree Vimlabai Deshmukh Mahavidyalaya, Amravati-444603</p>		
<p>Introduction:</p>		
<p>Overweight occurs as a result of an imbalance between food consumed and physical activity. Obesity is a complex issue related to lifestyle, environment and genes. The importance of nutrition throughout the lifecycle cannot be refuted. However, the significance of nutrition during specific times of growth, development and aging is becoming increasingly appreciated. A women in the underdeveloped world, Pregnancy is the most stressful periods when she sustains a rapidly growing foetus often under hostile conditions. Overweight and obesity is a medical condition which is characterized by an abnormal and excessive fat accumulation that may impair health. The problem of obesity has increased rapidly and affects both developed and developing countries. Health professionals are recognized for quite some time the effects of proper nutrition during pregnancy on the health of the infant and mother, even after her childbearing years.</p>		
<p>Obesity is rising worldwide; being obese during pregnancy increases the risk of various pregnancy complications including the risk of miscarriage, stillbirth and recurrent miscarriage, gestational diabetes etc.</p>		
<p>1. Gestational diabetes is one that is first diagnosed during pregnancy. This condition can increase the risk of having cesarean delivery. Women who have had gestational diabetes also have a higher risk of having diabetes in the future. Obese women are screened for gestational diabetes early in pregnancy and also may be screened later in pregnancy as well.</p>		
<p>2. Eating disorders. The rates of eating disorders during pregnancy are 1% for anorexia nervosa and slightly more for bulimia, with the prevalence likely underestimated. Anorexia and bulimia are associated with increased risk of miscarriage, birth defects, and hyper-emesis and micronutrient deficiencies.</p>		
<p>3. Edema and leg cramps. Mild physiologic edema is usually present in the third trimester and should not be confused with the pathologic, generalized edema associated with preeclampsia.</p>		
<p>4. Sleep apnea is a condition in which a person stops breathing for short period during sleep. Sleep apnea is associated with obesity. During pregnancy sleep apnea not only can cause fatigue but also increases the risk of high blood pressure. Obesity also increases the risk of the following problem during pregnancy, such as, Pregnancy loss, birth defects, macrosomia, preterm birth, still birth and weight loss before pregnancy.</p>		
<p>The best way to get down to a healthy Pre-pregnancy weight is the tried and true method diet and exercise. Cravings and aversions are powerful urges toward or away from foods. Nausea and vomiting was highest in the early months of pregnancy. Pregnant women can consume more than three hundred calories per day i.e. high carbohydrate foods such as crackers jelly and dry toast before arising. Frequent small meals rather than three large ones are preferable. Fluids should be taken between meals rather than at mealttime. Fatty rich foods such as pastries, desserts, fried foods, excessive seasoning and strongly flavored vegetables may be restricted.</p>		
<p>Aim of the Study:</p>		
<p>Food consumption pattern and dietary habits of overweight pregnant women.</p>		
<p>46</p>	<p>Website – www.aadharsocial.com</p>	<p>Email – aadharsocial@gmail.com</p>



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Objectives:

1. To assess socio-economic characters of overweight pregnant women.
2. To study dietary habit and consumption pattern.

Limitations of the study:

A limitation of the study was that only overweight pregnant women's of Dr. Panjabrao Deshmukh Medical College , Amravati were enrolled.

Methodology:

This study was conducted to assess the food consumption pattern and dietary habit of overweight pregnant women.

Methodology is the systematic, theoretical analysis of the methods applied to a field of study. It comprises the theoretical analysis of the body of methods and principles associated with a branch of knowledge.

The methods and procedures used for the study of food consumption pattern and dietary habit of overweight pregnant women are described under the following schedules.

1. Locale of the study
2. Research design
3. Selection of sample
4. Tools of data collection
5. Methods of data collection
6. Statistical analysis

1. **Locale of the study:** The present study was undertaken at Dr. Panjabrao Deshmukh Medical College Hospital in Amravati city, Vidarbha region, Maharashtra state. This study was designed to determine the dietary habits and food consumption pattern of overweight pregnant women of this hospital.
2. **Research design:** This study was carried out to evaluate the food consumption pattern and dietary habit of overweight pregnant women. The comparison between dietary consumption and dietary allowances was also studied.
3. **Sample selection:** A total 25 pregnant women were studied. Data on the dietary pattern of 25 samples of overweight pregnant women were collected using 24 hours recall method.
4. **Tools of data collection:** The food records of 7 days (24 hours recall method) were taken from respondents and results were expressed as a sum of weekly food consumption based on one serving size. The height, weight and BMI were calculated of all overweight pregnant women.
5. **Methods of data collection:** Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes.
6. **Statistical analysis:** Statistical data analyses were performed using the total consumption of seven days of the respondents. The intake of respondents compared to the recommended dietary allowances and ICMR of standard weights and measures was used for portion sizes.

Result and Discussion:

Result is a statement of facts based on the systematically analyzed and tabulated data.

Characteristics of overweight pregnant women:

Table No. 1: Distribution of pregnant women according to their age group.

Sr. No.	Age	Distribution of respondents	Percentage (%)
1	25 to 30	08	32.00
2	30 to 35	12	48.00
3	35 to 40	05	20.00
	Total	25	100

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The data presented in the table no. 1 indicated that the maximum overweight women were in the age group of 30 to 35 years of age.

Table No. 2: Distribution of pregnant women according to their weight.

Sr. No.	Weight in Kg.	Distribution of respondents	Percentage (%)
1	60 to 65	08	32.00
2	66 to 70	14	56.00
3	71 to 75	03	12.00
4	76 to 80	Nil	—
	Total	25	100

The data presented in the table no. 2 indicated that more than 50% of the respondents' weight was in the group of weight 66 to 70 Kg.

Table No. 3: Distribution of pregnant women according to education.

Sr. No.	Education	Distribution of respondent	Percentage (%)
1	10 to 12 th Std.	17	64.00
2	Graduate	09	36.00
3	Post graduate	—	—
	Total	23	100

The table reveals that majority of (64%) respondents' education was 10 to 12th standard and remaining (36%) was graduate.

Table No. 4: Distribution of pregnant women according to type of diet.

Sr. No.	Type of diet	Distribution of respondent	Percentage (%)
1	Lacto-vegetarian	19	72.00
2	Semi-vegetarian	04	20.00
3	Non-vegetarian	02	8.00
	Total	25	100

The table reveals that the percentage of lacto-vegetarian diet respondents are much higher (72%) than semi-vegetarian (4%) and non-vegetarian diet (2%).

Table No. 5: Distribution of overweight pregnant women according to BMI.

Sr. No.	State of health	BMI	Distribution of respondent	Percentage (%)
1	Normal weight	18.5-24.9	04	16.00
2	Over weight	25-29.9	18	64.00
3	Obese	30-39.9	03	12.00
	Total		25	100

Distribution of overweight pregnant women according to BMI presented in table no. 5 indicated that 64% of the respondent women were overweight in 25 to 29.9 group.

Qualitative Comparative Analysis:

QCA is a set of systematic ways of studying causality in a sample data table of binary or ordinal variables. It is mainly used in comparative research or with qualitative data or as part of case study research methods. QCA is a method that bridges qualitative and quantitative analysis. QCA help to discern necessary causality in small samples of N=8 to N=200. QCA offers formal methods for analyzing qualitative data about the characteristics and the contextual background of these cases.



Table No. 6: Comparison/ difference between recommended dietary allowance and consumption of respondents.

Sr .No.	Food groups	Balance diet (g)	Mean of total consumption	Difference	Percentage
1	Cereals	2450	2149	301	87.71
2	Pulses	420	503.60	-83.6	119.90
3	Vegetables	1050	3047.4	-1997.4	290.22
4	Roots & Tuber	350	570.09	-220.09	162.88
5	Fruits	210	375.23	-165.23	178.68
6	Milk	2275	1595.2	679.8	70.11
7	Fat soil	210	395.4	-185.4	188.28
8	Sugar & jaggary	280	365.5	-85.5	130.53
9	Meat, fish, eggs	420	40.25	379.75	9.58

The data presented in the table described that majority of respondents consume more than recommended dietary allowances and they also consume more energy than recommended dietary allowance. Hence it shows that food consumption pattern and dietary habits of pregnant women leads to the overweight.

Conclusion:

The data presented in the study reveals that maximum percentage of respondents (48%) in the age group of 30 to 35 years. The 56% of respondents were overweight because their BMI was in the range of 25 to 29.9 and 12% of pregnant women were obese. Majority of pregnant women were intake lacto vegetarian diet and then semi vegetarian and very small group of respondents consume non-vegetarian diet. Energy consumption was very high in majority of respondents. 76% overweight pregnant women consume more calories than recommended dietary allowance. So they gain more weight. Almost all women consumed daily cereals, pulses, milk, roots and tubers, vegetables and fruits. Majority of women take two times meal & breakfast in a day and two to three times snacks.

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Nutritional Considerations for Performance in Sports

Dr. S.R. Kubde

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NUTRITIONAL CONSIDERATIONS FOR PERFORMANCE IN SPORTS		
DR. SHARMILA KUBDE		
Associate Professor, Matoshree Vimlabai Deshmukh Mahavidyalaya, Amravati		
Abstract		
<i>Nutrition plays a significant role in physical, mental and social well being of all people in general and sports persons in particular. The adequate knowledge of nutritive value of foods is required to improve the performance of the sports person either in sports or in physical activities. The objective of this paper is to provide information about the general dietary patterns that will best suit an individual sports person and will get vary and depends on the type of sports and the amount of intensity of the physical activities.</i>		
Keywords: Nutrition, Sports, Diet, Physical Activities		
Introduction:		
Understanding sport-specific physiologic requirements for training and competition is integral to obtaining sufficient energy, optimal levels of macronutrients, micronutrients and adequate levels of fluids. Exercise and sports nutrition requires essential elements from food to fuel muscle contractions, build new tissue, preserve lean muscle mass, optimize skeletal structure, repair existing cells, maximize oxygen transport, maintain favourable fluid and electrolyte balance and regulate metabolic processes. The human body must be supplied continuously with energy to perform its many complex functions. Three metabolic systems supply energy for the body; one dependent on oxygen (oxidative phosphorylation or aerobic metabolism) and the other two independent of oxygen (creatine phosphate and anaerobic glycol sis or anaerobic metabolism). The use of one system over the other depends on the duration, intensity and type of physical activity (Lisa Dorfman). The energy expenditure of person in warm up activities in sports and light play games cost 4.8 Kcal/min of energy whereas in higher intensity sports activities cost 6.0 Kcal/min of energy. Specific nutrients should be used to maximise the performance of sports	person so as to match with the specific activities. The different activities required different nutritional needs. For normal training activities approximately 50 percent of the portion of diet is of vegetables and fruits and remaining 50 percent includes whole grains and lean protein, for moderate training grains percentage increases and for hard training grain percentage increases up to 50 percent of the portion of diet. Hence, the serving and portion sizes from each groups (nutrients) based on types of sporting/training/physical activity.	Nutrition for Sport and Physical Activities: Sports nutrition focuses its studies on the type as well as the quantity of fluids and food taken by a sport person. In addition, it deals with the consumption of nutrients such as vitamins, minerals, supplements and organic substances that include carbohydrates, proteins, and fats. Sports person require specialized nutrition in order to perform at high levels during events and for maintenance and recovery. The main nutritional concern for sports person is adequate energy. A well balanced diet, containing the appropriate amounts of protein, carbohydrates fibre and micronutrients is essential to meet these energy requirements. The role of carbohydrates in physical activity is
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to provide energy. It is widely accepted that the carbohydrate is the key fuel for brain and muscles during sport activity. The body can store carbohydrates in the muscles, and liver as glycogen and use these stores as a source of fuel for physical activity. Although fats can also be oxidised to release energy, certain cells specially nerve cells and brain tissues cannot function without the availability of glucose from carbohydrate. The amount of carbohydrate needed depend on the frequency, type, and duration of physical activity. Sugar, jiggery, rice, wheat flour, whole, red gram dal, potato, skimmed and whole milk powder is the major sources of carbohydrates. Person doing light activity would need 210-350 g carbohydrate per day whereas for moderate to high intensity training for two hours per day need 420-700 g carbohydrate per day.

Dietary protein performs all three functions of nutrients. It is needed for growth, maintenance and repair of body tissue, it regulates key processes within the body and excess protein can be used as a source of energy. Protein is important in sports performance as it can boost glycogen storage, reduce muscle soreness and promote muscle repair. About 50 percent of protein is present in muscle, 20 percent in bone, 10 percent in skin and the rest is present in other parts of the body. The average daily protein requirement of an adult person in terms of a high quality protein like milk/egg at the physiological level is estimated to be 0.5 g/Kg. The sport person engaged in moderate to high intensity activity requires extra protein increased to around 1.2 – 2.0 g of protein per kg of body weight per day. Animal foods like meat, fish and egg and plant foods like pulses, oil seeds and nuts are good sources of protein. Milk can also be classified under this category as it has good quality protein.

Fat is the major, if not most important, fuel for light to moderate intensity exercise. Even

though maximum performance is impossible without muscle glycogen, fat also provides energy for exercise. Fat- rich foods usually contain fatty acids necessary for transport of fat-soluble vitamins. Proper fluid balance maintains blood volume. Because exercise produces heat, which must be eliminated from the body to maintain appropriate temperatures, regular fluid intake is essential. Sports supplements can include micronutrients, macronutrients or the other substances that may have been associated with a performance benefit, such as creatine, sodium bicarbonate or nitrate. Water intake recommendations for sports person is vary from person to person because of the wide disparity in daily fluid needs created by body size, physical activity and environmental conditions. Approximately 20 percent of the daily water need comes from water found in fruits and vegetables and the remaining 80 percent is provided by beverages includes juices, milk, coffee, tea, soup, soft drinks etc. In whole day 10 to 12 glass of water (4 to 5 litre) is essential for sports person. In warm environments the amounts of water needs increase .In fluid replacement sodium plays an important role, it should be added to the fluid to replace losses and to prevent hyponatremia. Potassium works in close association with sodium and chloride to maintain body fluids as well as generating electrical impulses in the nerves, muscle and heart. The minerals present at levels more than 0.05 percent in the human body are defined as macro minerals. Calcium, phosphorus, magnesium, sodium and potassium belong to this category. Sports person fail to consume a diet with adequate vitamins and minerals can become deficient which can lead to impairments in training and performance. Low nutrient snacks, infrequent nutrient-dense meals, and overall low calorie intakes may cause inadequate intakes of vitamins and minerals. B complex vitamins are also plays an important

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role in sports person diet. It increased energy metabolism creates a need for more of the B vitamin including thiamine, riboflavin, niacin, pyridoxine, folate, biotin, pantothenic acid and choline, which serve as part of coenzymes involved in regulating energy metabolism by modulating the synthesis and degradation of carbohydrates, protein, fat and bioactive compounds. Antioxidant nutrients may enhance recovery from exercise by maintaining optimal immune response and lowering lipid peroxidation. A diet rich in fruits and vegetables can ensure an adequate intake of antioxidants and prudent use of an antioxidant supplements may provide insurance against a suboptimal diet and the increased stress from exercise. The positive benefits of phytonutrients with anti-inflammatory and antioxidant effects, especially anthocyanins found in purple and red fruits and vegetables may help with post training inflammation. Vitamin C is involved in a number of important biochemical pathways that are important to exercise metabolism. Vitamin A, D, E, K have no direct role in energy metabolism rather they play supportive roles in energy use. Vitamin A acts as an antioxidant in reducing muscle damage from exercise. Vitamin K functions in coagulation and bone formation. Vitamin D has played an increasingly important role in sports performance beyond its role in calcium absorption and use in bone formation. Vitamin E is used widely as a supplement by athletes to improve the performance. Vitamin E may protect against exercise induced oxidative injury and acute immune response changes. The essential nutrients, iron, calcium, magnesium and copper have biochemical functions with the potential to affect performance. Iron is critical for sport performance because as a component of haemoglobin, it is instrumental in transporting oxygen from the lungs to the tissues. It performs a similar role in myoglobin, which acts within the muscle as an oxygen acceptor to hold a supply of oxygen readily available for use by the mitochondria. Calcium is mainly required as a building material for strong bones. Without calcium the contraction the muscles would not contract properly to make the limbs move and the blood would not clot. Therefore calcium is an essential element for several life processes. The rich sources of calcium are milk, cheese. Among the leafy vegetables, amaranth, fenugreek and drumstick leave etc. In cereals ragi is a rich source of calcium.

Conclusions:
Consumption of whole some food promotes good nutrition and health. Supplements can't provide all the different components found in nutritive foods so focussing on a food first approach is optimal. Supplements are only a small part of nutrition for sports and physical activity. Healthy eating habits and the use of supplements and nutritive sports food is necessary to support energy needs for training, sport activity and physical exercise. Performance in sports is the culmination of proper training, adequate nutrition, and hydration.


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Development of Education Module in Iodine and its Effects on Knowledge Level of College Going Girls

Dr.S.R.Kubde



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Development of Educational Module on Iodine and Its Effects on Knowledge Level of College Going Girls
Dr. Sharmila Kubde
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Abstract:
 Iodine plays a significant role in physical and mental well being of all people in general and adolescent girls in particular. The adequate knowledge of micronutrient minerals like Iodine is required for growth during early life, which regulates a wide variety of physiological processes. The objective of this paper is to collect the information about the knowledge level of college going girls about Iodine by using experimental research design.
Keywords: college going girls, Iodine, Myxoedema, Thyroid hormones, Goitre

Introduction:
 Iodine occurs in the body in the form of salts known as Iodides. Iodine is an important regulator of energy metabolism. Deficiency of iodine leads to simple Goitre, lack of thyroxin disturbs the physical and mental well being of an individual and causes the disease known as Myxoedema in adults and Cretinism in children. Iodine plays an important role in the synthesis of Triiodothyronine (T3) and Thyroxine (T4). Thyroid hormones play a major role in regulating growth and development of human being. The functional significance of iodine is accounted for its presence in the thyroid hormones, which regulate a wide variety of physiological processes in virtually all tissues of higher organisms. Iodine is required for growth during early life, amphibian metamorphosis, mammalian growth, and cell differentiation, induction of RNA and protein synthesis. Iodine is an essential micronutrient in the diet mostly found in seafood. In iodine deficiency see that swelling in the front of the neck i.e. goitre. It occurs when thyroid gland grows too big. Unexpected weight gain because low iodine levels may slow persons metabolism and encourage food to be stored as fat, rather than be burned as energy. Fatigue and weakness are also common symptoms. When thyroid hormone levels are low, the body can't make as much energy as it usually does. This may cause persons energy levels to plummet and leave a person feeling weak. Low thyroid hormone levels may stop regenerating hair follicles. Dry flaky skin may affect due to iodine deficiency. Iodine helps to regenerate body heat, may affect person's ability to learn and remember. In pregnancy and breast feeding women needs higher amount of iodine than normal women. The daily requirement for iodine has been reported to be about 100 to 150 µg, but most foodstuffs are poor in iodine content. The iodine required by the body appears to be obtained mainly through the drinking water and low iodine content in drinking water, therefore would be the main reason for iodine deficiency.

The aim of the study is to develop educational module for college going girls on iodine for creating awareness about the function, sources and deficiency of iodine.

The objectives are to study the socio-economic characteristics of the college students, to assess the knowledge level of college going girls about the iodine, to develop an education module on iodine, to impart the education about iodine to the students through the education

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module and to evaluate the effect of education module on knowledge level of college going girls.

Methodology:

Methodology is the design process for carrying out research or the development of a procedure. In present study methodology divide under the following categories; the present study was undertaken at Matoshree Vimlabai Deshmukh Mahavidyalaya, Amravati. The experimental research design is use for the present study. Questionnaire is developed for collecting the information on personal and socio economic characters of the adolescent girls. Knowledge test is developed for testing the knowledge level of college students about Iodine. Random sampling method is use for the selection of the sample.100 college going girls was selected for the present study .Pre test and post test were conducted. Questionnaire related to the knowledge on iodine was formulated. There are 20 questions in questionnaire. Each question having 1 mark and every question was given 3-4 options. Students were asked to tick mark correct options in their opinion. Questionnaire was checked by researcher and score was noted. Questions were related to educational module on iodine.

Formulation of Educational module on Iodine:

The educational module was constructed in the form of ppt. It includes scientific information on iodine which was collected from internet, news, books, newspaper, journal and magazines. It includes types of nutrients, what Iodine is; micronutrient and macro nutrient, sources of iodine, functions of Iodine, deficiency of Iodine, symptoms of iodine deficiencies and recommended dietary allowances. The power point presentation which could be easily and effectively convey the scientific information on Iodine was prepared.PPT was treated as an education module on iodine. The data obtained was used for statistical analysis.

Statistical analysis of data:

Data so collected was analysed using statistical techniques such as mean, percentage, standard deviation and z test were used for calculation. Z test is a statistical test used to determine whether two population means different when the variance is known and the sample sizes are large. The test statistic is assumed to have a normal distribution and nuisance parameters such as standard deviation should be known for an accurate Z – test to be performed.

Used formula:

$$z = (x - \mu) / (\sigma / \sqrt{n})$$

Result and discussion:

Processing of the collected data through appropriate statistical methods is an important feature of the research .Result and discussion shows path to the conclusion.

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Table no 1: Distribution of respondents according to age.


Sr.No	Age	Art faculty		Commerce faculty		Home science faculty		Science faculty	
		Total	%	Total	%	Total	%	Total	%
1	15-17	18	59.94	6	39.96	10	27.7	05	26.3
2	18-21	12	39.96	9	59.94	24	66.72	12	63.12
3	22-24	0		0		02	5.56	02	10.52
Total		30	100%	15	100%	36	100%	19	100%

As per the Table -1, The distribution of girls according to age. The sample selected was in the age group of 15 to 24 years, however, does not have much importance in the present study. (66.72 %) formed the largest age group and were in the 18-21 years age in home science faculty. No found students in the art and commerce faculty in the group of 22-24 age group.

Table No 2: Distribution of respondents according to education.

Sr. No	Education	Art Faculty		Commerce Faculty		Home science Faculty		Science Faculty	
		Total	%	Total	%	Total	%	Total	%
1	11 th to 12 th	06	19.98	04	26.64	06	16.62	04	21.04
2	Graduation	24	79.92	11	73.26	30	83.10	15	78.9
3	Post Graduation	0	0	0		0		0	
Total		30	100%	15	100%	36	100%	19	100%

Education seems to make a drastic difference to the ideas. Education creates awareness about the nutrients. Table -2 shows that maximum respondents were graduates in all faculties. It was observed that, none of the respondents were post graduates. (83.10 %) belongs to graduation group is larger group and below formed the smallest group (16.62 %)



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Table No 3: Mean knowledge score pre and post education

Sr. No	Faculty	Mean Knowledge score (pre education)	Mean Knowledge score (Post education)
1	Arts	11.83	15.91
2	Commerce	10.10	11.48
3	Home science	13.16	14.41
4	science	11.07	16.33

- The mean score of knowledge before the education was found to be 11.83 which got improved to 15.91 after the education given to the respondents of Art's faculty
- For respondents of commerce faculty, the mean score of knowledge before the education was found to be 10.10 which got improved to 11.48 after the education given to them
- The mean score of knowledge before the education was found to be 13.16 which got improved to 14.41 after the education given to the respondents of Home science faculty
- For the respondents of science faculty, the mean score of knowledge before the education was found to be 11.07 which got improved to 16.33 after the education given to them

Statistical Analysis
(Z TEST)

Generally, z test is used when we have large sample sizes (n>30), whereas t-test are most helpful with smaller sample size (n<30).Both methods assume a normal distribution of the data, but the z-test are most useful when the standard deviation is known.

A z-test is a statistical test used to determine whether two population means are different when the variances are known and sample size is large. The test statistic is assumed to have a normal distribution, and nuisance parameters such as standard deviation should be known for an accurate z-test to be performed.

Z test formula:-

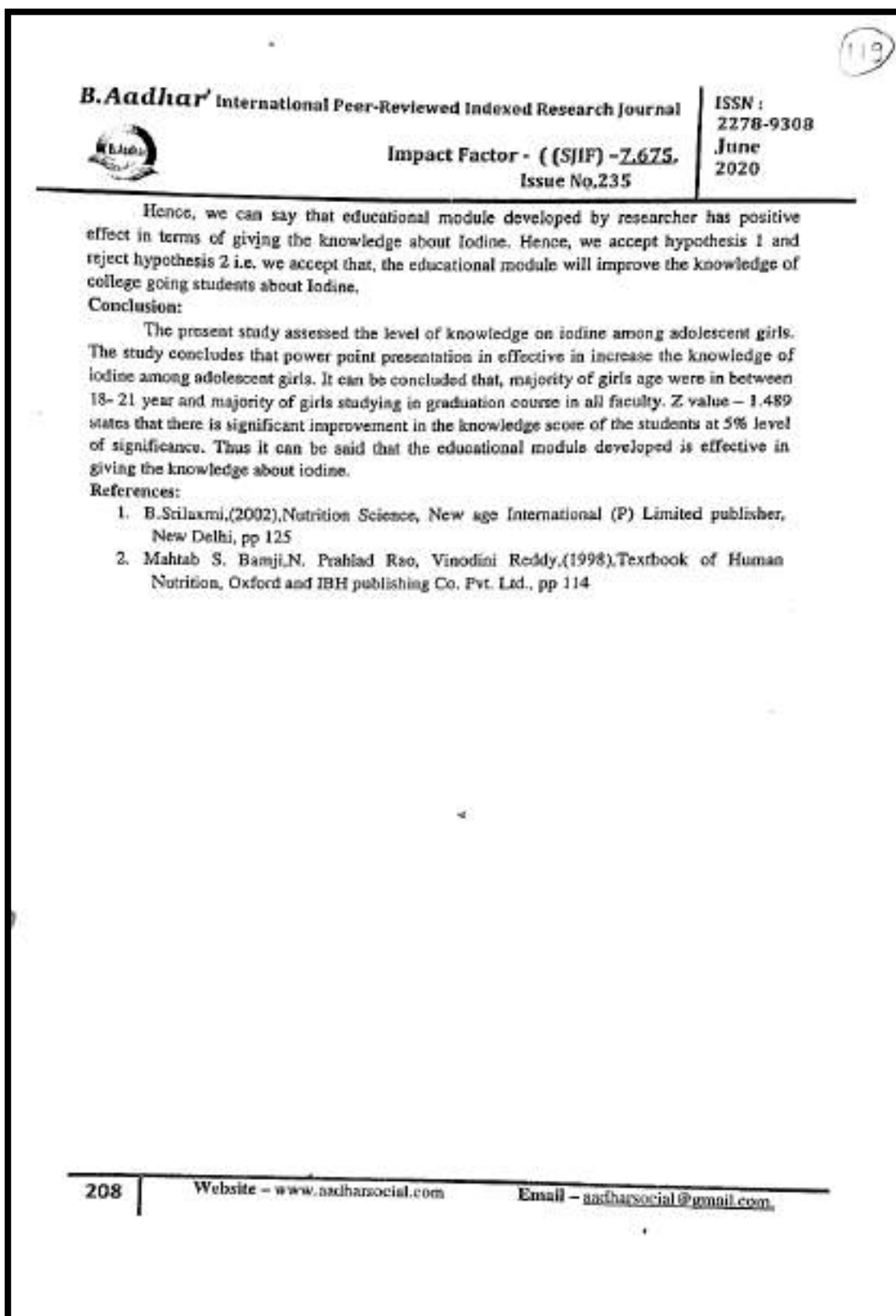
$$z = (x - \mu) / (\sigma / \sqrt{n})$$

Sr.No.	No. of samples	X= Pre mean score	μ=Post mean score	Standard Deviation	Z value
1	100	11.36	16.78	3.644	1.489

Z value is taken at 5% level of significance.

It has been observed through Z value (z=1.489) that there is significant improvement in the knowledge score of students when level of significance is taken at 5%.

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Impact of Education Package about Healthy Food Habits and Health on Behavioural Changes of College going Girl

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Impact of Education Package about Healthy Food Habits and Health on Behavioural Changes of College Going Girl



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- Abstract -

College going girls are full of mental and physical energy. They are in the state of body building age as their final ossification of bones and process of reaching full development to adulthood is taking place. At this age they should eat healthy food but instead many of these girls have faulty food habits and these habits continue to their youth also. There are lot of attractions about fast junk food in electronic and social media which influences food habits of college going girls. The present study was conducted with the following objectives. To develop and standardize education package about healthy food habits and health. To study the impact of standardized education package about healthy food habits and health on behavioural changes of college going girls. The present study is based on the primary data collected from 120 college going girls in Amravati city between age 16-18 years. Impact is composite measure of change in knowledge, attitude and practice of an individual was measured in terms of percent change. This mean score for knowledge, attitude and practice was 95.87, 81.46 and 94.43 respectively. Based on the composite mean of all the three dimensions it could be clearly stated that the E-Pack of healthy food habits and health had been found to be most effective among college going girl respondents to the extent of 90.58 percent change.

Keywords : health, food habits, knowledge, attitude, practice.

Introduction

Food habits of concern that are seen more frequently among college going girl than other age groups include irregular consumption of meals, excessive snacking, dieting, meal skipping eating away at fast food restaurants and irregularity in time and regular homemade food eating. Many factors contribute to these behaviours, including decreasing influence of family, increasing influence of peers, easy accessibility of restaurants, exposure to media, hectic college and other activity schedule, studying in outside the home, that leave less time for young college going girls to eat regular homemade meals regularly. Young girls perceive taste and brand preferences, social support from family and friends; cost and accessibility of different foods affect their food and beverage choices and their pattern of consumption. College going girls are full of mental and physical energy. They are in the state of body building age as their final ossification of bones and process of reaching full development to adulthood is taking place. At this age they should eat healthy food but instead many of these girls have faulty food habits and these habits continue to their youth also. There are lots of attractions about fast junk food in electronic and social media which influences food habits of college going girls. At this age they get pocket money which they prefer spending alone by eating bakery stuffs. Many girls love eating spicy vegetable dishes. Even if they eat vegetables the quantity is too small. They prefer drinking aerated soft drinks. These and many more faulty food habits are destroying health of college going girls nowadays. They consume more salt, fats, transo fatty acids, plain sugars, and artificial flavouring agents. Preservatives, less fibre diet, food with less nutrients, lots of harmful products and high calories. There has a rise in risk taking behaviour such as smoking, drinking and drugs taking which not only triggers problems now, but sets up a long-term legacy of poor health.

Adolescence is a nutritionally vulnerable time period. Poor eating habits formed during adolescence can lead to obesity and diet related diseases in later years. In addition, the high incidence of dieting behaviours can contribute to nutritional inadequacies and to the development of eating disorders. The dramatic increase in energy and nutrient requirements coincides with other factors that may affect young girl food choices, nutrient intake and also nutritional status. These factors, including the quest for independence and acceptance by peers, increased mobility, and greater time spent in college and contribute to the erratic and unhealthy eating behaviours that are

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common during this age. People with an eating disorder experience extreme disturbances in their eating behaviour and related thoughts and feelings. They have an overwhelming drive to be thin and a morbid fear of gaining weight and losing control over their eating. Eating disorders can cause serious physical and psychological problems. By depriving our bodies of the nourishment its need can lead to poor nutrition and eating habits which can cause obesity, diabetes, and increase certain risk factors for stroke, heart diseases and cancer. Therefore the increased growth rate and changes in body composition associated with this age. Though eating healthy food is important at any age, but it's especially important for college going girls. The physical changes can be hard to deal with if they aren't what they are expecting. There can be pressure from friends to be or look certain way and this might affect the selection of foods. But before that a physical health check is essential to rule out possible medical complications that can arise from the condition. It is also very important to have the right information about diet and about healthy eating, as there are plenty of wrong or misunderstood information about food and nutrition out there.

Objectives of the Study

- To study personal and socio-economic characteristics of college going girl
- To develop and standardize education package about healthy food habits and health
- To study the impact of standardized education package about healthy food habits and health on behavioural change of college going girl

Methodology

The independent variables were age, family size, education, annual income and social status of respondents. The dependents variables were knowledge (K), attitude (A) and practice (P) of healthy food habits and health.

The study was initiated by development of standardized education package (E-Pack) about healthy food habits and health and formation of question sets based on Thurstone and Likert scaling techniques for assessing K-A-P of healthy food habits and health among the respondents. Interview schedule was prepared for collecting personal, social and economical information of the respondents. Standardization in terms of ranking and rating the contents of the E-Pack was carried out with the help of nutritionists and medical practitioners who were selected as esteemed judges for this purpose. The agreement between these judges and the researcher was assessed with the help of Spearman rank correlation coefficient (rs), Chi-square test for agreement and Kendal rank correlation. The locale of the study was conducted

in Matoshree Vimlabai Deshmukh College, Amravati in the state of Maharashtra. The random sampling was selected. Total 120 number of young women sample was considered for the study. Research design selected was 'before and after without control'.

The researcher developed the final schedule after study and the researcher with the help of interrogation filled it up with respondents. In order to ascertain the K-A-P related to healthy food habits and health education, the respondents were asked to answer the questions based on K-A-P.

The score achieved by every individual respondent for every correct answer was given 2 score and 1 score for wrong then total represented the "pre test score" of the respondent. The researcher, to each respondent, imparted healthy food habits and health education, through E-Pack. Any queries by the respondents were answered firstly during the teaching process and again during the second interaction with the same respondent after a period of 21 days. After 21 days the date on which a respondent was taught by the researcher, post test "assessment" as done the same set of questions as earlier was used and the same process of evaluation, as mentioned above was followed. Thus, pre-test and post-test for K-A-P of each individual were obtained by the researcher. Data collected was tabulated and subjected to statistical measures such as mean, standard deviation, paired "t" test and coefficient of correlation. Inferences were drawn accordingly. The results so obtained were tested for their significance both at 0.05 per cent and 0.01 per cent probability.

Results and Discussion

Study of personal, social and economic characteristics revealed that majority (59.97%) of the girls were in the age range of 16 to 18 years. Majority of girls (69.27%) had social science faculty and (30.73%) had home science faculty. 65.4 percent respondents belonged to 1-4 members' family size. In income group 25 percent respondents belong to higher income group closely followed by middle income category at 23.67 percent and rest of them belong to lower income group. In social characteristics 39.60 percent respondent did not have any social participation while 32.22 percent respondents had medium level of social participation.

Impact of education package in terms of behavioural change of college going girl as dependent variable:

A knowledge level is being a very important parameter in assessing the impact of education about healthy food habits and health. Respondents were subjected to pre and post knowledge test. Pre and post test knowledge levels were calculated and presented in Table 1.

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Table 1: Distribution of respondents according to knowledge (K) level

S.N.	Knowledge level	Respondents			
		Pre-Test		Post-Test	
		No	%	No	%
1	Low	94	78.00	09	7.50
2	Medium	24	20.00	72	59.76
3	High	02	2.00	39	32.48
	Total	120	100.00	120	100.00

The knowledge level at pre-test stage exhibited to be low by 78 percent, whereas, 59.76 percent respondents achieved medium knowledge level at post-test stage. At the pre test stage only 2 percent respondent had high knowledge while 32.48 percent respondents got knowledge level at post test stage.

Attitude (A) level : Attitude of respondents in this study was the least important parameter, when compared with knowledge and practice, pre and post test attitude levels were calculated and presented in Table 2

Table 2 : Distribution of respondents according to attitude (A) level

S.N.	Attitude level	Respondents			
		Pre-Test		Post-Test	
		No	%	No	%
1	Low	23	19.15	03	2.50
2	Medium	82	68.30	28	23.32
3	High	15	12.50	89	74.13
	Total	120	100.00	120	100.00

It can be observed from table 2 that The attitude level of pre-test stage was observed to be medium in 68.30 percent respondents, while at the post-test stage 74.13 percent respondents exhibited high attitude level.

Practice (P) level : Practice gives idea about adoption of knowledge acquired. Practice level helps in assessing the practical impact of nutrition education in the study. Pre and post test practice levels were calculated and presented in Table 3

Table 3: Distribution of respondents according to practice (P) level

S.N.	Attitude level	Respondents			
		Pre-Test		Post-Test	
		No	%	No	%
1	Nil	66	05.00	02	01.66
2	Low	85	70.80	21	17.50
3	Medium	27	22.50	81	67.47
4	High	02	01.67	16	13.32
	Total	120	100.00	120	100.00

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Table 3 clearly indicate that there was remarkable improvement in the practice level at post-test stage. 70.80 percent respondents had low practice level at pre-test stage, whereas, 67.47 percent respondents achieved medium practice level at post- test stage.

Table 4 : Means of knowledge, attitude and practice pre and post education

S.N.	Variable	Mean Score		Difference	"t" test
		Before	After		
1	Knowledge	23.01	36.69	33.68	36.39**
2	Attitude	37.15	51.55	14.40	42.73**
3	Practice	11.21	23.35	12.15	31.83**

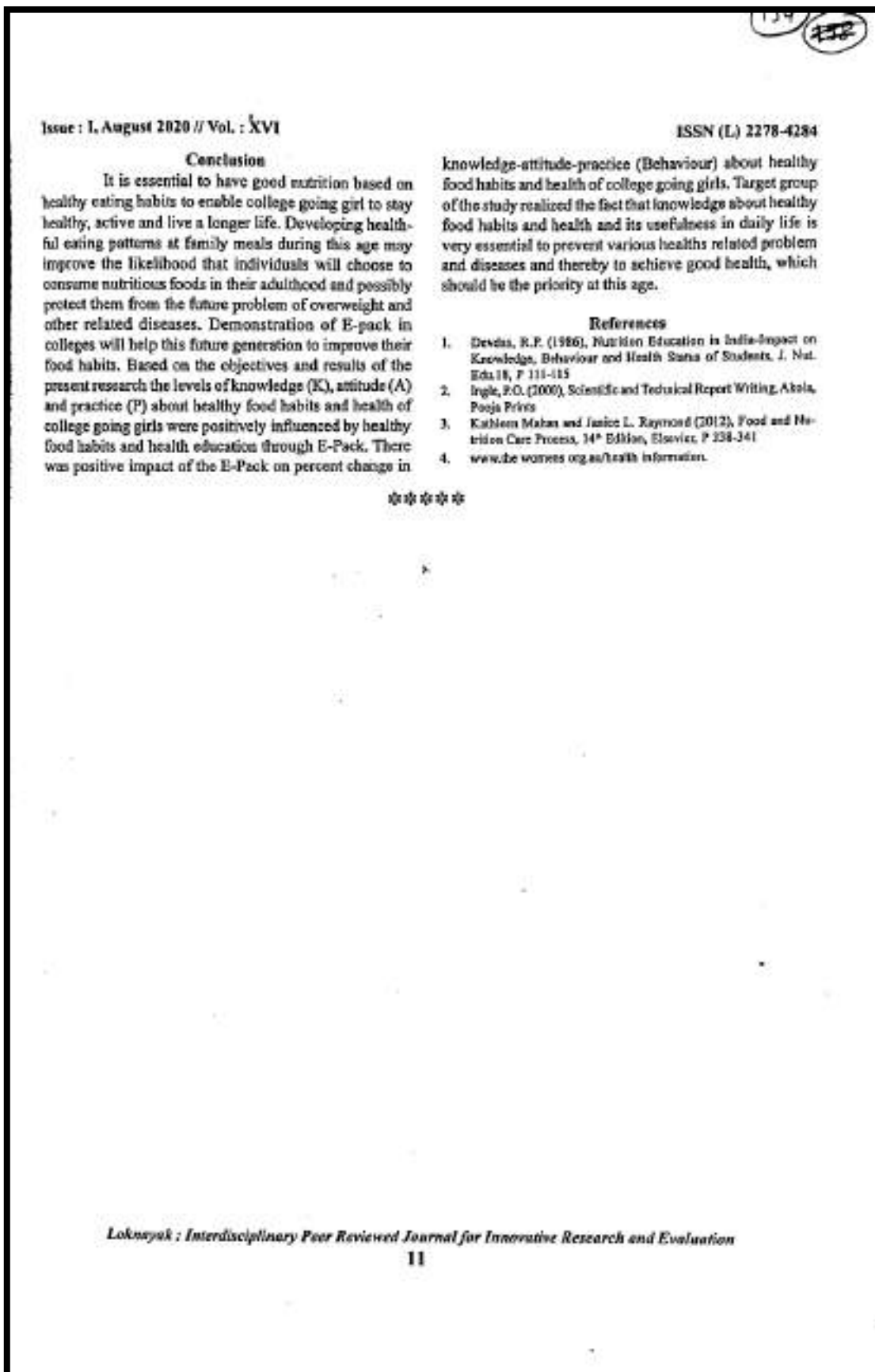
It is observed from Table 4 that the means of knowledge 36.69, attitude 51.55 and practice 23.35 of each respondent after exposing them to E-Pack education found to be higher than the means of knowledge 23.01, attitude 37.15 and practice 11.21 of respondents before imparting E-Pack to them.

Mean percent change of knowledge, attitude and practice was calculated in the Table 5

Table 5 : Impact of E-Pack in terms of percent change






S.N.	Variable	Percent change
1	Knowledge	95.87
2	Attitude	81.46
3	Practice	94.43
	Overall mean	90.58

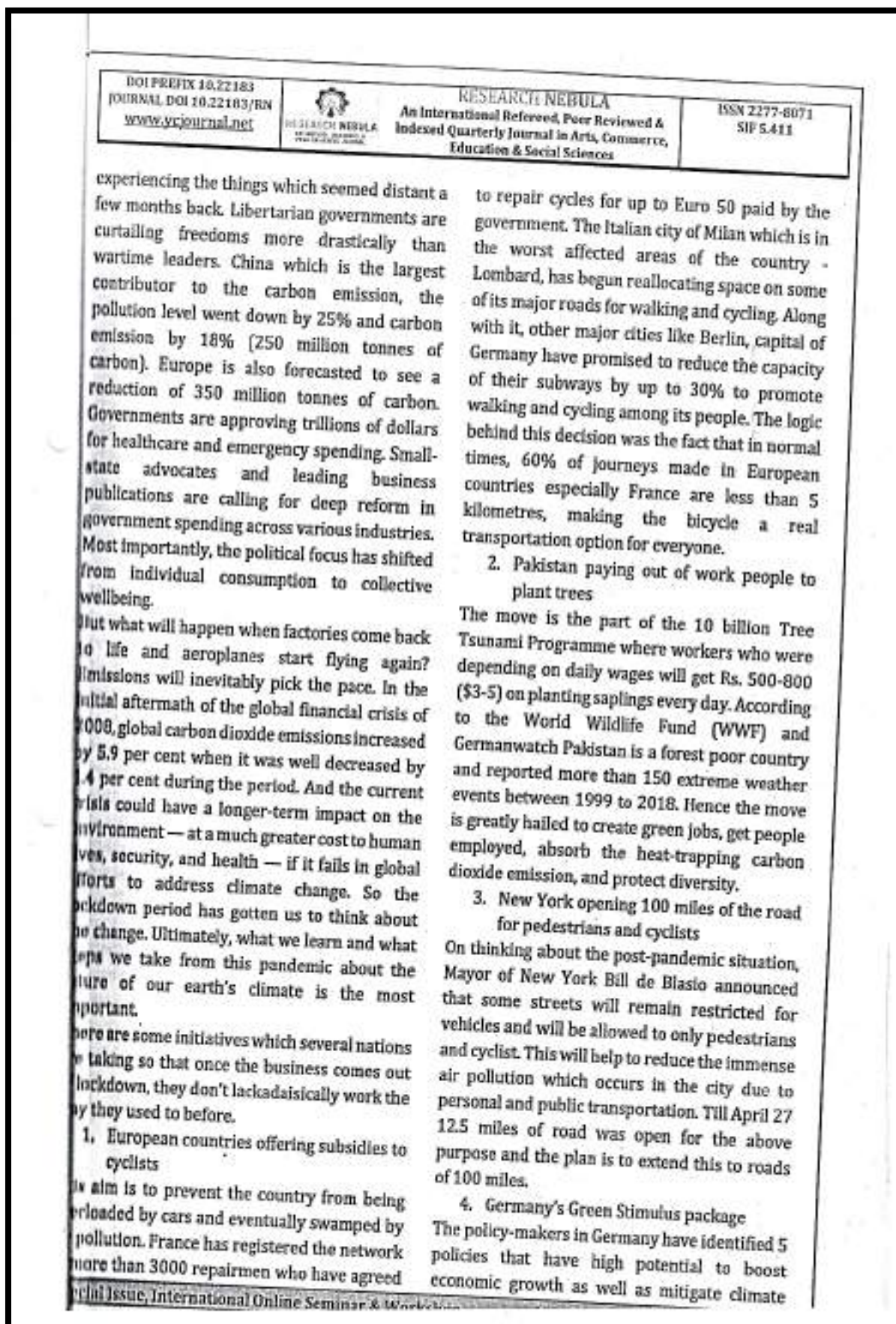
Impact is composite measure of change in knowledge, attitude and practice of an individual was measured in terms of percent change. This mean score for knowledge, attitude and practice was 95.87, 81.46 and 94.43 respectively. Based on the composite mean of all the three dimensions it could be clearly stated that the E-Pack of healthy food habits and health had been found to be most effective among college going girl respondents to the extent of 90.58 percent change. Percent change in K-A-P individually represented impact on K-A-P because of E-Pack, it could be inferred that respondents of E-Pack had shown greater impact of knowledge of healthy food habits and health, in those cases where there was better impact on attitude towards healthy food habits and health, when compared to cases where there was lesser impact on such attitude. That is, knowledge influenced practice, both, directly and indirectly as mediated by attitude concurrently. While considering the impact of E-Pack on respondents, it was pertinent to note that, impact of knowledge positively influenced impact on practice in a better manner, when it was mediated by impact on attitude about healthy food habits and health.



New challenges and Opportunities in Environment 2020

Dr. C.N.Vidhale

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NEW CHALLENGES AND OPPORTUNITIES IN ENVIRONMENT - 2020			
DR. CHHAYA N. VIDHALE			
Asso. Professor, Matoshree Vimlabai Deshmukh Mahavidyalaya Amravati (MS), India			
Abstract			
<p>The objective of this paper is to look for the challenges in the environment during and post the time of pandemic caused by Novel Coronavirus. Pledges were taken by 55 major nations in the 2015 United Nations Climate Change Conference famously known as Conference of the Parties 21 (COP-21) to work towards the reduction of carbon emission. These 55 nations collectively contribute to at least 55% of the world's carbon emission. But even after implementing dozens of policies to promote the green economy, many nations were falling behind the set goal. This pandemic though has turned out to be the toughest enemy so far for the warfighting nations, it has become the most amicable for nature. But the key environmentalist fears that the emission rate will be exponentially increased to make up for the capital all the nations losing out on. Hence this paper also focuses on the opportunities the worldwide policymakers have to encourage the use of sustainable energies and make country more green economy dependent.</p>			
<p>Challenges and Opportunities in the Environment</p> <p>On 31st December 2019, the People's Republic of China woke up with the news of new disease emerging from the industrial city of the country - Wuhan. Since then, this disease SARS-CoV-2 emerged from the Novel Coronavirus has summoned the world at its feet spreading across 213 countries taking approximately 3.5 lakh lives. Along with mourns over the human loss, millions of people in the world have lost their livelihoods. Businesses and trade in most of the countries and across the nations have come to the halt. There is the worst economic disaster the world is facing since the Great Depression in 1929. On one side major financial institutes are predicting the 0 per cent or the negative growth for many nations including India, on the other side, the key environmentalists and various world forums for climate change are showing us its positive impact on the environment. Since the major nations and regions like the U.S.A, China, Russia, Europe, and most of the Asian countries went into lockdown and closed the borders, various enterprises, trade, and daily</p>			
<p>life, something strange is happening. In India, the capital New Delhi is breathing strikingly clean air 1st time since ages along with the 14 other cities in the country which are in top 20 most polluted cities in the world. Venice's grand canal which is normally filled with the boat traffic is now running clear water. The fog of pollution has fallen in major industrious cities across the U.S.A. In some ways, the warning signs about climate deterioration has stopped. As the governments around the world are working together to stop the spread of the virus by sending each other the essential active pharmaceutical ingredients (API), personal protective equipment (PPE), and other necessary medical enforcements, the individual roles have become visible more than ever to fight against the invisible virus. The social distancing and lockdowns have helped us to slow down the transmission of the disease in hard-hit areas from South Korea to the U.S.A. In New York carbon monoxide levels reduced to half of the usual March level. Since the pandemic, it is not just from the space that the world looks different. We are</p>			
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change. Strategies could involve using recovery funds to stimulate innovation for the low-carbon energy transition, building on social changes caused by the pandemic and harnessing disruption to accelerate the decline of carbon-intensive industries, technologies and practices. This stimulus is going to increase the subsidies on sustainable goods such as cash incentives for electric cars. This will certainly boost the businesses and employment around sustainable energies and help the country to fulfil its pledge of cutting the CO2 emission by 55% by 2030.

Opportunities in India

India is the fastest-growing nation in the world. According to the International Monetary Fund World Economic Outlook - 2019, India will enjoy being the 5th largest economy in the world in terms of Gross Domestic Product (GDP). Also, India's GDP growth rate is one of the highest which means India is one of the main contributors to the carbon emission in the world. According to the International Energy Agency (IEA), India emitted around 2300 million tonnes of carbon dioxide in 2018 which is a 4.8% rise from the 2017 emission. With the pledge taken in COP21 under Paris Climate Agreement 2015 to reduce the carbon emission by 35% below 2005 emission, India has a huge task ahead to meet the goal. With the help of the biodiversity, manpower, and financial resources, the Indian government should provide the stimulus package to empower businesses on sustainable energies. Following are some areas which India can take advantage of

1. Two third of Indians live in the rural area and hence through the Low Carbon Rural Development Program, the government can provide stimulus to promote smart farming techniques
2. Around 70% of the population uses stoves that burn firewood and dung. And hence, installing household and community biogas units and solar-powered units
3. The financial boost to the Environmental Defence Fund (EDF) so that it collaborates with more and more corporations like Mahindra & Mahindra to mitigate the emission and reach the goal to become carbon neutral

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राजकीय क्षेत्रात महिलांचे सबलीकरण


Dr.S.B.Deshmukh

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**CONTRIBUTION OF WOMEN IN INDIAN ARTS, CULTUREAL,
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<p>B.Aadhar' International Multidisciplinary Research Journal Impact Factor - (SJIF) -7.675, Special Issue</p>	<p>ISSN : 2278-9308 March 2020</p>
<p>राजकीय क्षेत्रात महिलांचे सबलीकरण प्रा.साधना देशमुख विभाग प्रमुख, राज्यशास्त्र विभाग, या.द.व. देशमुख कला वाणिज्य महाविद्यालय, तिळसा.</p>	
<p>प्रस्तावना:-</p> <p>भारतीय उपखंडातील २८ राज्ये ९ केंद्रशासित प्रदेशांपेक्षा महाराष्ट्र राज्याने विविध क्षेत्रात केलेली नेत्रदीपक प्रगती व विकास वाचनगण्यासारखा आहे. कारण विकासाच्या प्रक्रियेत एकूण लोकसंख्येच्या अर्ध्या घटकाला (स्त्रियांना) सोबत घेऊन विकास साधला. त्याचबरोबर या घटकाचे सक्षमोकरण आणि सबलीकरण करण्यासाठी सुद्धा विविध सरकारी आणि खाजगी माध्यमने प्रयत्न करण्यात आले आहे. महिलांचे सक्षमोकरण याचे, त्यांना मोफत शिक्षण, आरोग्य सुविधा अशा सोयी तर मिळाल्या. अत्याचार प्रतिबंध, स्त्री घृण हत्याबंदी, हुंडाबळी, बालविवाह विरोधी लिंगिक छळ प्रतिबंध, मूलमतेत सहभाग असे कायदे सुद्धा करण्यात आले. त्यामुळे महिलांच्या सबलीकरणाला व सक्षमोकरणाला महाराष्ट्रात वाव मिळाला आहे.</p> <p>जागतिकीकरणामुळे प्रचंड वाढणाऱ्या देशाला टिकून राहण्याचे असेल तर एकूण लोकसंख्येच्या अर्ध्या घटकाला योग्य न ठेवता विकासाच्या प्रक्रियेत सामावून घ्यावे लागेल. धरातील स्त्री ही बस सेवा, रेल्वे सेवा, विमान सेवा, अधिकारी, मंत्रालय, राजकारण, समानकारण, अर्थकारण अशा सर्वच क्षेत्रात पुरुषांच्या खांद्याला खांदी लावून काम करीत आहे.</p> <p>आज देशात कौटुंबिक, सामाजिक, आर्थिक आणि सांस्कृतिक अशा विविध क्षेत्रात महिला विरोध काळींगीरी करत असल्या तरी राजकारणात मात्र विडाडोवर असलेल्या दिसतात. राजकारणातील निडाडी भरून काढण्यासाठी आरक्षण द्या सधनाचा आधार घेतला गेला. १०८ वी घटनादुरुस्ती करणारे विधेयक महिला आरक्षण विधेयक या नावाने परिचित आहे. लोकसभे आणि विधानसभेमध्ये १/३ जागा महिलांसाठी आरक्षित कराव्यात, हे आरक्षण चक्राकर पध्दतीने निश्चित करावे. अनुसूचित जाती आणि जमातीसाठी राखीव असलेल्या जागांपैकी १/३ जागा संक्षिप्त जाती-जमातीतील महिलांसाठी आरक्षित कराव्यात असा हा कायदा होत. हा कायदा अस्तित्वात आल्यानंतर १५ वर्षांनंतर आरक्षण रद्द करण्यात यावे अशा विविध तरतुदीचा प्रस्ताव विधेयकाद्वारे मांडण्यात आला आहे. हे विधेयक ६ मे २००८ रोजी राज्यसभेत सादर करण्यात आले आणि ९ मार्च २०१० रोजी विधेयकाला राज्यसभेने मान्यता दिलेली आहे. पण या विधेयकाला लोकसभेने अमूल्य मान्यता दिलेली नाही.</p> <p>घटनादुरुस्ती विधेयक:-</p> <p>११२ वे घटनादुरुस्ती विधेयक २४ नोव्हेंबर २००९ मध्ये लोकसभेत मांडण्यात आले होते. यानुसार राज्यघटनेतील कलम २४३ टाी मध्ये दुरुस्ती प्रस्तावित आहे. नागरी शहरी स्थानिक संस्थांमध्ये एकूण जागांपैकी आणि ग्रामीण संस्थांमध्ये ५० टक्के जागा (साध्या १/३) महिलांसाठी आरक्षित करणे तसेच शहरी स्थानिक संस्थांमध्ये अनुसूचित जाती व जमातीसाठी राखीव असलेल्या जागांमध्ये ५० टक्के प्रतिनिधीत्व संक्षिप्त जाती जमातीतील महिलांसाठी आरक्षित करण्याचा प्रस्ताव या विधेयकात आहे. हे विधेयक मंजूर झाले असून संसदीय स्थायी समितीकडे परीक्षणासाठी पाठविण्यात आले आहे. समितीचे अध्यक्ष राहु यादव आहेत. पण या विधेयकास राष्ट्रीय जनता दल, समाजवादी पक्ष आणि बहुजन समाजपक्ष यांचा विरोध आहे.</p> <p>महिलांसाठी आरक्षण:-</p> <p>महिलांसाठी आरक्षण अन्य देशांमध्येही आहे. नेपाळ ३३% पाकिस्तान २२, रवांडा ५६, ऑस्ट्रेलिया २७, स्वित्झर्लंड २८, जर्मनी ३३, स्पेन ३६, ब्राझिल २४, फ्रान्स १८.०५, फिलीपिन्स २१, ब्रिटन २० आणि रवीडनमध्ये ४० जागा महिलांसाठी राष्ट्रीय असून अभिव्यक्ति महिलांनी राजकारणात सक्रिय सहभागी आहेत असेच प्रचलन सर्वत्र आहे. १९९० नंतर महिला आरक्षणाचा प्रश्न ऐरणीवर आला तेव्हापासून महिलांमध्ये राजकीय जागृती होऊन राजकीय क्षेत्रातील त्यांच्या सहभागाचे प्रमाणाही चढत्या क्रमाने वाढलेले दिसते.</p> <p>स्थानिक राजकीय संस्थांमध्ये महिलांचे स्थान:-</p> <p>महाराष्ट्र स्थानिक राजकीय संस्थांमध्ये ३३, महिलांना आरक्षण लागू करण्यात आघाडीवर होता. पण दुसऱ्या यानुला २०१४ च्या विधानसभेत फक्त १९ महिला असून विधान परिषदेमध्ये ६ महिला आहेत. मात्र स्थानिक राजकारणात महिला ३३ टक्क्यांपेक्षा अधिक संख्येने सहभागी आहेत. महाराष्ट्रात ३३ जिल्हा परिषद असून तेथे ६७% महिला निवडून आलेल्या आहेत. तर तालुका पंचायतीत १३७२ महिला निवडून आलेल्या आहेत. ग्रामपंचायतीच्या सदस्य म्हणून ७५९५० महिला निवडून आलेल्या आहेत. त्यापैकी ९४४८ अ.जा. महिला आहेत. स्थानिक स्वराज्य संस्थेत ५० टक्के महिलांना आरक्षण मिळाल्याने स्थानिक राजकारणातला निर्णय प्रक्रियेतील महिलांचा सहभाग वाढता असला तरी विधानसभा व लोकसभेतला त्यांचा सहभाग नगण्य असलेला दिसतो. देश व राज्य पातळीवर महिला नेतृत्व वाढण्यासाठी अधिक प्रयत्नांची आवश्यकता आहे.</p>	
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<p>Email – aadharsocial@gmail.com</p>	

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जागतिक राजकारणात महिलांचा प्रभाव:-

जागतिक राजकारणातही महिलांनी आपल्या कर्तृत्वाने योग्य ठरता उमटवला आहे. ब्राझीलच्या अध्यक्षपदी दिलमा रोसेफ यांची निवड करण्यात आली. हुकुमशाही राजवटीतच विरोध करत कारावासा भोगलेल्या दिलमा रोसेफ यांनी ब्राझीलची अ-भांडवलशाही अर्थव्यवस्था अधिक भक्कम करण्याचे आश्वासन दिले आहे. कॅलिफोर्नियाच्या ॲटर्नी जनरल पदावर कमला हैरीस या भारतीय वंशाच्या महिलेची प्रथमच निवड झाली आहे. तर भारतीय वंशाच्या निको रंधवा हॅले या दक्षिण कॅरोलिन्याच्या राज्यपाल म्हणून निवडून आल्या. त्या अमेरिकेतील पहिल्याच भारतीय वंशाच्या महिला राज्यपाल आहेत.

ब्रिटनच्या सार्वत्रिक निवडणुकीत आशियाई वंशाच्या महिला पहिल्यांदाच संसदेवर निवडून गेल्या आहेत. यात भारतीय वंशाच्या प्रीती पटेल कॅलरी ब्राऊन यांच्यासह ब्रिटनमधील पहिल्या मुस्लिम खासदार शबाना म्हामूद, यास्मिन कुरेशी, रुखसाना आली यांची संसदेत निवड झाली आहे.

पुरुषांचे वर्चस्व असलेल्या राजनय क्षेत्रातही अनेक महिला स्वतःचे कर्तृत्व गाजवत आहेत. अमेरिकेतील विविध विविध देशांच्या १८२ दूतवासिनीत २५ दूतवासिनींचा प्रमुख रानरूत महिला आहेत हा आतापर्यंतचा विक्रम असल्याचे अमेरिकेच्या परराष्ट्र खात्याने म्हटले आहे.

उपभोगव्याच्या या जागतिकीकरणाने स्त्रीचे दुय्यमत्व नाहीसे होणारे नाही. म्हणून गरज आहे ती जगण्याकडे, सामाजिक पर्यावरणाकडे चिकित्सकपणे पाहण्याची, समानात आपण बदल घडवू शकतो.

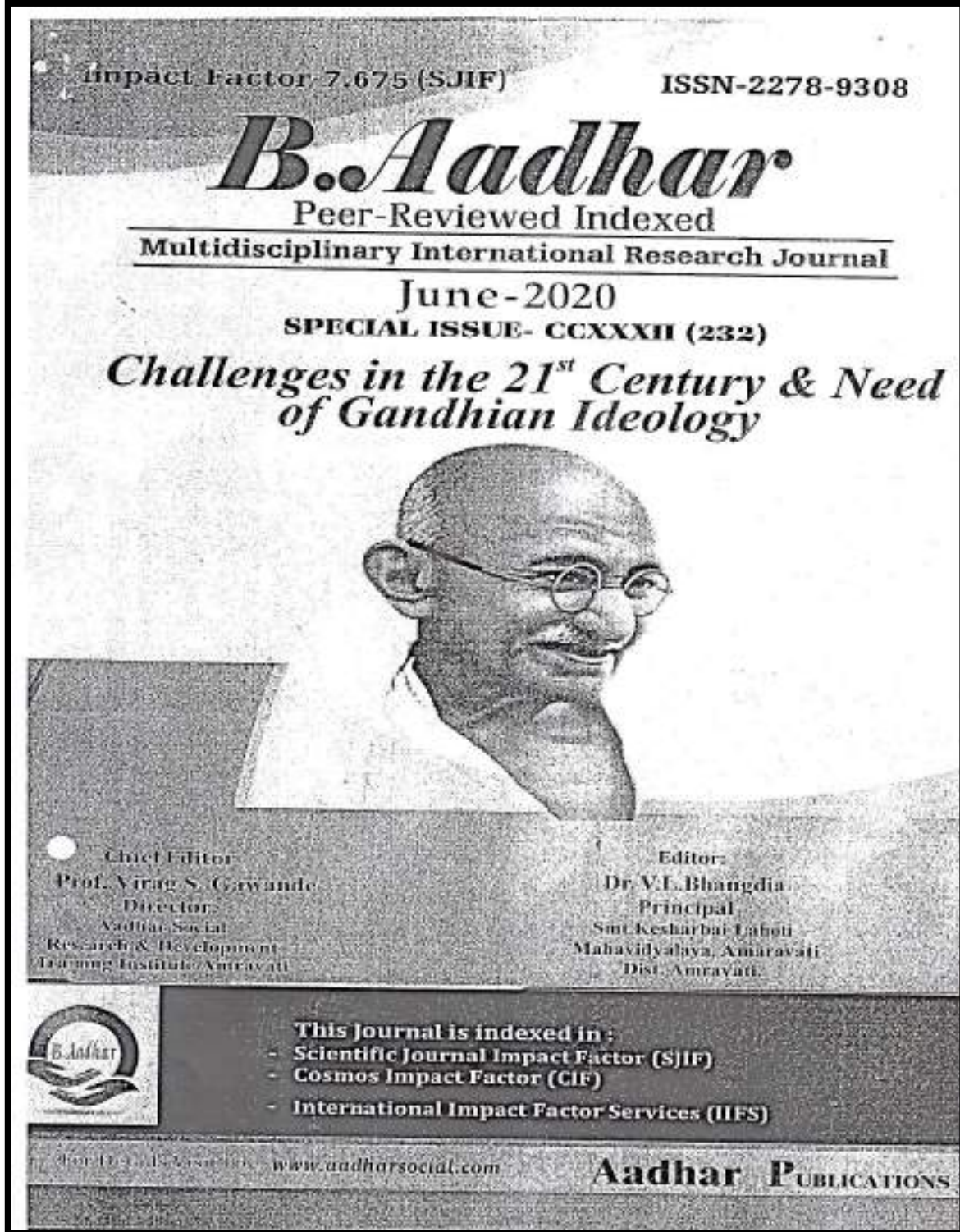
निष्कर्ष:-

१. अजून देशात कौटुंबिक, सामाजिक, आर्थिक आणि सांस्कृतिक अशा विविध क्षेत्रात महिला विरोध कार्यांगरी करत असल्या तरी राजकारणात मात्र पिछाडीवर असलेल्या दिसतात.
२. महिलांमध्ये राजकीय जागृती होऊन राजकीय क्षेत्रातील त्यांच्या सहभागाचे प्रमाणही घटत्या क्रमाने वाढविणे गरजेचे आहे.
३. स्थानिक राजकारणातून निर्णय प्रक्रियेतील महिलांचा सहभाग वाढला असला तरी विधानसभा व लोकसभेतला त्यांचा सहभाग नगण्य असलेला दिसतो. देश व राज्य पातळीवर महिला नेतृत्व वाढण्यासाठी अधिक प्रयत्नांची आवश्यकता आहे.
४. उपभोगव्याच्या या जागतिकीकरणाने स्त्रीचे दुय्यमत्व नाहीसे होणारे नाही. म्हणून गरज आहे ती जगण्याकडे, सामाजिक पर्यावरणाकडे चिकित्सकपणे पाहण्याची, समानात आपण बदल घडवून आणण्याकरीता राजकीय क्षेत्रात येणे गरजेचे आहे.

Number of research papers published per teacher in the Journals in
2020 - 2021

गांधी आणि राजकीय एकात्मता

Prof.S.B.Deshmukh



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

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<p>गांधी आणि राष्ट्रीय एकात्मता प्रा. डॉ. साधना बी. देशमुख विभाग प्रमुख, राज्यशास्त्र, भादव देशमुख कला व वाणिज्य महाविद्यालय, तिवसा, जि. अमरावती</p>		
<p>प्रस्तावना :-</p> <p>भारत हा विभिन्न संस्कृती असलेला जडशाव देश आहे. जात, धर्म, पंथ, भाषा, प्रदेश या आधारे प्रस्तापित झालेल्या विभक्ततेतून मुक्त होण्यासाठी देशाला एकतेची गरज आहे आणि अखंड समाजात एकता निर्माण होण्यासाठी देशाला स्वातंत्र्य मिळवून घ्यावे लागते. गांधींना वाटत होते. कारण स्वातंत्र्यपूर्व काळात भारतीय समाज कधीच एकसंध नव्हता. तो धर्म, जाती, भाषेवर विभक्त होता. अशा या समाजात एकतासाठी घडना कशी निर्माण करतायची हाच पंचोल पुढारीत सामाजिक कार्यकर्ते यांच्यापुढील प्रश्न होता. तेव्हा भारतीय समाज धर्म आणि पंथापन्थे मधून निर्माण करणे, धार्मिक ऐक्य, धार्मिक ऐक्य, गोहाचेमुळे निर्माण होणारे सामाजिक टोड काढून टाकण्यासाठी महात्माजींनी जे चिंतन केले व त्यातून सामाजिक एकरूपता व राष्ट्रीय एकात्मता यांचे विचार व्यक्त केले आहेत त्या विचारांचा आढावा घेणे प्रस्तुत शोध निबंधाचा उद्देश आहे.</p> <p>१) धार्मिक सलोखा आणि गांधी :-</p> <p>गांधी यांनी आपल्या देशातील जनतेमध्ये धार्मिक सलोखा निर्माण करून समाजामध्ये राष्ट्रभावना जडवून देण्यासाठी प्रयत्न केले. भारतातील इतर नेत्यांच्या तुलनेत गांधींनीचे मुस्लिमांशी विचार अतिशय अनुकूल होते. त्यांच्यावर बालपणापासूनच उदार आणि सहिष्णू अशा धर्माचे संस्कार झाले होते. मोहनदासांची आई फुलजीबाई हिच्यावर प्रणामी पंथाचा प्रभाव होता. प्रणामी पंथ हा निर्गुणी आणि हिंदू-मुसलमान धर्मांला मान्य होता. त्यानंतर फुलजीबाई वैष्णव धर्मातील कर्पकांडे पाहू लागली.</p> <p>शालेय जीवनात शोध मंडळात हा त्यांचा मित्र होता. तर दक्षिण आफ्रिकेत ते मुस्लीम खाजारी बांधवांच्या निर्मरणावरून वेले होते. तेव्हा त्या खाजारी बांधवांचे सहकार्य घेऊन गांधी यांनी तेथे भारतातील राजकीय चळवळ उभारली होती. मुसलमान समाजाचे मन आणि विचार समजून घेण्यासाठी इस्लाम धर्मातील साहित्याचा व कृताने चा संशोधन अभ्यास केला होता तसेच ख्रिश्चन धर्माचे तत्त्वज्ञान आणि ख्रिश्चन सोपा सुद्धा अभ्यास केला. व आफ्रिकेमध्ये भारतीयांचा लक्षा तिथे करण्यासाठी मुस्लीम खाजारी, मोकरशाह, बुद्धीजीवी वर्ग, सामाजिक कार्यकार गांधींच्या आवाहनावरून सामिल झाले होते. त्यामुळे आपापसातील मतभेद विसरून भारतीय निरंतराळण धर्मांचे लोक आपल्या राजकीय हक्कासाठी एकत्र येवू शकले. याच प्रत्येक महत्त्वा गांधींना प्रथम दक्षिण आफ्रिकेत आला होता.</p> <p>राष्ट्रीय स्वातंत्र्यासाठी निरंतराळण धर्मांचे लोक खांद्याला खांदी लावून लढले तर देशामध्ये धार्मिक सलोखा व समरसता निर्माण होवून राष्ट्रीय ऐक्य आपोआप घडून येईल. यावर गांधींचा दृढ विश्वास होता. म्हणून गांधींनी चिंतनात चळवळीला पाठिंबा दिले होते. तेव्हा चिंतनात प्रस्तावनात मुसलमानांच्या भावना विरोधी चळवळ मिळेल आणि मग त्यांना राष्ट्रीय प्रवाहात सामिल करून घेता येईल. अशी गांधींची धारणा होती. तसेच म्हणता गांधींनी पंजाब व त्रिस्तापत या दोन्ही प्रकारातील अन्याय दूर करण्याची राज्यकर्त्यांकडे मागणी केली होती. त्यांचाच परिणाम करतानाच व नागपूर येथील राष्ट्रीय परिणाम गांधी यांनी मुस्लीम बांधवांनी केलेल्या सहकार्यातून झाल्याचे दिसून येते. त्यामुळे भारतीय मुस्लीम बांधवांना सहकार्य करून त्यांच्या विचारांसाठी हिंदूंनी पुढाकार घेतल्यास व दुसऱ्यांच्या धार्मिक भावनांचा आदर केल्यास हिंदू-मुस्लीम ऐक्य साधण्यास व त्यातून पुढे राष्ट्रीय ऐक्य साधण्याचा मार्ग प्रस्तुत होवू शकतो असे गांधींनी वाटत होते.</p> <p>२) हिंदू-मुस्लीम तणाव :-</p> <p>प्राचीन काळापासून हिंदू-मुस्लीमांमध्ये विविध कारणांनी तणावाचे वातावरण राहिल्याचे दिसून येते. या तणावाची कारणे निर्माण करून गांधींनी त्यावर उपाय सूचविले आहेत. गांधींच्या मते या दोन धर्मांमध्ये तणाव निर्माण होण्याच्या काळी सानो आहेत. त्यात सत्तेची संस्थानातील मोफल्यांचे बंड, फाजल हुसेन यांनी पंजाबमधील शिक्षण खात्यात सत्ताविषयी दाखविलेली अनास्था, हिंदूंनी मशिदी समोर, केलेले बांधकाम, मुसलमानांचे केलेली मोल्ल्या, मुसलमानांची शिरजोरी आणि हिंदूंच्या न्यायबुद्धी बदल मुसलमानांना वाटणारा अविश्वास ही गांधींच्या मते तणावाची कारणे आहेत.</p>		
30	Website – www.aadharsocial.com	Email – aadharsocial@gmail.com .



उत्तम दर्जा करणे दूर करण्यासाठी साप्ताहिक न्याय, परस्पर सहिष्णूक, सार्वजनिक जीवनातील एकदुसऱ्यांच्या प्रथांचा आदर, अहिंसा आणि लबाब यांच्या मध्यस्थान हे तऱ्हे सोडविले जावेत आणि ते सोडविले गेलेबाबत राष्ट्रीय एकरा निर्माण होण्यासाठी पुरक उरलेत असे गांधीजींना वाटत होते.

३) अहिंसेच्या मार्गाने हृदयपरिवर्तन :-

मानवीय व सामाजिक जीवनातील सर्व तऱ्हे अहिंसक मार्गानेच सोडविले गेले पाहिजेत. फक्त गांधींचा खत धरू नये. त्यांच्या मते अहिंसा म्हणजे शब्दप्रयोग नव्हे, गुंडाळ न पाबरता नकारिक जागृक जागी घेऊन उभे राहिले पाहिजे. स्वतःचे प्राण पणाला लावून त्यांनी गुंडाळा प्रतिहार केला तर अत्याचार करणाऱ्यांचे हृदयपरिवर्तन झाल्याखेरीज खूपच लगेच गांधींचे शत्रू होती.

जेन जमातीतील तऱ्हे, संपर्क असतील तर वेळत शासनावर अवलंबून राहून चालणार नाही. तर गांधीगावातील वस्तुपाठवल्यामध्ये झालेला सविन्य स्वाभन करून देणे शक्तिविण्यासाठी प्रयत्न केले पाहिजेत. गांधीजींनी शासकीय सहकार्यविषय अशा प्रकारचे देणे शक्तिविण्याचा प्रयत्न अहिंसक मार्गांनी चळवळीच्या काळात बंगलमध्ये गुरुस्थाने करून राखिलेले होते. त्या प्रयोगाच्या माध्यमातून त्यांनी राष्ट्रीय ऐक्य स्थापित करण्याचा प्रयत्न यशस्वीरूपेने केल्याचे दिसून येते.

४) गोहत्या बंदी :-

हिंदू - मुस्लीम यांच्यामध्ये तणावाचे कारण गोहत्या हे राहिले आहे. हिंदू धर्मियासाठी गाय ही पवित्र मानली जाते. गांधींची सामाजिक उपयोगिता अधिक आहे असे मानले जाते. असे असताना सुद्धा मुस्लीमांनाकडून केली जाणारी गोहत्या आणि त्यातून दुखाळ्या याबाबत हिंदूंच्या भावना या स्वाभाविक असल्या तरी त्यासाठी एकमेव उपाय ही गांधींचे महान मुस्लीमांस समजावून सांगून त्यातून तणाव हृदयपरिवर्तन घडवून आणणे हाच उरतो असे गांधींनी मानत.

५) हिंदू-मुस्लीमांची संस्कृती एकच :-

हिंदू किंवा मुस्लीम धर्म हा परस्पर विरोधी संस्कृतीचा असताना तरी त्यांची संस्कृती मात्र एकच आहे. या धर्माचे लोक धर्मातरीत हिंदू किंवा त्यांचे वंशज आहेत. धर्म बदलला म्हणून माणसाची संस्कृती बदलत नाही. धर्म ही प्रत्येकाची खाजगी बाब आहे. तर संस्कृती मात्र एकच असते. त्यामुळे संस्कृतीच्या आधारानेच दोन्ही समाजात ऐक्य निर्माण होवू शकते. केवळ गाय आहे प्रत्येकाने आपला धर्म सार्वजनिक न करता खे खाण्याने तेवून तसे वर्तन किंवा व्यवहार केला पाहिजे. अशी गांधीजींची धारणा होती.

६) धार्मिक शिक्षण :-

शासनाने धर्मशिक्षणाची तरतूद करावी अशी शिफारस काही शिक्षण तज्ज्ञांनी केल्यानंतर त्याला गांधींनी विरोध केला होता. धार्मिक धर्मांच्या शिक्षणाचा शालेय अभ्यासक्रमाला समावेश करणे ही गोष्ट धर्मनिरपेक्ष शासनाच्या विरोधी आहे. एकदा का शासनाने धार्मिक शिक्षणाचे तत्व मान्य केले की, लोक चुकीने शिक्षण देतील. कानांतघने वा शिस्तानुसार मंत्री पालणे अनपेक्षित जाईल. पालकांनी स्वता: आपल्या सोईनुसार शिक्षणव्यवस्था निर्माण करावी असे गांधींचे मत होते. समाज एकसंध होण्यासाठी संवेदनशिल बाबींचे सार्वजनिककरण तर होवू नयेच शिवाय त्या बाबींचा शासनाने सुद्धा समर्थन देवू नये. तरच राष्ट्रीय एकरूपतेचा प्रयत्न यशस्वी होवू शकेल.

७) भाषिक ऐक्य :-

स्वातंत्र्यपूर्वकाळात धर्माऐक्याचे भाषेचा प्रश्न भारतामध्ये अज्ञात किंवा गूढगुंतीचा होता. प्रायशः भाषा हे एकेच प्रदेशातील लोकांच्या परस्पर विनियमाचे साधन असल्यामुळे त्या त्या गटाची परंपरा व अस्मिता आणि संस्कृती भाषेची निर्माती असते. प्रायशः मातृभाषा व हिंदी यांच्या जोडीला आगळी प्रादेशिक भाषा शिकण्याचा प्रयत्न करताना असे गांधीजींचे मत होते. देवनागरी लिपीतून सर्व सुसह होवून त्यातून एकरूपता प्रस्थापित होवू शकेल असे गांधीजींचे मत वाटत होते.

निष्कर्ष :-

भारतीय समाज व्यवस्थेत तोंड निर्माण करण्यास यत्न उरलेल्या धर्म, भाषा, जात, वंश यातून बाहेर पडण्याचे उपाय व विचार महत्त्वाचे गांधीजींनी सांगितलेले आहेत. महत्त्वाचे गांधीजींनी देशाच्या स्वातंत्र्यासाठी जल प्रयत्न केलेले आहे तसाच प्रयत्न त्यांनी भारतत राष्ट्रीय एकरूपता प्रस्थापित होण्यासाठी केल्याचे त्यांच्या उपरोक्त विविध प्रस्तावनांचेच विचार करण्यात आलेला दिसून येते.

गोहत्यासंबंधी संवेदनशिल मूढे मत आणि हृदयपरिवर्तनाचे तऱ्हे होवू शकतात त्यासाठी अहिंसा आणि आतम्यत चाळविणे हाच उपाय असल्याचे त्यांच्या विचारावरून दिसून येते.

राष्ट्रीय एकरूपता प्रस्थापित होण्यासाठी उपरोक्त सर्व प्रस्तावनांमधून मुख्यत्वे देवून मान्यताप्राप्ती प्राप्त होण्याच्या भारतीय समाजात प्रयत्न झाल्यास एकरूपता निर्माण होण्याचा मार्ग प्रसन्न होवू शकेल असा आसावाच महत्त्वाचे गांधींचा विचाराने

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व्यक्त होते आणि तो आशावाद राष्ट्रीय एकात्मकतेचे 'बिग' आहे' असे म्हणायचे लागले. त्यासाठी अहिंसा, आत्मभक्त व मानवतेच्या संदर्भातील विचार उपयोगी ठरू शकतात.

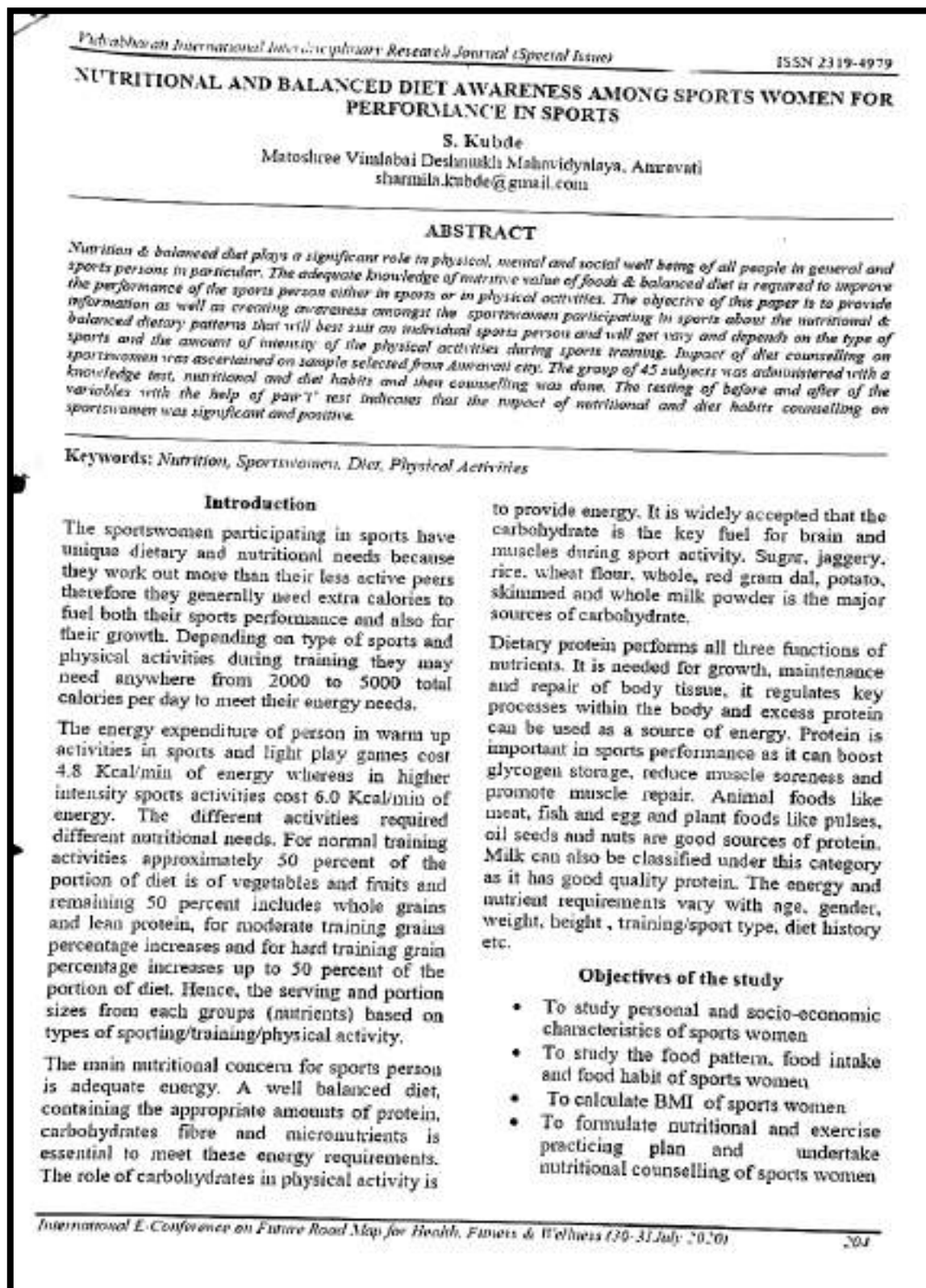
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Nutritional and Balanced diet awareness among sports women for performance in sports

Dr. Sharmila Kubade



- To study the impact of diet counselling of sports women in terms of their knowledge and nutritional practice

Methodology

The present study emphasised on assessment of impact of dietary counselling on sports women can use. A before-after one group experimental design was used. The study was undertaken in Matoshree Vunlabai Deshnutkh Mahavidyalaya, and Shivaji College of Physical Education, Amravati, State of Maharashtra. A random sample of 45 sports women was selected for the purpose of the study. The data were collected with the help of structured interview schedule. An interview schedule, the questions related to personal and family characteristics information on food-habit, diet pattern, knowledge about nutrition, nutritional practices, nutrient composition and exercise pattern. The observation schedule was also developed and used for recording observation pertaining to anthropometric measurement. A list of items for dietary counselling to the sports women was constructed by consulting the expert in nutrition, and health. The list included items related to food pattern and practices as well as exercise type. The data were collected at two point of time, that is, before dietary counselling and after a lapse of one month period after counselling. The data were then categorised, tabulated and analysed. The effect of diet counselling was ascertained before and after counselling and means were tested with the help of 't' test.

Results and Discussion

A total of 45 sports women were selected for the study. In the age- socio- economic profile the subject's selected 40% female sports player were in the age group of 18 years followed by 17 years. While only 4.44 % are of 16 years of age Table 1 and 84.4% belongs to nuclear family, whereas maximum 60% of sportswomen were from small family. Most of them are doing graduation. The monthly income of 60% of the families is in the range of 25000 to 40000 Rs. Per month and only 9% of the families having income more than 50000.

Table 1: Distribution of sports women according to their age-socio-economic characteristics

Sr. No.	Age wise distribution in years	Numbers	Percentage
1	16	02	04.44
	17	06	13.33
	18	13	28.90
	19	18	40.00
	20	06	13.33
2	Education 11-12*	03	06.7
	Graduation	42	93.3
3	Family type Nuclear	38	84.4
	Joint	07	15.6
4	Family size Small (1-4)	27	60.0
	Medium (5-6)	12	26.7
	Large (above 7)	06	13.3
5	Occupation of father	27	53.3
	Farming	14	31.1
	Service	00	00
	Business	07	15.6
	Independent profession		
6	Monthly income Up to Rs. 25000-40000	27	60.0
	40000-50000	14	31.0
	Above 50000	04	09.0

Table2: Distribution of sportswomen according to diet habits and meal pattern

Sr. No.	Particulars	Categories	No. (n=45)	Percentage
1	Diet habits	Vegetarian	30	66.67
		Non vegetarian	15	33.33
2	Meal pattern	Lunch+Dinner	20	44.45
		Breakfast+Lunch+Dinner	18	40.00
			02	4.44
		Lunch+Snacks+Dinner	05	11.11
		Breakfast+Lunch+Snacks+Dinner		

Knowledge about Nutritional and Dietary Habits

The awareness of the sportswomen about nutritional and dietary habits was ascertained with help of a knowledge test containing 22 items. The distribution of the sample of

sportswomen on the extent of knowledge possessed by them before and after counselling is depicted in Table 3. It was observed that before nutritional and dietary counselling majority of the women (57.8%) were in medium category of knowledge. It was followed by 31.1 percent in high and 11.1 percent in low knowledge category.

Table 3: Distribution of sportswomen according to their knowledge about nutritional and dietary habits

Sr. No.	Category	Before Counselling		After Counselling	
		No.	Percent	No.	Percent
1	Low (0-7)	05	11.1	00	0.00
2	Medium (8-14)	26	57.8	23	66.67
3	High (15-22)	14	31.1	42	93.33

However, after counselling about three fourth of the sportswomen (93.33%) showed that they possessed adequate knowledge and put under high category. The findings reveal that there had been appreciable increase in knowledge of sportswomen about nutritional and dietary habits after counselling.

Adoption of Nutritional and Dietary Habits

The actual use of identified nutritional and dietary habits by the sportswomen was studied before and after counselling and the results of the same are given in Table 4. It is evident from the distribution in Table 4. That nearly two third of the sportswomen (62.2 %) were observed in medium category of adoption before counselling. It was followed by 36.3 percent of sportswomen who were observed to have low adoption. Only a negligible percentage of the women had high adoption.

However, after counselling it was observed that as much as 82.22 percent sportswomen were included in medium category and remaining 17.78 percent were observed in high adoption level. None of the women was seen in low level of adoption.

The results clearly show the effect of nutritional and dietary habits counselling on

promoting the adoption of recommended nutritional and dietary habits by sportswomen.

Table 4 : Distribution of sportswomen according to adoption of nutritional and dietary habits.

Sr. No.	Category	Before Counselling		After Counselling	
		No.	Percent	No.	Percent
1	Low (Up to 4)	15	33.3	0	0.0
2	Medium (5-8)	25	62.2	37	82.22
3	High (Above 8)	02	4.5	08	17.78

Nutritional intake

The amount of various food stuffs consumed by the sports women during the whole day was ascertained (24 hour recall method) was used and from that amount the nutritional intake in terms of total calories, carbohydrates, proteins and fibre was worked out at two points of time, that is, before dietary and health counselling and after counselling. The findings are noted in Table 5. The intake of total calories by majority of sports women was found to be in normal (71.11%), however after counselling there had been lot of change and majority of the sports women (93.33 %) were observed in normal category of intake. Carbohydrate intake bring out that before counselling on (44.45 %) women were in below normal intake. However after counselling this percentage in normal category gone up to (93.33%) Before counselling there were (53.33 %) women in normal category of protein intake. After counselling more than half of the sports women (66.67%) were observed in normal intake level. Intake of fibre showed that higher percentage of women (44.45 %) sports women had normal intake. However, their percentage in normal intake category gone up to 71.11 percent after counselling. The effect of dietary counselling on nutritional intake indicated that there had been a positive effect on the sports women. Their intake of total calories, proteins, carbohydrates and fibre has drastically been increased.

Table 5: Distribution of sports women according to nutritional intake

Sr. No.	Nutrients	Categories	Before counselling		After counselling	
			No.	Percent	No.	Percent
1	Total calories	Below normal (1200-1500) K.cal	02	4.44	00	00.0
		Normal (1501-2000) K.cal	32	71.11	42	93.33
		Above normal (Above 2000) K.cal	11	24.45	03	6.67
2	Total carbohydrates	Below normal (Up to 200 gm)	20	44.45	03	6.67
		Normal (200-250 gm)	15	33.33	42	93.33
		Above normal (More than 250 gm)	10	22.22	00	00.0
3	Total proteins	Below normal (Up to 4 gm)	20	44.45	14	31.11
		Normal (4 to 50 gm)	24	53.33	30	66.67
		Above normal (More than 50 gm)	01	2.22	01	2.22
4	Total fibre	Below normal (Up to 40 gm)	09	20.0	05	11.11
		Normal (41 to 50 gm)	20	44.45	32	71.11
		Above normal (More than 50 gm)	16	35.55	08	17.78

Anthropometric measurement

The anthropometric measurements of height and weight of the sports women is the indicator of their health status. The health in respect of height and weight is the reflection of nutrition. The anthropometric measurement of selected sports women before and after dietary and health counselling were taken and their distribution is given in Table 6

Table 6: Distribution of sports women according to their anthropometric measurements.

Sr. No.	Particulars	Categories	Before counselling		After counselling	
			No.	Percent	No.	Percent
1	Height	Below normal	15	33.34	15	33.34
		Normal 153.2-154.8cm	28	62.22	28	62.22
		Above normal	02	4.44	02	4.44
2	Weight	Below normal	12	26.67	10	22.22
		Normal 45.2-46.6 kg	32	71.11	35	77.78
		Above normal	01	2.22	00	00.0
3	Body mass index	Normal 16.2-22	41	91.11	43	95.56
		Chronic energy deficiency <16.5	01	2.22	01	2.22
		Over weight >22	03	6.67	01	2.22

Body height measurements showed that majority of the sports women (62.22%) were in the body height group in 153.2 to 154.8 cm in normal category. Majority of the sportswomen were found to be in body weight normal category of 45.2- 46.6 Kg. both before and after counselling. Results also reveal that there were 95.56 percent sportswomen in normal category before counselling and only 2.22 percent sportswomen are overweight and chronic energy deficiency. A positive effect of nutritional and dietary habits counselling was observed on BMI of the sportswomen.

Impact of dietary counselling on sportswomen

The major emphasis in the present investigation was an assessing the impact of nutritional and dietary habits counselling on knowledge about nutrition and dietary habits, adoption of nutrition and dietary habits and nutritional intake of sportswomen.

The data collect at two point of time was therefore tested for mean differences of before and after counselling. The findings of the analysis are given in Table 7.

Table 7: Testing of mean difference on knowledge, adoption of nutritional and dietary habits and nutritional intake of sportswomen before and after counselling.

Sr. No.	Parameter	Before Counselling		After Counselling		t' value
		Mean	SD	Mean	SD	
1	Knowledge about nutritional and dietary habits	14.5	5.1	20.4	3.3	10.32**
2	Adoption of nutritional and dietary habits	9.8	2.9	14.2	1.8	9.17**
3	Nutritional intake					
	Total calories	1528.8	239.8	2331.2	433.4	14.00**
	Carbohydrates	222.1	39.1	392.5	65.7	7.58**
	Proteins	39.6	6.3	56.7	7.4	3.13**
	Fibres	37.8	5.3	40.8	7.5	2.01*

** Significant at 0.01 level of probability

* Significant at 0.05 level of probability.

The results depicted in Table 7 reveal that there had been substantial addition in knowledge about nutrition and dietary habits in sportswomen as the mean knowledge score increased to 20.4 after counselling from 14.5 before counselling. The increase was also found to be positive and significant at 0.01 level probability as established by the significant 't' value (t=10.32). The hypothesis that dietary counselling of sportswomen has positive impact on their knowledge has therefore been proved.

With regard to adoption of nutritional and dietary habits (Table 7) also there had been increase in adoption. The mean adoption score

has indicated an increase from 9.8 before counselling to 14.2 after counselling, the difference between these mean when tested with the help of 't' test it was found to be significantly positive (t=9.17). Confirming the hypothesis it may be definitely said that the dietary counselling of sportswomen has resulted in promotion of adoption of nutrition and healthy food habits.

The impact of dietary counselling on nutritional intake of sportswomen shows that (Table 7) there had been a positive and significant effect on intake of total calories, carbohydrates, protein and fibres by the sportswomen as the 't' values in all the nutrition intake were significant.

The above results pointed out that the dietary counselling has produced a positive impact on knowledge, awareness and adoption of nutritional and healthy dietary habits as well as actual intake of various nutrients by the sportswomen.

Conclusions


Healthy eating habits and the use of nutritive food is necessary to support energy needs for training, sport activity and physical exercise of sportswomen. The findings of the present study leads to the conclusion that the impact of nutritional and dietary habits counselling was found to be positive in increase in knowledge, awareness and adoption of nutritional and healthy food habits as well as intake of total calories, carbohydrates and fibres. There had also been increase in intake of protein. The effect of nutritional and healthy dietary habits on sports training and performance was observed to be positive.

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Development of educational module on Zinc and its Effects on knowledge level of college going Girls

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Development of Educational Module on Iodine and Its Effects on Knowledge Level of College Going Girls

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Abstract:

Iodine plays a significant role in physical and mental well being of all people in general and adolescent girls in particular. The adequate knowledge of micronutrient minerals like Iodine is required for growth during early life, which regulates a wide variety of physiological processes. The objective of this paper is to collect the information about the knowledge level of college going girls about Iodine by using experimental research design.

Keywords: college going girls, Iodine, Myxoedema, Thyroid hormones, Goitre

Introduction:

Iodine occurs in the body in the form of salts known as Iodides. Iodine is an important regulator of energy metabolism. Deficiency of iodine leads to simple Goitre, lack of thyroxine disturbs the physical and mental well being of an individual and causes the disease known as Myxoedema in adults and Cretinism in children. Iodine plays an important role in the synthesis of Triiodothyronine (T3) and Thyroxine (T4). Thyroid hormones play a major role in regulating growth and development of human being. The functional significance of iodine is accounted for its presence in the thyroid hormones, which regulate a wide variety of physiological processes in virtually all tissues of higher organisms. Iodine is required for growth during early life, amphibian metamorphosis, mammalian growth, and cell differentiation, induction of RNA and protein synthesis. Iodine is an essential micronutrient in the diet mostly found in seafood. In iodine deficiency see that swelling in the front of the neck i.e. goitre. It occurs when thyroid gland grows too big. Unexpected weight gain because low iodine levels may slow persons metabolism and encourage food to be stored as fat, rather than be burned as energy. Fatigue and weakness are also common symptoms. When thyroid hormone levels are low, the body can't make as much energy as it usually does. This may cause persons energy levels to plummet and leave a person feeling weak. Low thyroid hormone levels may stop regenerating hair follicles. Dry flaky skin may affect due to iodine deficiency. Iodine helps to regenerate body heat, may affect person's ability to learn and remember. In pregnancy and breast feeding women needs higher amount of iodine than normal women. The daily requirement for iodine has been reported to be about 100 to 150 µg, but most foodstuffs are poor in iodine content. The iodine required by the body appears to be obtained mainly through the drinking water and low iodine content in drinking water, therefore would be the main reason for iodine deficiency.

The aim of the study is to develop educational module for college going girls on iodine for creating awareness about the function, sources and deficiency of iodine.

The objectives are to study the socio-economic characteristics of the college students, to assess the knowledge level of college going girls about the iodine, to develop an education module on iodine, to impart the education about iodine to the students through the education

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<p>module and to evaluate the effect of education module on knowledge level of college going girls.</p> <p>Methodology:</p> <p>Methodology is the design process for carrying out research or the development of a procedure. In present study methodology divide under the following categories; the present study was undertaken at Matoshree Vimlabai Deshmukh Mahavidyalaya, Amravati. The experimental research design is use for the present study. Questionnaire is developed for collecting the information on personal and socio economic characters of the adolescent girls. Knowledge test is developed for testing the knowledge level of college students about Iodine. Random sampling method is use for the selection of the sample.100 college going girls was selected for the present study .Pre test and post test were conducted. Questionnaire related to the knowledge on iodine was formulated. There are 20 questions in questionnaire. Each question having 1 mark and every question was given 3-4 options. Students were asked to tick mark correct options in their opinion. Questionnaire was checked by researcher and score was noted. Questions were related to educational module on iodine.</p> <p>Formulation of Educational module on Iodine:</p> <p>The educational module was constructed in the form of ppt. It includes scientific information on iodine which was collected from internet, news, books, newspaper, journal and magazines. It includes types of nutrients, what Iodine is; micronutrient and macro nutrient, sources of Iodine, functions of Iodine, deficiency of Iodine, symptoms of iodine deficiencies and recommended dietary allowances. The power point presentation which could be easily and effectively convey the scientific information on Iodine was prepared.PPT was treated as an education module on iodine. The data obtained was used for statistical analysis.</p> <p>Statistical analysis of data:</p> <p>Data so collected was analysed using statistical techniques such as mean, percentage, standard deviation and z test were used for calculation. Z test is a statistical test used to determine whether two population means different when the variance is known and the sample sizes are large. The test statistic is assumed to have a normal distribution and nuisance parameters such as standard deviation should be known for an accurate Z – test to be performed.</p> <p>Used formula:</p> $z = (x - \mu) / (\sigma / \sqrt{n})$ <p>Result and discussion:</p> <p>Processing of the collected data through appropriate statistical methods is an important feature of the research .Result and discussion shows path to the conclusion.</p>		
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Table no 1: Distribution of respondents according to age.

Sr.No	Age	Art faculty		Commerce faculty		Home science faculty		Science faculty	
		Total	%	Total	%	Total	%	Total	%
1	15-17	18	59.94	6	39.96	10	27.7	05	26.3
2	18-21	12	39.96	9	59.94	24	66.72	12	63.12
3	22-24	0		0		02	5.56	02	10.52
Total		30	100%	15	100%	36	100%	19	100%

As per the Table -1, The distribution of girls according to age. The sample selected was in the age group of 15 to 24 years, however, does not have much importance in the present study. (66.72 %) formed the largest age group and were in the 18-21 years age in home science faculty. No found students in the art and commerce faculty in the group of 22-24 age group.

Table No 2: Distribution of respondents according to education.

Sr. No	Education	Art Faculty		Commerce Faculty		Home science Faculty		Science Faculty	
		Total	%	Total	%	Total	%	Total	%
1	11 th to 12 th	06	19.98	04	26.64	06	16.62	04	21.04
2	Graduation	24	79.92	11	73.26	30	83.10	15	78.9
3	Post Graduation	0	0	0		0		0	
Total		30	100%	15	100%	36	100%	19	100%

Education seems to make a drastic difference to the ideas. Education creates awareness about the nutrients. Table -2 shows that maximum respondents were graduates in all faculties. It was observed that, none of the respondents were post graduates. (83.10 %) belongs to graduation group is larger group and below formed the smallest group (16.62 %)



Table No 3: Mean knowledge score pre and post education

Sr. No	Faculty	Mean Knowledge score (pre education)	Mean Knowledge score (Post education)
1	Arts	11.83	15.91
2	Commerce	10.10	11.48
3	Home science	13.16	14.41
4	science	11.07	16.33

- The mean score of knowledge before the education was found to be 11.83 which got improved to 15.91 after the education given to the respondents of Art's faculty
- For respondents of commerce faculty, the mean score of knowledge before the education was found to be 10.10 which got improved to 11.48 after the education given to them
- The mean score of knowledge before the education was found to be 13.16 which got improved to 14.41 after the education given to the respondents of Home science faculty
- For the respondents of science faculty, the mean score of knowledge before the education was found to be 11.07 which got improved to 16.33 after the education given to them

**Statistical Analysis
(Z TEST)**

Generally, z test is used when we have large sample sizes (n>30), whereas t-test are most helpful with smaller sample size (n<30). Both methods assume a normal distribution of the data, but the z-test are most useful when the standard deviation is known.

A z-test is a statistical test used to determine whether two population means are different when the variances are known and sample size is large. The test statistic is assumed to have a normal distribution, and nuisance parameters such as standard deviation should be known for an accurate z-test to be performed.


Z test formula:-

$$z = (x - \mu) / (\sigma / \sqrt{n})$$

Sr.No.	No. of samples	X= Pre mean score	μ=Post mean score	Standard Deviation	Z value
1	100	11.36	16.78	3.644	1.489






Z value is taken at 5% level of significance.

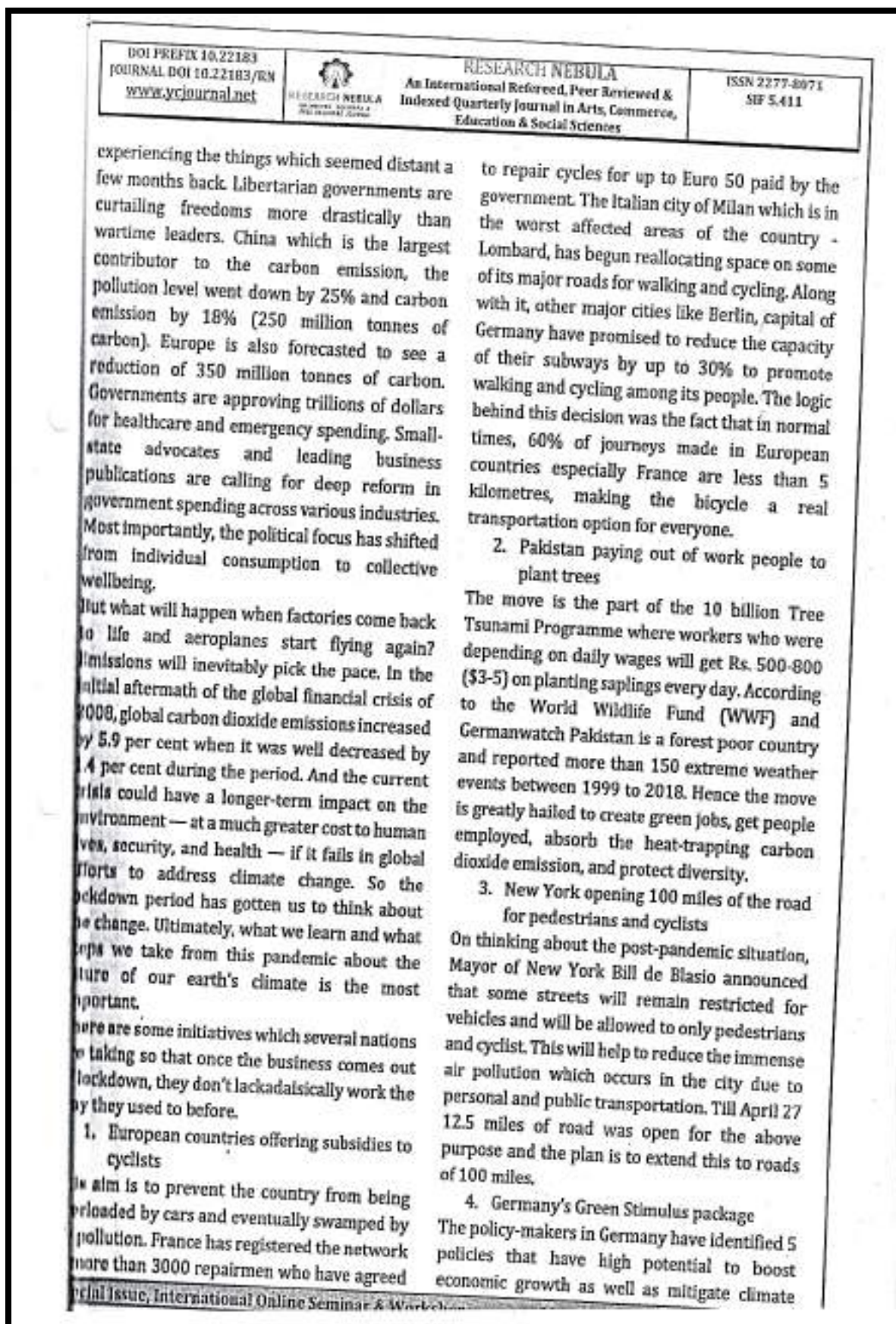
It has been observed through Z value (z=1.489) that there is significant improvement in the knowledge score of students when level of significance is taken at 5%.

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<p>Hence, we can say that educational module developed by researcher has positive effect in terms of giving the knowledge about Iodine. Hence, we accept hypothesis 1 and reject hypothesis 2 i.e. we accept that, the educational module will improve the knowledge of college going students about Iodine.</p> <p>Conclusion:</p> <p>The present study assessed the level of knowledge on iodine among adolescent girls. The study concludes that power point presentation is effective in increase the knowledge of iodine among adolescent girls. It can be concluded that, majority of girls age were in between 18- 21 year and majority of girls studying in graduation course in all faculty. Z value – 1.489 states that there is significant improvement in the knowledge score of the students at 5% level of significance. Thus it can be said that the educational module developed is effective in giving the knowledge about iodine.</p> <p>References:</p> <ol style="list-style-type: none"> 1. B.Srilaxmi,(2002),Nutrition Science, New age International (P) Limited publisher, New Delhi, pp 125 2. Mahtab S. Bamji,N. Prahlad Rao, Vinodini Reddy,(1998),Textbook of Human Nutrition, Oxford and IBH publishing Co. Pvt. Ltd., pp 114 		
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New challenges and Opportunities in Environment

Dr. C. N. Vidhale

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NEW CHALLENGES AND OPPORTUNITIES IN ENVIRONMENT - 2020			
DR. CHHAYA N. VIDHALE			
Asso. Professor, Matoshree Vimlabai Deshmukh Mahavidyalaya Amravati (MS), India			
Abstract			
<i>The objective of this paper is to look for the challenges in the environment during and post the time of pandemic caused by Novel Coronavirus. Pledges were taken by 55 major nations in the 2015 United Nations Climate Change Conference famously known as Conference of the Parties 21 (COP-21) to work towards the reduction of carbon emission. These 55 nations collectively contribute to at least 55% of the world's carbon emission. But even after implementing dozens of policies to promote the green economy, many nations were falling behind the set goal. This pandemic though has turned out to be the toughest enemy so far for the warfighting nations, it has become the most amicable for nature. But the key environmentalist fears that the emission rate will be exponentially increased to make up for the capital all the nations losing out on. Hence this paper also focuses on the opportunities the worldwide policymakers have to encourage the use of sustainable energies and make country more green economy dependent.</i>			
Challenges and Opportunities in the Environment			
<p>On 31st December 2019, the People's Republic of China woke up with the news of new disease emerging from the industrial city of the country - Wuhan. Since then, this disease SARS-CoV-2 emerged from the Novel Coronavirus has summoned the world at its feet spreading across 213 countries taking approximately 3.5 lakh lives. Along with mourns over the human loss, millions of people in the world have lost their livelihoods. Businesses and trade in most of the countries and across the nations have come to the halt. There is the worst economic disaster the world is facing since the Great Depression in 1929. On one side major financial institutes are predicting the 0 per cent or the negative growth for many nations including India, on the other side, the key environmentalists and various world forums for climate change are showing us its positive impact on the environment. Since the major nations and regions like the U.S.A, China, Russia, Europe, and most of the Asian countries went into lockdown and closed the borders, various enterprises, trade, and daily</p>			
<p>life, something strange is happening. In India, the capital New Delhi is breathing strikingly clean air 1st time since ages along with the 14 other cities in the country which are in top 20 most polluted cities in the world. Venice's grand canal which is normally filled with the boat traffic is now running clear water. The fog of pollution has fallen in major industrious cities across the U.S.A. In some ways, the warning signs about climate deterioration has stopped. As the governments around the world are working together to stop the spread of the virus by sending each other the essential active pharmaceutical ingredients (API), personal protective equipment (PPE), and other necessary medical enforcements, the individual roles have become visible more than ever to fight against the invisible virus. The social distancing and lockdowns have helped us to slow down the transmission of the disease in hard-hit areas from South Korea to the U.S.A. In New York carbon monoxide levels reduced to half of the usual March level. Since the pandemic, it is not just from the space that the world looks different. We are</p>			
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change. Strategies could involve using recovery funds to stimulate innovation for the low-carbon energy transition, building on social changes caused by the pandemic and harnessing disruption to accelerate the decline of carbon-intensive industries, technologies and practices. This stimulus is going to increase the subsidies on sustainable goods such as cash incentives for electric cars. This will certainly boost the businesses and employment around sustainable energies and help the country to fulfil its pledge of cutting the CO₂ emission by 55% by 2030.

Opportunities in India

India is the fastest-growing nation in the world. According to the International Monetary Fund World Economic Outlook - 2019, India will enjoy being the 5th largest economy in the world in terms of Gross Domestic Product (GDP). Also, India's GDP growth rate is one of the highest which means India is one of the main contributors to the carbon emission in the world. According to the International Energy Agency (IEA), India emitted around 2300 million tonnes of carbon dioxide in 2018 which is a 4.8% rise from the 2017 emission. With the pledge taken in COP21 under Paris Climate Agreement 2015 to reduce the carbon emission by 35% below 2005 emission, India has a huge task ahead to meet the goal. With the help of the biodiversity, manpower, and financial resources, the Indian government should provide the stimulus package to empower businesses on sustainable energies. Following are some areas which India can take advantage of

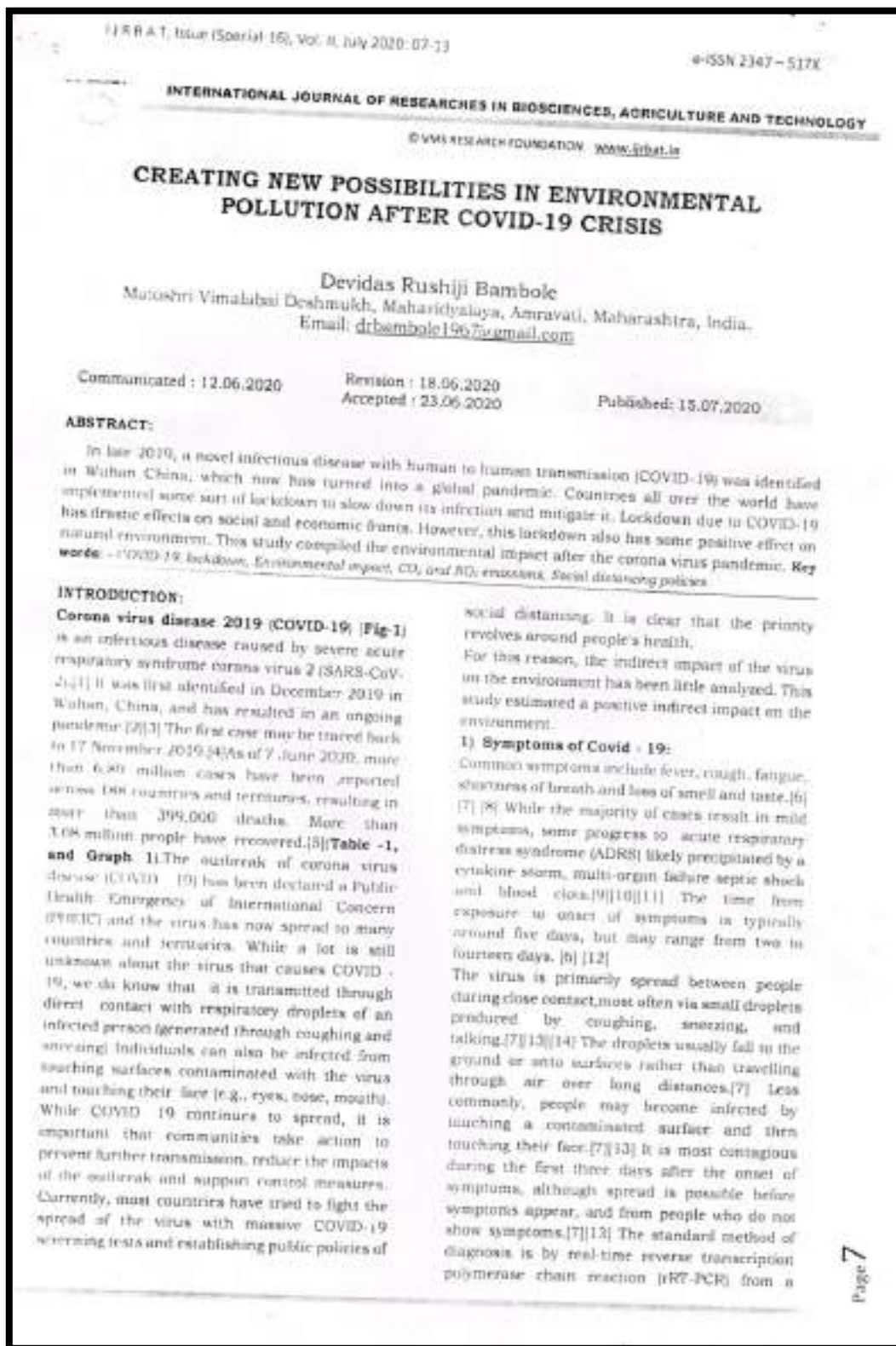
1. Two third of Indians live in the rural area and hence through the Low Carbon Rural Development Program, the government can provide stimulus to promote smart farming techniques
2. Around 70% of the population uses stoves that burn firewood and dung. And hence, installing household and community biogas units and solar-powered units
3. The financial boost to the Environmental Defence Fund (EDF) so that it collaborates with more and more corporations like Mahindra & Mahindra to mitigate the emission and reach the goal to become carbon neutral

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Creating new possibilities in environmental pollution after covid-19 crisis -
Dr.D.R.Bambole



nasopharyngeal wash. [15] Chest CT imaging may also be helpful for diagnosis in individuals where there is a high suspicion of infection based on symptoms and risk factors.

2) Prevention for Covid -19:

Preventive measures to reduce the chances of infection include-

- a) Staying at home,
- b) Avoiding crowded places,
- c) Keeping distance from others (Fig:2)
- d) Washing hands with soap and water often and for at least 20 seconds,
- e) Practicing good respiratory hygiene,
- f) And avoiding touching the eyes, nose, or mouth with unwashed hands.[16][17][18]
- g) The U.S. Centers for Disease Control and Prevention (CDC) recommends covering the mouth and nose with a tissue when coughing or sneezing and recommends using the inside of the elbow if no tissue is available. [16] and dispose of used tissue Paper immediately.
- h) Proper hand hygiene after any cough or sneeze is encouraged. [16]
- i) The CDC has recommended cloth face covering in public settings where other social distancing measures are difficult to maintain, in part to limit transmission by asymptomatic individuals.[19]

3) Investigational Therapeutics for Patients with COVID-19:

There are no drugs or other therapeutics presently approved by the U.S. Food and Drug Administration (FDA) to prevent or treat COVID-19. Current clinical management includes infection prevention and control measures and supportive care, including supplemental oxygen and mechanical ventilatory support when indicated.

4) Impact of the COVID-19 pandemic on the environment:

The worldwide disruption caused by the COVID-19 pandemic has resulted in numerous impacts on the environment and the climate.[20] The considerable decline in planned travel [21] has caused many regions to experience a large drop in air pollution. In China, lockdowns and other measures resulted in a 25 per cent reduction in carbon emissions[22] and 50 per cent reduction in nitrogen oxides emissions,[23] which one Earth systems scientist estimated may have saved at least 77,000 lives over two months.[24][25] Other positive impacts on the environment include governance-system-controlled investments towards a sustainable energy transition and other goals related to

environmental protection such as the European Union's seven-year €1 trillion budget proposal and €750 billion recovery plan "Next Generation EU" which seeks to reserve 25% of EU spending for climate-friendly expenditure.[26][27][28][29][30]. However, the outbreak has also provided cover for illegal activities such as deforestation of the Amazon rainforest [31][32] and poaching in Africa.[33][34] hindered environmental diplomacy efforts,[35] and created economic fallout that some predict will slow investment in green energy technologies.[36]. Nitrogen dioxide (NO₂) is one of the six major air pollutants. Due to shocking Covid- 19 pandemic, the pollution level decrease globally. In India, In Delhi's metropolitan area, pollution levels have dropped most dramatically; NO₂ levels from March 25 (the day quarantine began) to May 2 have averaged 90 µmol/m³ compared to 162 µmol/m³ from March 1 to March 24. In 2019, NO₂ levels from March 25 to May 2 were also far above this year's levels, averaging 158 µmol/m³. In Greater Mumbai and Navi Mumbai, a similar trend has been observed as NO₂ levels from March 25 to May 2 averaged 77 µmol/m³ compared to 117 µmol/m³ from March 1 to March 24. In 2019, NO₂ levels from March 25 to May 2 averaged 122 µmol/m³.

5) Creating new possibilities in environmental pollution after covid-19 crisis:

- a) **Water system:** water systems from local to regional scales have seen discernible positive impacts due to the reduction of pollutant loading from industries, vehicle emission, and other sources.
- b) **Air quality:** The COVID-19 crisis has forced activity freezes. Lockdowns and calls to shelter-in-place have closed schools and non-essential businesses. Minimal activity from industrial sites, factories and construction sectors has minimized the risks for toxins to escape, in turn improving air quality.
- c) **Green house gas emissions:** Vehicular activity contributes more to greenhouse gas emissions. But because of strict corona virus lockdowns were issued, with substantially less vehicular movement, comes less pollutants like carbon monoxide. Also there is decrease in **Green house gas emissions like CO₂ & NO₂**. Air travel has also taken a major hit, because of the order to shelter in place, and greenhouse gases predictably decline.
- d) **Healthcare waste:** Healthcare waste is all the waste generated by healthcare facilities, medical laboratories and biomedical research

facilities. Although hospitals produce the bulk of healthcare waste by volume dramatic rise. Disposable medical products such as single-use gloves, surgical and non surgical contaminated masks and empty IV bags, expired medicines, and other items. In the wake of the pandemic has created a excess of medical waste.

In Wuhan, China, the volume of medical waste is reported to have risen from 40 to 240 tons a day at the height of the pandemic. In India, Punjab State has been one of the worst-hit states in the country due to the virus outbreak. There are 264 isolation centers and wards treating the patients. From March 20 to April 26, 19,553 kg of bio-medical waste was generated -- about 550kg per day -- by the health facilities engaged in treating Covid-19 patients. So, total amount of biomedical waste in India is also so high. Open burning without adequate pollution control, exposes waste workers and the surrounding community to toxic contaminants in air emissions and ash.

7. Short-term effects on climate change:

Unfortunately, this dip in carbon emissions will only last as long as the virus does. Activity will slope up once the pandemic collapses, creating a rebound effect seen in other crises.

8. Product packaging waste:

Plastic sanitary packaging and other products packaging waste is increase during the corona virus pandemic.

CONCLUSION:

COVID-19 is a global pandemic and serious threat to human health which halts the economic activities, where pollution is reducing and nature is reclaiming itself. The most environmental impacts of the corona virus pandemic, such as a decline in carbon, CO, NO₂ and CO₂ emissions, and increase in medical waste, plastic waste will be temporary and the air pollution and NO₂ levels are expected to rise to their normal unhealthy levels when quarantines are lifted, but governments and individuals should learn from this lockdown on how to reduce pollution on long term basis.

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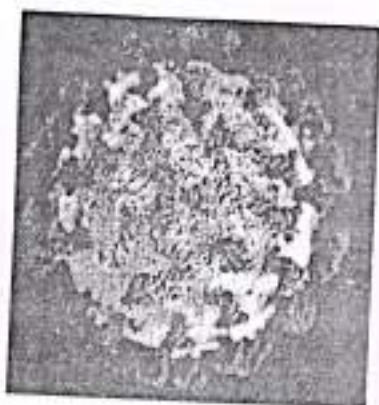


Fig 1: Covid – 19 Virus

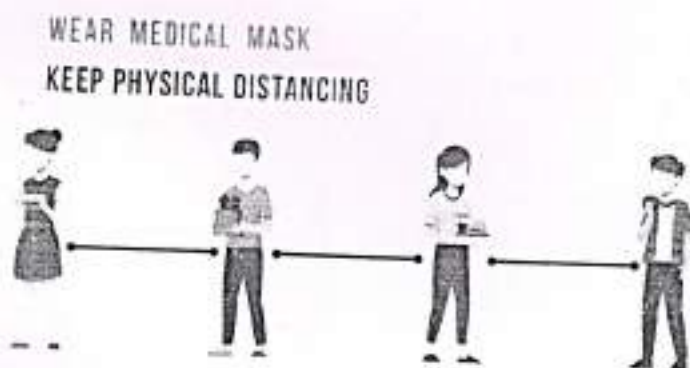
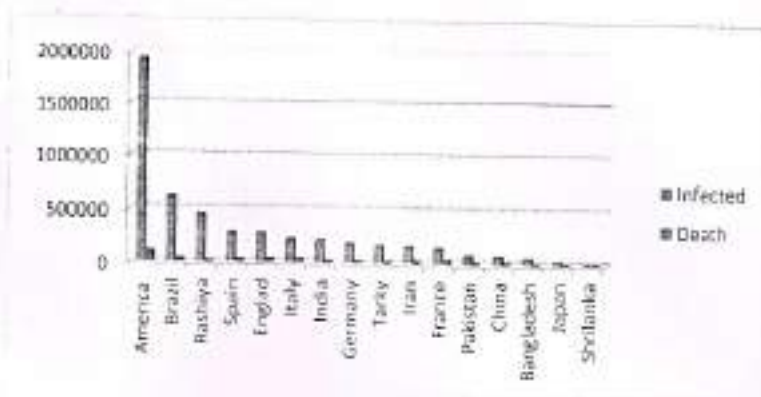


Fig 2: Social Distancing



1: Infected and death of patients worldwide by COVID-19

Table 1 - Pandemic of Covid -19 all over the world (Total infected Patients 67,55,000) (LOKMAT NEWS, PAPER 06/06/2020)

Country	Infected	Death	Cure
America	1925346	110218	712436
Brazil	618554	34072	274997
Rashtra	449834	5528	212680
Spain	287740	27133	not available
England	281661	39904	not available
Italy	234013	33689	161895
India	226770	6384	109462
Germany	184963	8736	168500
Turky	167410	4630	131778
Iran	167156	8134	129741
France	152444	29065	69976
Pakistan	89249	1838	31198
China	83027	4634	78327
Bangladesh	60391	811	12804
Japan	17018	903	14867
Sri Lanka	1800	11	858

तपोवन के आंगन में शब्दों की सवेदना

Dr. S.B.Watane

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<p>तपोवन के आंगन में शब्दों की संवेदना: गुरु जाम्भोजी डॉ. प्रा. शालिनी ब. वाटाणे मातोश्री विमलाबाई देशमुख महाविद्यालय, अमरावती</p>	
<p>भारत संतो, समाज सुधारको, समाज चिंतक दार्शनिकों की भूमि रही है। सदियों से समाज में व्याप्त अंधविश्वास, दुष्ट प्रथा परम्पराओं और विषम सामाजिक परिवेश को समाप्त करने की कोशिश संत समाज सुधारक करते आये है। संतो की परंपरा में कबीर, नामदेव, तुकाराम, राधेसंत तुकडोजी महाराज, तुलसीदास, मीरा इन महानुभावोंने सत्य अहिंसा और करुणा तथा मानवता की धारा बहाई है। संतो ने विश्वकल्याण के लिए विश्व बंधुत्व की भावना का प्रसार किया। दया क्षमा उदारता आदि गुणों को समाज में अधिक रूप से व्यव्यक्त करने का उपदेश दिया।</p> <p>ऐसे ही मध्यमाल में महान संतगुरु जाम्भोजी ने अपनी वाणी की धारा रेगीस्थान में प्रवाहित की जिससे संपूर्ण रेगीस्थान आकण्ट खूब गया। उनके द्वारा कही वाणी वर्तमान युग में भी उपयोगी एवं लाभकारक सिद्ध हो रही है।</p> <p>गुरु जाम्भोजी इ.स.न १४५१ में पीपासर ग्राम में प्रकट हुए । जो नागौर परगने मे पडता है। भारतीय धर्म का फलन करते हुए उन्होंने सम्राजलके पावन धाम पर २७ साल गये चलाई। आपने लोकमंगल की कामना हेतु संवत् १५४२ में विश्वनोई पंथ की स्थापना की, जो भगवान विष्णु का हुआ वह विश्वनोई कहलाया। गुरु जाम्भोजी खुले में ही रहते थे। जीवदाया पालणी रुख लिली नहीं छाते। ऐसा कहते थे। संवत् १५०८ भाद्रपदकी वद्य अष्टमीको ठाकुर लोहटजी के घर बालक का जन्म हुआ वहीं आगे जाकर गुरु जाम्भोजी कहलाए। संवत् १५४२ में कार्तिक वद्य अष्टमीको सम्राजल धारे पर गुरु जाम्भोजी ने विश्वनोई पंथ की दिक्षा चारो वर्ण के रबी पुरुषों को दी १५९३ तक मिंगसर कभी नवमीतक जीवन यापन मंत्र का महत्वपूर्ण उपदेश दिया जो समदवाणी के नाम से प्रचलित है ।</p> <p>जाति-पाति का विरोध :</p> <p>गुरु जाम्भोजी महाराज की सबदवाणी कहती है जाति धर नहीं, कर्मपर आधारित होनी चाहिये। इस संदर्भ में उनकी यह शक्तियाँ यहाँ सिद्ध होती। "उत्तम कुलीका उत्तम ना होयेना कारण किरिया सार गेरख दीग सिध्द ना होयबा, पोह उतरिना पार।"२</p> <p>तत्कालीन राजपूताना अंचल की स्थिति दमनीय थी। सामंतशाही चरमपर थी। साथ समाज जाति-पाति के बेडियों में लिप्त था गुरु जाम्भोजी कहते थे जन्म से नहीं कर्म से व्यक्ति को पहचानें। उन्होंने जातिव्यवस्था पर करारा प्रहार किया। बिना किसी भेदभाव के सभी जातियों के लोग गुरु जाम्भोजी के उपदेश से लाभान्वित होते रहे है। गुरु जाम्भोजी की वाणी गुरुमक्ति, गुरुमहिमा, ज्ञानार्जन की आवश्यकता, विश्वबंधुत्व की भावना, जाति वर्ण, धर्म आदि के भेदभावों से मुक्ति मुक्तिपूजा का विरोध स्वच्छता तथा पर्यावरण की सुरक्षा आदि पर केंद्रित है।</p> <p>मानव एवं पर्यावरण संरक्षण:</p> <p>विविध पर्यु, पक्षि तथा वृक्षवेली यह सब हमारे पर्यावरण के साथी है। गाय, भैंस, बैल, कुत्ते, बिल्ली, मुर्मियोंका संगोपन, संरक्षण सिर्फ जरूरी नहीं अपितु जंगली जानवरों का भी संरक्षण महत्वपूर्ण होता है। उनकी हिंसा विश्वनोई समाज को मान्य नहीं है। काले हिरन का शिवचर और अभिनेता सलमान खानवाला प्रकरण जो काफी चर्चित रहा सबको पता है। गुरु जाम्भोजी के</p>	
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उपदेश का परिणाम इतना भारी था कि ३६३ स्त्री पुरुषों ने अपना जीवन बलिदान दिया था वृद्धों को बचाने के लिए।

औरंगजेब शासन व्यवस्था में जोधपुर के महाराजा अभयसिंहजी के खोजी गाँव में महल बनाने के लिए जमीन साफ करनी थी। मनोनीत जमीन पर इरेष्वरे वृक्ष थे। महाराज के राजदूर वृक्ष काटने के लिए आए। उनके साथ सैनिक भी थे। उन्होंने वृक्ष काटई शुरू कर दी तो बिश्नोई समाज के लोग गुरु जाम्भोजी महाराज की अग्र बोलते हुए वृद्धों से लिपट गए। सैनिकों ने २९४ पुरुष और ६९ महिलाओं को वृक्ष के साथ काट डाला। बलिदान की यह बात राजा तक पहुँची तो वृक्ष काटना तुरंत रुकवाया गया। राजा ने बिश्नोई समाज को राष्ट्रपूर्वक लाभप्रद समर्पित किया जिसके अनुसार बिश्नोई समाज के लोग जहाँ जहाँ रहेंगे वहाँ वन्य प्राणियों को शिकार नहीं की जायेगी और वृद्धों को नहीं काटा जायेगा। सभात वृत्तपत्र वाचक, सुंदरलाल बहुगुणा और उनका विषयको आंदोलन जानते हैं। जो ५०० साल पुराना यह ऐतिहासिक विस्मय आज भी बाद दिलाता है। और उन ३६३ आत्मभोंका बलिदान आज भी बंदनीच है और पर्यावरण संरक्षण की प्रेरणा देता है।

पशुओं के संरक्ष में जाम्भोजी कहते हैं यह गाय, भेड़, बकरी गुम्हारी संपत्ति तो नहीं है फिर तुम इन्हें क्यों मारते हो ? गुरु जाम्भोजी की बक्तियाँ मर्जा सार्थक सिध्द होती है—
“सुणि रे काजी सुणि रे मुल्ला सुणि रे बकर कसाई
किण रे बरपी छाली रोखी किण रे गाडर माई।”

•परोपकाराय फलान्ते वृक्षाः
वृक्षपर जो सुलझादी चलाता उसे भी वृक्ष छाया प्रदान करता है। फल,फूल देता है। परोपकार के लिए ही वृक्ष का जीवन होता है। जाम्भोजी महाराज कहते हैं मनुष्य का जीवन भी ऐसा ही होना चाहिए।

•सत्संग और सदगुण सदाचार पर बलः
गुरु जाम्भोजी मूर्तिपूजा तो नहीं मानते परंतु सत्संग और सातगुण को आप बहुत महत्व देते हैं। यहाँ इन बातियों में कहते
“उत्तम संग सु संगु, उत्तम रंग सु रंग।
उत्तम लंग सु लंगु, उत्तम डंग सु डंगु।”

सत्संग ही मनुष्य में सदगुणों को जगाता है। वह दया, क्षमा, करुणा, शील, परोपकार, संतोष के भाव आगुत करता है। लोककल्याण के कार्यों की और निस्वार्थ व्यक्ति ही उन्मुख होता है। गुरु जाम्भोजी कहते हैं। जो कुछ करना है अभी करा, बाद में करने फिर देखने यह भूल है। यहाँ ये वद सार्थक सिध्द होते हैं—

जो फलु की जे मरणे पहले मत बलु कधी मर जादये। ५ किरयोन मलग करण है तो जीवित रहते ही करो मरणे के बाद क्या करोगे ? जीवन नरकर है बाणभंगुर है इस विषय में गुरु जाम्भोजी कहते हैं—
“राजा साह पुरोहित मिश्र ही व्याख्या रुखी विरछा आव बडती
अंतर माहे कृण विरोधी। मरण न एक माहोइ।”
अर्थात् राजा ही या रक साहुसेव या पुरोहित, मिश्र व्यास जादि सभी की आयु कम होगी जाती है। सभी को एक ही मार्ग से मृत्यु प्राप्त होना। इस प्रकार गुरु जाम्भोजी का कार्य एवं काव्य लोककल्याण की भावना से ओतप्रोत है।

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• आदर्श जीवन :

माणक पायो फेर लुकायो, नही लखायो, अर्थात् हे मनुष्य शरीर के रूप में तुम्हे मानो माणिक मिला है। पूर्ण जन्म के अच्छे कर्मों से यह तुम्हें प्राप्त हुआ है। यह सदा स्थिर रहनेवाला नहीं है। जीवन में नीतिक चेतना का बड़ा महत्व है मानव को यह संतवाणी से मिली पवित्र अमृतवाणी है। जिसमें दया, अहिंसा, सत्यता, परोपकार, अस्तेय क्षमा आदि का समावेश होता है। इसलिए जाम्भोजी ने अपनी दिव्य वाणी में अपनी रचनाओं के माध्यम से एक भयमुक्त नीतिमान और शांतिप्रिय समाज रचना की प्रेरणा दी है इन पंक्तियों में वे कहते हैं —

“भे आप गरीबों तन गूदड़ियों भेरा कारण विरिया देखो ।
बिन्दों ब्योहरो ब्योर विचारों, भूलस नाही लेखों” ७

वे कहते हैं आचार विचार को भूलना नहीं विनय और लोकशिक्षण पर बल देना चाहिए
“ग्यान खडगुं जथा हाथे, कुण होयसी हमारा रिधु”

अपने इसी पदके द्वारा जीवन के राह से भटके हुए लोगों को सही रास्ता बताया, अच्छे कर्म करने की प्रेरणा देकर मोक्ष दिलाने की ओर उन्मुख किया । उन्होंने धूरे कर्म करनेवाले एवं पाखंडियों को फटकारा है तथा धर्म के रास्ते से भटके हुए लोगों को जीवन का सच्चा रास्ता दिखाया है।

संत काबीर के ९३ साल बाद पैदा हुए समाज सुधारक संत गुरु जाम्भोजी विश्नोंई पंथ के प्रवर्तक हैं। जाम्भोजी को हिंसा अमान्य थी वे अपनी वाणी से अहिंसा का संदेश देते हैं। गाय बकरी भेड़ हमें अमृतसमान दूध देती हैं। उस दूध से हमें दही, मक्खन आदि मिलता है। दुध से खीर बनाकर हम खीर का स्वाद लेते हैं। फिर भी हम पशुओं की हत्या करते हैं तो हमारा पठना लिखना, कुर्याण पुराण सुनना सब व्यर्थ है।

• स्त्री विधायक विचारः

आज भी इक्कीसवीं सदी में महिलाओं को मंदिर में प्रवेश मना है। जो स्त्री माता, बहन, पत्नी, प्रेयसी है उसके साथ यह व्यवहार निर्दयता अमानवीयता असमानता का प्रतीक है। गुरु जाम्भोजी ऐसा नहीं मानते थे। स्त्री पुरुष एक समान जीव है, ऐसी उनकी धारणा थी

गुरु जाम्भोजी मनके पवित्र स्थान को सब दानों से उपर उच्च स्थान देते हुए सबद सुनाते हैं।

“कांचन दानुं कछू न मानुं, कापड दानुं कछू न मानुं
चीपड दानुं, कछू न मानु हसंती दानुं कछू न मानु
गुरंगम दानुं कछू न मानुं तथा दानुं कछू न मानुं
मानु एक सुर्पाल सिनानुं

अर्थात् स्वर्ण दान, वस्त्र दान, भी मक्खन का दान, हाथी का दान, घोड़ों का दान यहाँ तक की कन्यादान यह सब एक सनेल मन के स्थान के समाने तुच्छ है।

गुरु जाम्भोजी कन्या धुणहत्या, बाल विवाह, दहेज तथा इनके प्रतिकूल थे। रियों को पढाना चाहिए ताकि उनका जीवन सुचारु ढंग से चले विश्नोंई समाज में आज भी महिला सम्मान की अपूर्व परंपरा है।

• लोक कल्याण की कामना

गुरु जाम्भोजी की सबदवाणी सनातन धर्म के अनुसार लोककल्याण की कामना करती है। यह पद यहाँ सार्थक सिद्ध होता है —

‘धर्म पुरुष सिर जीवै पुरु बासन्दर नही लख हीरन अपने धर्म की नयी परिभाषा प्रस्तुत की। पुरुष अपने जीवन की पूर्णता और लोकोत्तर लक्ष्य प्राप्ति, सन्ने रूप से धर्माचरण करके कर सकता

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है। आपने मनुष्य को सत्यनिष्ठा और सदाचरण का मार्ग दिखाया। कण-कण में अणुपरमाणु सब में आत्मतत्त्व का वास होता है। जीवहत्या निषेध वृद्धों को खाटना नहीं, उनमें भी जीवन होता है, ऐसा वे कहते हैं।

निष्कर्ष :-

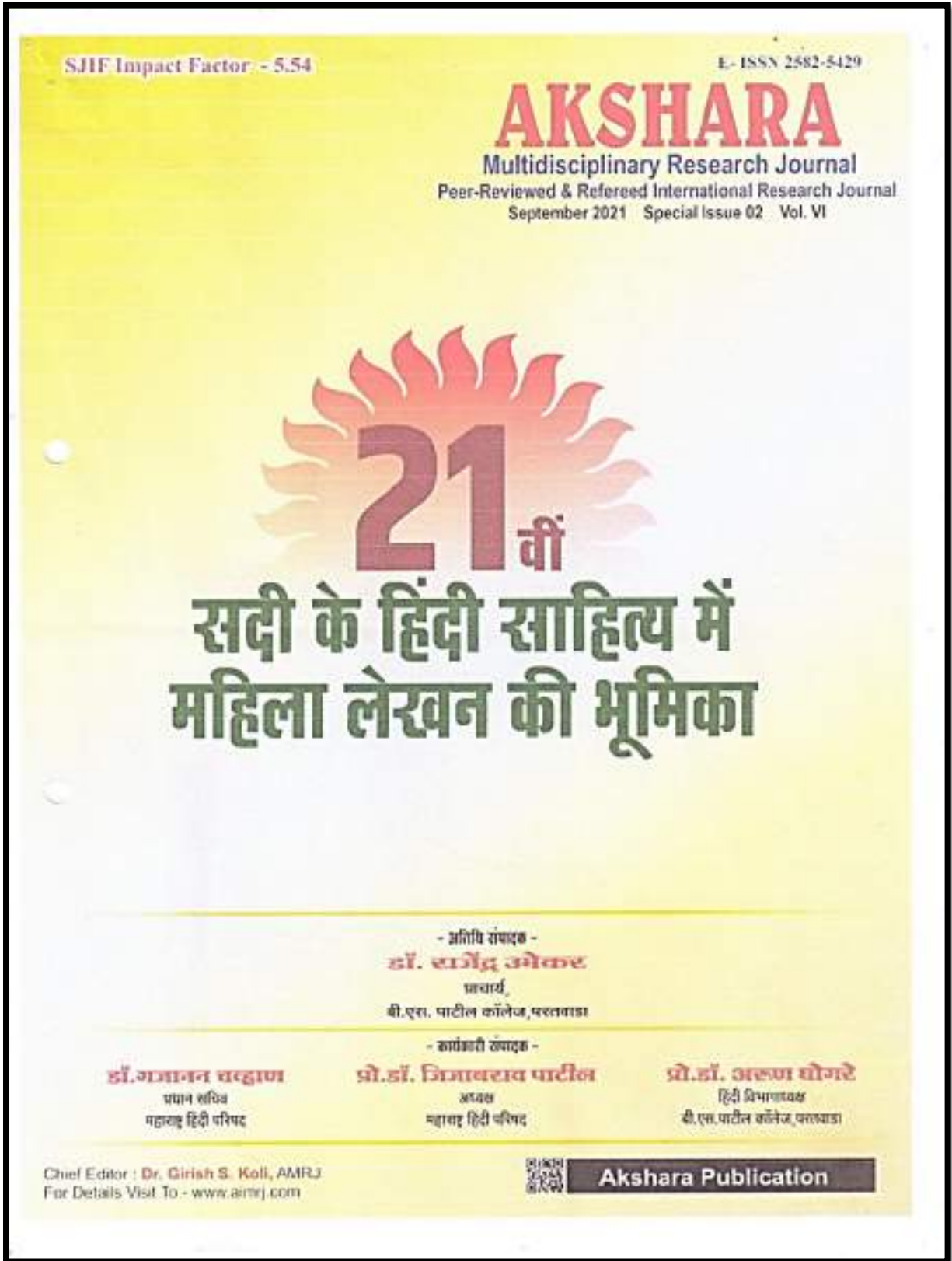
गुरु जाम्भोजी महान समाज सुधारक थे। जीवों की उपासना, भूतश्रेत अस्तिाध विरोध जाति-पाति का विरोध, मिथ्या अहंकार निषेध, मानव और पशुसंरक्षण सत्संग और सदगुण परोपकार, मूर्तिपूजा विरोध नकली जोगी, संन्यासी, पाखंडियों का विरोध समता और संधुता का पुरस्कार करते हुए जीने का मंत्र गुरु जाम्भोजीने मानव को दिया।

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Dr.S.B.Watane



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

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इक्कीसवीं सदी की कहानियों में स्त्री विमर्श

प्र. डॉ. शालिनी व. वाटाणे

मातोश्री विमलानाई देशमुख महाविद्यालय अमरावती

प्रस्तावना - ऐसा कहा जाता है जो साहित्य विशिष्ट ज्ञान को समझने का माध्यम है। जो मानव की निजी भावनाओं को व्यक्त कर उसे समष्टि कल्याण के लिए प्रसारित करता है। समाज में स्त्री और पुरुष एक सिक्के के दो पहलू हैं। दोनों के जीवन की झाँकी साहित्य में दिखाई देती है। लेखन व्यक्ति का भोगा हुआ यर्थाथ ही नहीं, बल्कि अनुभूत सत्य भी है। इस सत्यानुभव को स्त्री ने भी लेखन द्वारा शब्दबद्ध किया। जो आधुनिक, भक्तिवाद, रीतिकाल से होता हुआ आधुनिक काल तक आ पहुँचा है। काव्य के साथ साथ लेखन भी शुरु हुआ जिसका श्रेय दुलाई - खाली कहानी की लेखिका बंगमाहिला को दिया जाता है।

श्रोक: जीवन एक यात्रा है, एक बुद्ध है, एक परित्रा है, एक संघर्ष है, जीवन जीना एक कला है, और जीनेवाला उसका कलाकार कभी कभी जीवन असमोल लगता है, तो कभी-कभी जोड़ लगता है कभी कभी जीवन बड़ा शांत लगता है, तो कभी - कभी जोड़ लगता है, कभी कभी तुफान आ जाता है। कभी जीवन वीरस लगता है। तो कभी आसान भी लगता है, जीवन में कभी कभी पलझड़ भी आता है तो कभी कभी साधन की रिक्ति भी आती है, कभी कभी जीवन रेणुस्तान की रेत लगता है तो कभी यह वसंत की बहार के चहचहले पंखी तथा गद्गदले फलों जैसा लगता है जीवन में बहुत उतर चढ़ाव भी आते हैं। और कभी- कभी उच्च वक्त भी आता है। देखा जाए तो जीवन एक चक्र है परंतु ऐसा चक्र जो परिधि में नहीं बल्कि सीधे रेखा में चलता है इसी चक्र के चक्रव्यूह में भारतीय नारी का जीवन गूँथा हुआ है जिससे लाख कोशिश करने पर भी उसे छुटकारा नहीं मिलता यही उसके जीवन की सन्तो कबी बातची है।

वस्तुतः पति-पत्नी की सार्थकता परिवार के विकास में है। अर्थात् नारी के मातृत्व में किंतु आज गोप्य वर न मिलने पर तलाक की समस्या अधिक दिखाई देती है। वैसे भी पारिवारिक जीवन का केंद्रबिंदू पति-पत्नि का पारस्परिक संबंध है, दोनों में आपसी सहभाव एवं सहयोग से परिवार का जीवन सुखी सम्पन्न एवं स्वाभाविक बन सकता है संबंध विच्छेद की स्थिति में परिवार विकृत होने लगता है। जिसके फलस्वरूप पुरुष अथवा नारी का जीवन पथभ्रष्ट होने लगता है इसके साथ ही विधवा की समस्या भी आज पारिवारिक जीवन में एक गंभीर समस्या बन गई है जिसका उल्लेख अनेकानेक कहानियों में दृष्टिगोचर होता है। स्त्री को केंद्र में रखकर अनेक महिला कहानिकारों ने विचार विनिमय किया है।

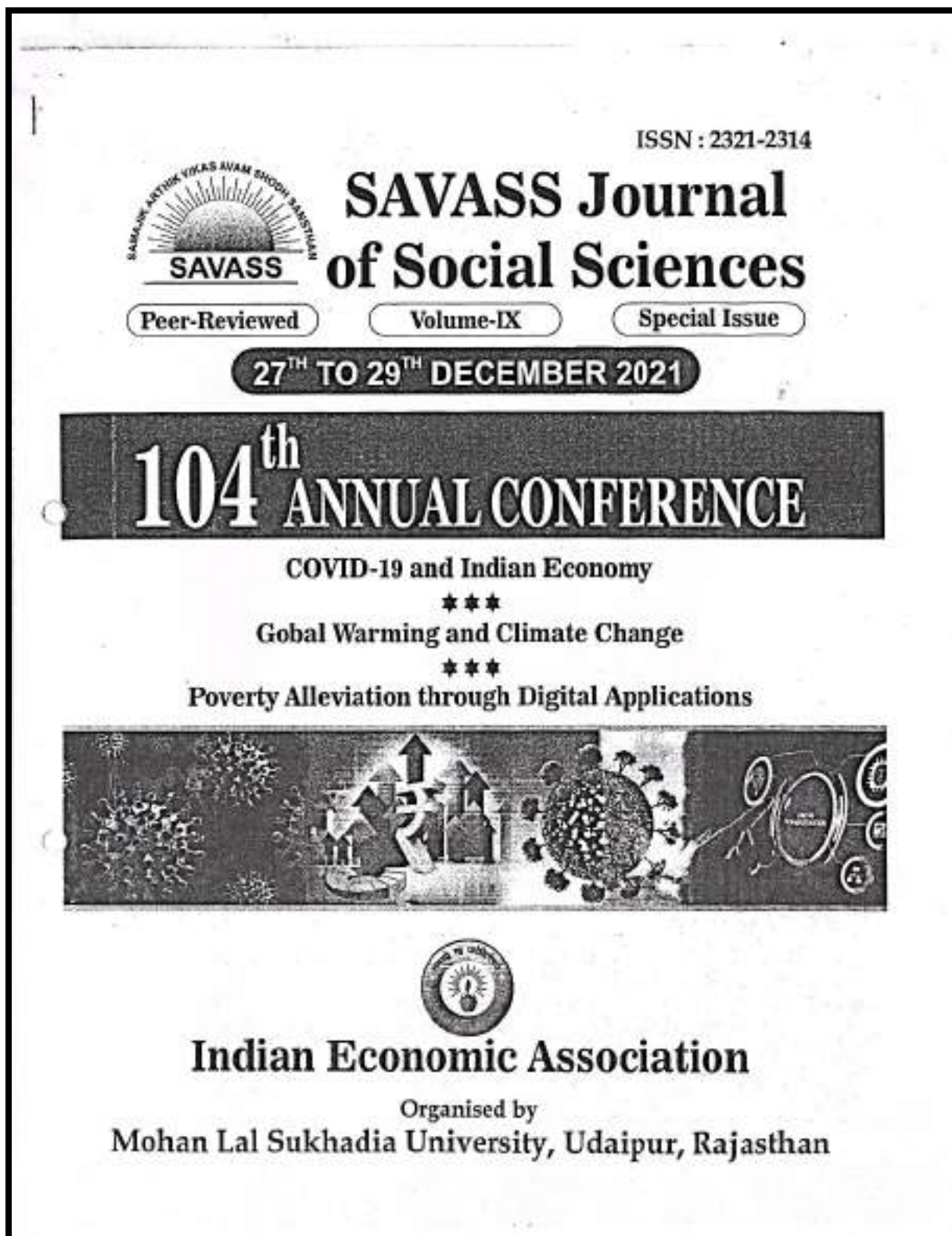
बकुल ! फिर आना कहानी मालती जोशी की बहुचर्चित कहानी है। कहानी का मुख्य आधार नारी जीवन की असहायता है कहानी नारी पर होनेवाले अत्याचार का पर्दाचारा कर रही है। ऐसा करना कहानी का उद्देश्य भी है। कहानी में उस नई बहू को केंद्र में रखा गया है, जो पहली बहू की जगह पर उस घर में आई है। बकुल अशोक की पहली पत्नी है जिसे बलात्कार प्रया दिया गया है जिसके कारण बकुल के भाई नकुल और राहुल संतप्त हैं। वे इतने संतप्त हैं कि उन्होंने कसम खा रखी है, कि वे अशोक के घर दूसरी बहू को नहीं आने देंगे। नही कारण था कि उन्होंने अशोक के लिए आए कई रिस्तों सुझाए। अन्त में मिर्जापुर की एक गरीब नौकर पेरा आदमी की बेटी अशोक की बहू बनकर आती है। इसके प्रति राहुल और नकुल के मन में घृणा पैदा होती है। वे उसे तेजाब डालकर मारना चाहते हैं। नई बहू माँ जो से मिलने आती है। माँ जी चाहती है कि राहुल और नकुल उसे न देखें। माँ जी के मन में यह भाव है कि उसे बकुल के रूप में ही अपनाई। वे यह भी जानती है कि इसमें नई बहू का कोई कसूर नहीं है। माँ उसे विदा करते वक्त अंतर्मन से बकुल ! फिर आना कहती है। ऐसे अनेक दृश्य हमें यत्र-तत्र सर्वत्र दिखाई देते हैं।

तो दूसरी और दाई आखर प्रेम का इस बहुचर्चित कहानी की लेखिका भी मालती जोशी हैं। जिसमें दलनीत और जगन्नी का प्रेम, उनकी त्याग की भावना और जगन्नी का परिवार के प्रति समर्पण इस कहानी की विशेषता है। प्रेम ही मानवीय संबंधों में निर्मित होने वाले बहर को नष्ट कर देता है। जहाँ प्रेम है वहाँ समर्पण अनिवार्य है यह नारी संवेदना की समर्पित भावना का चित्रण है। इसीलिए तो जयशंकर प्रसाद ने आँसू नामक ग्रंथ में कहा है -

“पाताल रे ! वह मिलता है कब,
उसको तो देते ही है सब

Impact of Field Policy on private partnership for Development of Indian Economy

Prof. J.D. Sangode



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27TH TO 29TH DECEMBER 2021

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Impact of Fiscal Policy on Private Partnership for Development of Indian Economy

Prof. J. D. Sangole* & Prof. (Dr.) D.K. Shrungare**

Abstract

The current scenario public sector will continue to play a dominant role in building of infrastructure. The public and private partnership have enable us to channelize private sector investment in infrastructure. The fiscal policy is actively working towards depending the reach of public and private partnerships as the preferred mode for the implementation of infrastructure projects. Many state government are focusing to implement their projects through this models. The relation between fiscal constraints and institution and there effects on the decision to use public private partnership are critical to understand, through fiscal policy instrument government of India support to public private partnerships in infrastructure to generate economic development. fiscal policy measures are frequently uses to achieve certain goals.

Introduction

Being the First part of this analysis chapter, we are going to take a cautions step to enter into are of instruments of fiscal police in India. When there is a talk of deepening financial sector reforms, the tendency is to forget that the accord between RBI and the Union Finance Ministry is a key aspect, and, even more so, that reform- meaning that part of it concerning reduction of Centre's fiscal deficit - would be taking the right course only when there is a total retreat on the phase-out of ad hoc treasury bills. Yes, fiscal management presently is getting constrained largely because of the limits placed on RBI lending to the Centre on concessional terms. The Centre will, no doubt, be tempted to over-spend when there are no limits on access to cheap Reserve Bank credit, but then the fiscal impact of such over-spending is not likely to be more than that of the enhanced interest burden arising out of the borrowing from the market at substantially higher rates in lieu of central bank accommodation.

In India we are facing the problems of unemployment, illiteracy, migration form rural to urban, income inequality, inflation and decrees the performance of public sector. Public infrastructure is another major challenge to context of urbanization. In this situation a country cannot develop so fast without a developed public and Private Partnership, foe the overall development of nation of the nation the government of the country has to provide the basic facility. These services need to provided government because who else other then the government itself has so much money to spend on the people, that money which they have collected by way of tax and it is obligatory give and take relation.

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World Bank describe it, do not matter. When there is so much of poverty around, governments should have where they do not have it, they must find it through an extra effort at mobilization – the wherewithal to take care of poverty alleviation. Yet, in the name of restraining growth in fiscal deficit, what usually gets done is a pruning of expenditure on social welfare. Ironically, when governments respond to the pressures of poverty reduction by letting the deficit rise, they are accused of being populist. Agreed that governments – not just those of Third World countries – do have a penchant for populist measures, yet the fact remains that in a situation of serious resource constraints the only course left to responsive political regimes for attending to the problems of the poor is to allow the deficit rise. Without taking recourse to this, it is often not possible to do anything substantial towards poverty reduction. But, once this happens, what follows is that the poor is quickly made the casualty when somebody or the other – this does not have to be the IMF complaints about a lack of control over the deficit.

Not a Convenient Excuse

Nobody is suggesting that fiscal discipline should not be a priority, but economists and the IMF should not make this a convenient excuse for neglect of the poor. The downtrodden in the community need caring and it reflects a gross insensitivity towards the millions below the poverty line for anyone to advocate a pruning of government expenditure on the social sector, but this is what we have. Yet, if waste is a factor in Government spending this is not to be attributed to the fact that the Government is having to dish out some dough on programmes of poverty reduction. We are not talking welfare economics here, but just good economic governance. After all under liberalization, a large segment of poor people means inadequacy of effective demand, which limits the stimulus to economic growth.

Economics, particularly fiscal economics, should not be delinked from the wider goal of poverty alleviation. That poor have problems surviving, must concern governments, and it does not call for populist sentiment to make poverty alleviation possible. Agreed that the record generally of political regimes is hardly reassuring on this score and starting from Mrs. Indira Gandhi successive political regimes have made efforts towards poverty reduction an instrument of populism, yet a situation has now come about where any strategy to help the poor is seen to be Populist and politicians run the risk of being accused of being motivated by self-interest whenever they do something for the poor.

Wake up Time for Economists

Year after year, projects in the so-called priority areas run into rough weather and the Department of Programme Implementation meticulously lists the details, but fiscal economists wake up only when a Prime Minister announces from the ramparts of the Red Fort a programme of poverty alleviation. When Dr. Manmohan Singh deliberately eschewed giving the process of fiscal stabilization a humane face, he was applauded for sticking to the reform agenda. But, once he made a provision for social welfare spending in response to demands that the reform programme should not hurt the poor, his popularity rating among economists suffered.

Good management of the nation's finances depends partly on avoidance of waste of any kind and partly on efficient utilization of the assets already existing. It is much more than arithmetic. While figures will always add up, when physical performance is slack nothing can really compensate for it. A massive failure in one programme or project cannot be cancelled out by a limited success elsewhere. The perception is that when performance is abysmal in one key area of the economy the remedy lies in cutting the outlay on an unrelated area. It is because of the legitimacy given to

not, obviously, be the provocation for that. The obvious one was that the constituents of the ruling combine could not agree on the basics of reform. The leftists did not want hikes in administered prices and cuts in subsidies as well as jobs. They also did not want any reform of the public sector which ruled out both exit policy and disinvestment leading to privatization if this was the story of United Front the partners of NDA are not any more supportive of the harder aspects of reform.

After all, everything has to be tested at the market place. This is why grandiose schemes do not often get off the ground. It is not just that politicians yield to bureaucrats. Rather, those who have come to power have to go through a procedure that those who aspire for it do not have to. Granted that rules are often broken to accommodate irregularities and scandals surface everywhere at the drop of a hat as it were, yet scandals are still more the exception than the rules. Just as not all populist proposals do not get

into the statute book or the policy and administrative frame, rational and well thought-out proposals fail to get the nod, though for contrary reasons.

Conclusions

The budget for 1996-97 as well as those for other post-reform years have otherwise ducked the issue of subsidy reduction. Rather, these loudly repudiated that part of the reform process by enhancing the subsidy. While a case can always be made for taxing the zero tax companies heavily and providing larger subsidies to the farm sector, the correct approach would be the reverse – provide added encouragement to industry and phase out the support mechanism in respect of agriculture. The 1997-98 budget was widely perceived to be a dream budget but turned out to be a damp squid. It was saved by the VDIS, 1997 garnering Rs.10,500 core. For their part, the budgets for 1998-99, 1999-2000 and 2000-01 have hardly been spectacular in their impact on reform as well as fiscal management. The respective finance ministers have just about managed to keep their heads above water in terms of fiscal arithmetic. They could not go beyond that arithmetical priority.

There are many competing investment priorities, it's the responsibility to government to define and pursue strategic goals. The System of government budgeting and accounting should provide a clear and transparent and true record of public and private partnership its also spending might be affected if the government provide explicit or implicit guarantees to public and private partnership projects.

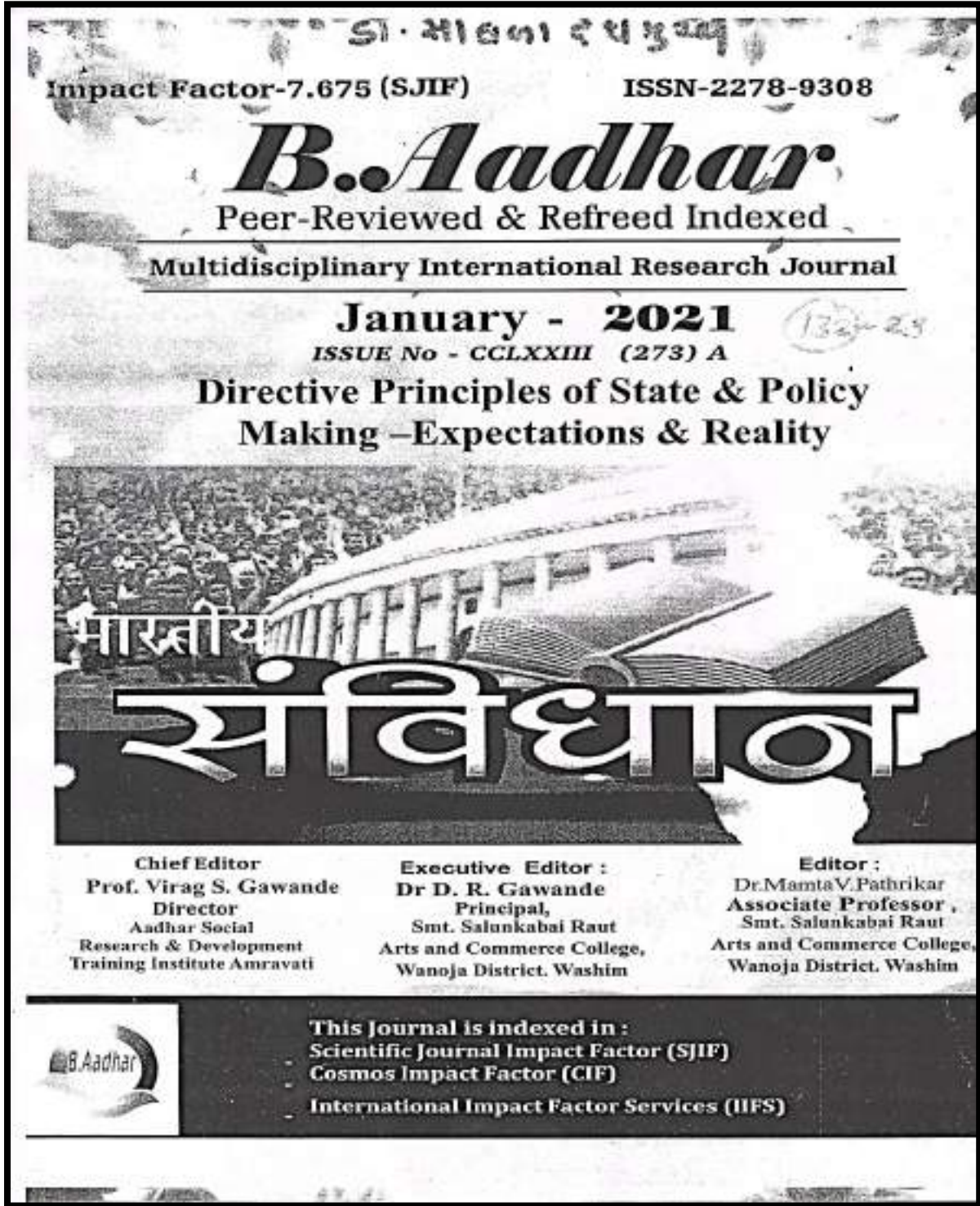
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Number of research papers published per teacher in the Journals in
2021 -2022

राजकीय क्षेत्रात महिलांचे सबलीकरण

Prof.S.B.Deshmukh



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

राजकीय क्षेत्र आणि महिला सबलीकरण
 प्रा.डॉ. साधना देशमुख
 राज्यशास्त्र विभाग, मातोश्री विमलाबाई देशमुख महाविद्यालय, अमरावती

प्रस्तावना :-

भारतीय उपखंडातील २८ राज्ये ९ केंद्रशासित प्रदेशांपेक्षा महाराष्ट्र राज्याने विविध क्षेत्रात केलेली नेत्रदिपक प्रगती व विकास वाछणण्यासारखा आहे. कारण विकासाच्या प्रक्रियेत एकूण लोकसंख्येच्या अर्ध्या घटकाला (स्त्रियांना) सोबत घेवून विकास साधला. त्याचबरोबर या घटकाचे सक्षमीकरण आणि सबलीकरण करण्यासाठी सुध्दा विविध सरकारी आणि खाजगी माध्यमाने प्रयत्न करण्यात आले आहे. महिलांचे सक्षमीकरण व्हावे, त्यांना मोफत शिक्षण, आरोग्य सुविधा अशा सोयी तर मिळाव्या. अत्याचार प्रतिबंध, स्त्री धुण हत्याबंदी, हुंडाबळी, बालविवाह विरोधी लैंगिक छळ प्रतिबंध, मालमतेत सहभाग असे कायदे मुष्टा करण्यात आले. त्यामुळे महिलांच्या सबलीकरणाला व सक्षमीकरणाला महाराष्ट्रात बाब मिळाला आहे.

भारतीय राज्यघटनेच्या कलम १४ नुसार सर्व व्यक्ती कायदानुसार समान आहेत. कलम १५ नुसार जात, धर्म, लिंग इत्यादींच्या आधारक नागरिकांत भेदभाव केल्या जाणार नाही, तर ६ व्या कलमानुसार शैक्षणिक पात्रता असणाऱ्या स्त्री पुरुषांस शासनात कोणतेही पद प्राप्त करता येईल या हक्कामुळे स्त्रिया पुरुषांच्या बरोबरीने सर्व क्षेत्रात चाकरतांना दिसतात. स्त्रियांना राजकारणात सहभाग घेण्याचा मतदान करण्याचा आणि निवडणुकीला उभे राहून निवडणूक लढविण्याचा अधिकार प्राप्त झालेले आहे.

भारतीय शासनाने २००१ हे वर्ष राष्ट्रीय पातळीवरच धारेण जाहीर केले १९९४ साली जागतीक लोकसंख्या परिषद कैरोमध्ये भरली होती. सदर परिषदेमध्ये महिलांच्या, प्रश्नासंदर्भात सविस्तर चर्चा केली होती. त्यामध्ये लोकसंख्येचा प्रश्न स्त्रियांना आपल्या जननदरक्षमते संदर्भात नियंत्रण मिळण्याशी म्हणजे त्यांच्या सबलीकरणाशी जोडला असा एक विचार मांडला गेला.

जागतिकीकरणाच्या प्रयंझ वाटळ्यात देशाला टिकवून राहावयाचे असेल तर एकूण लोकसंख्येच्या अर्ध्या घटकाला मागे न ठेवता विकासाच्या प्रक्रियेत सामावून घ्यावे लागेल. प्रगतीला स्त्री ही बस सेवा, रेल्वे सेवा, विमान सेवा, अधिकारी, मंत्रालय, राजकारण, समाजकारण, अर्थकारण अशा सर्वच क्षेत्रात पुरुषांच्या खांद्याला खांदा लावून काम करित आहे.

आज देशात कौटुंबिक, सामाजिक, आर्थिक आणि सांस्कृतिक अशा विविध क्षेत्रात महिला विशेष कामगिरी करत असल्या तरी राजकारणात मात्र पिछाडीवर असलेल्या दिसतात. राजकारणातील पिछाडी भरुण काढण्यासाठी आरक्षण ह्या साधनाचा आधार घेतला गेला. १०८ वी घटनादुरुस्ती करणारे विधेयक महिला आरक्षण विधेयक या नावाने परिचित आहे. लोकसभा आणि विधानसभामध्ये १/३ जागा महिलांसाठी आरक्षित कराव्यात, हे आरक्षण चक्राकार पध्दतीने निश्चित करावे. अनुसूचित जाती आणि जमातीसाठी राखीव असलेल्या जागांपैकी १/३ जागा संबंधित जाती-जमातीतील महिलांसाठी आरक्षित कराव्यात असा हा कायदा होता. हा कायदा अस्तित्वात आल्यानंतर १५ वर्षांनंतर आरक्षण रद्द करण्यात यावे अशा विविध तरतुदीचा प्रस्ताव विधेयकाबदले मांडण्यात आला आहे. हे विधेयक ६ मे २००८ रोजी राज्यसभेत सादर करण्यात आले आणि ९ मार्च २०१० रोजी विधेयकाला राज्यसभेने मान्यता दिलेली आहे. पण या विधेयकाला लोकसभेने अजून मान्यता दिलेली नाही.

घटनादुरुस्ती विधेयकः

११२ वे घटनादुरुस्ती विधेयक २४ नोव्हेंबर २००९ मध्ये लोकसभेत मांडण्यात आले होते. यानुसार राज्यघटनेतील कलम २४३ मध्ये दुरुस्ती प्रस्तावित आहे. नागरी शहरी स्थानिक संस्थामध्ये एकूण जागांपैकी आणि अध्यक्षपदाच्या एकूण जागांपैकी ५० टक्के जागा (सध्या १/३) महिलांसाठी आरक्षित करणे तसेच शहरी स्थानिक संस्थामध्ये अनुसूचित जाती व जमातीसाठी राखीव असलेल्या जागामध्ये ५० टक्के प्रतिनिधीत्व संबधित जाती जमातीतील महिलांसाठी आरक्षित करण्याचा प्रस्ताव या विधेयकात आहे. हे विधेयक मंजूर झाले असून संसदीय स्थायी समितीकडे परीक्षणासाठी पाठविण्यात आले आहे. समितीचे अध्यक्ष शरद यादव आहेत, पण या विधेयकास राष्ट्रीय जनता दल, समाजवादी पक्ष आणि बहुजन समाजपक्ष यांचा विरोध आहे.

महिलांसाठी आरक्षण :-

महिलांसाठी आरक्षण अन्य देशांमध्येही आहे. नेपाळ ३३% पाकिस्तान २२, रवांडा ५६, ऑस्ट्रेलिया २७, स्वित्झर्लंड २८, जर्मनी ३३, स्पेन ३६, बांग्लादेश १४, फ्रान्स २८.०५, फिलीपिन्स २१, ब्रिटन २० आणि स्वीडनमध्ये ४७ जागा महिलांसाठी राखीव असून अधिकाधिक महिलांनी राजकारणात सक्रिय सहभागी व्हावे असेच प्रयत्न सार्वत्र आहे. १९९० नंतर महिला आरक्षणाचा प्रश्न ऐरणीवर आला तेव्हापासून महिलांमध्ये राजकीय जागृती होऊन राजकीय क्षेत्रातील त्यांच्या सहभागाने प्रमाणाही चढत्या क्रमाने वाढलेले दिसते.

स्थानिक राजकीय संस्थामध्ये महिलांचे स्थान :-

महाराष्ट्र स्थानिक राजकीय संस्थामध्ये ३३, महिलांना आरक्षण लागू करण्यात आघाडीवर होता. पण दुसऱ्या बाजूला २०१४ च्या विधानसभेत फक्त ३३ महिला असून विधान परिषदेमध्ये ६ महिला आहेत. मात्र स्थानिक राजकारणात महिला ३३ टक्क्यापेक्षा अधिक संख्येने सहभागी आहेत. महाराष्ट्रात ३३ जिल्हा परिषद असून तेथे ६७५ महिला निवडून आलेल्या आहेत. तर तालुका पंचायतीत १३७२ महिला निवडून आलेल्या आहेत. ग्रामपंचायतीच्या सदस्य म्हणून ७५९५० महिला निवडून आलेल्या आहेत. त्यापैकी ९४४८ अ.जा. महिला आहेत. स्थानिक स्वराज्य संस्थेत ५० टक्के महिलांना आरक्षण मिळाल्याने स्थानिक राजकारणातला निर्णय प्रक्रियेतील महिलांचा सहभाग वाढला असला तरी विधानसभा व लोकसभेतला त्यांचा सहभाग नगण्य असलेला दिसतो. देश व राज्य पातळीवर महिला नेतृत्व वाढण्यासाठी अधिक प्रयत्नांनी आवश्यकता आहे.

जागतिक राजकारणात महिलांचा प्रभाव :-

जागतिक राजकारणातही महिलांनी आपल्या कर्तृत्वाने वेगळा ठसा उमटवला आहे. ब्राझीलच्या अध्यक्षपदी दिलमा रौसेफ यांनी निवड करण्यात आली. हुक्मशाही राजवटीला विरोध करत कारवासा भोगलेल्या दिलमा रौसेफ यांनी ब्राझीलची अ-पांडवलशाही अर्थव्यवस्था अधिक बळकट करण्याचे आश्वासन दिले आहे. कॅलिफोर्नियाच्या ॲटर्नी जनरल पदावर कमला हॅरीस या भारतीय वंशाच्या महिलेची प्रथमच निवड झाली आहे. तर भारतीय वंशाच्या निक्की रंधवा हॅले या दक्षिण कॅरोलिनाच्या राज्यपाल म्हणून निवडून आल्या. त्या अमेरिकेतील पहिल्याच भारतीय वंशाच्या महिला राज्यपाल आहेत.

ब्रिटनच्या सार्वत्रिक निवडणुकीत आशियाई वंशाच्या महिला पहिल्यांदाच संसदेवर निवडून गेल्या आहेत. यात भारतीय वंशाच्या प्रीती पटेल व्हॅलरी वाइ यांच्यासह ब्रिटनमधील पहिल्या मुस्लिम खासदार शबाना महमूद, चास्मिन कुद्रेशी, रुखसाना अली यांची संसदेत निवड झाली आहे.



पुरुषांचे वर्चस्व असलेल्या राजकीय क्षेत्रातही अनेक महिला स्वतःचे कर्तृत्व गाजवत आहेत. अमेरिकेतील विविध विविध देशांच्या १८२ दूतावासांतील २५ दूतावासांच्या प्रमुख राजदूत महिला आहेत हा आतापर्यंतचा विक्रम असल्याचे अमेरिकेच्या परराष्ट्र खात्याने म्हटले आहे.

उपभोगवादाच्या या जागतिकीकरणाने स्त्रीचे दुय्यमत्व नाहीसे होणारे नाही. म्हणून गरज आहे ती जगण्याकडे, सामाजिक पर्यावरणाकडे चिकित्सकपणे पाहण्याची, समाजात आपण बदल घडवू शकतो.

निष्कर्ष :-

१. आज देशात कौटुंबिक, सामाजिक, आर्थिक आणि सांस्कृतिक अशा विविध क्षेत्रात महिला विशेष कामगिरी करत असल्या तरी राजकारणात मात्र पिछाडीवर असलेल्या दिसतात.
२. महिलांमध्ये राजकीय जागृती होऊन राजकीय क्षेत्रातील त्यांच्या सहभागाचे प्रमाणही चढत्या क्रमाने वाढविणे गरजेचे आहे.
३. स्थानिक राजकारणातला निर्णय प्रक्रियेतील महिलांचा सहभाग वाढला असला तरी विधानसभा व लोकसभेतला त्यांचा सहभाग नगण्य असलेला दिसतो. देश व राज्य पातळीवर महिला नेतृत्व वाढण्यासाठी अधिक प्रयत्नांची आवश्यकता आहे.
४. उपभोगवादाच्या या जागतिकीकरणाने स्त्रीचे दुय्यमत्व नाहीसे होणारे नाही. म्हणून गरज आहे ती जगण्याकडे, सामाजिक पर्यावरणाकडे चिकित्सकपणे पाहण्याची, समाजात आपण बदल घडवून आणण्याकरीता राजकीय क्षेत्रात येणे गरजेचे आहे.

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<p>कोविड-१९ काळात रोगप्रतिकारकशक्ती वाढविण्याकरिता आहारोपचार प्रा. प्राची बा. भांबुरकर सहाय्यक प्राध्यापक मातोश्री विमलाबाई देशमुख महाविद्यालय, अमरावती.</p>	
<p>प्रस्तावना :- साधारणतः दहा महिन्यांपूर्वी संपूर्ण जगात हाहाकार पसरविणारा विषणू आजता जगदविख्यात झाला आहे. तो म्हणजे कोविड-१९ याला कोरोनाच मुद्रा म्हणतात. या व्हायरसवर अज्ञातपणे कोणतीही लस उपलब्ध नव्हती. त्याचरित्या अनेक शास्त्रज्ञांनी दिवसराज प्रयत्न करून संशोधन करून लस शोधून काढली. परंतु ही लस जनसामान्यांपैकी पोहोचवण्यात आल्यानंतर आपल्या आरोग्याची योग्य ती काळजी घेणे आवश्यक आहे. साध्याची परिस्थिती पाहता आरोग्याकडे दुर्लक्ष करून चालणार नाही. सुरक्षित अंतर, सॉड आणि नाकावर मास्कचा व्यापर, स्वच्छता, खांद्या साबुनाने हात धुणे इ. नियमांचे पालन करून मुद्रा आपल्याला आपल्या शरीराची रोगप्रतिकारशक्ती मजबूत करण्याची गरज आहे. त्यासाठी पीप्टिक पदार्थांचे सेवन करणे गरजेचे आहे. विशेषतः मधुमेह, इमा इत्यादी आजारांनी ग्रस्त असलेल्या लोकांनी पीप्टिक अहाराचे सेवन करावे. कारण त्यांचे रोगप्रतिकारक क्षमता कमकुवत असते. नैकरीनिमित्त बघते पटणाऱ्यांनी बघतेहील खाद्यपदार्थ खाणे शक्यतोवर टाळावे कारण कोविड-१९ हा संसर्गजन्य आजार आहे. तसेच हा विषणू आपल्या डोळ्यांना सहजच दिसत नाही. त्यामुळे स्वताची काळजी घेऊन सावधगिरी बाळगणे अत्यंत गरजेचे आहे.</p> <p>कोरोनाची लक्षणे :- १. रक्तातील प्राणवायूच्या प्रमाणात झालेली घट २. सर्दी, ताप व खोकला ३. डोळे दुखी ४. घसा खवळणे ५. अंगदुखी ६. श्वास घेण्यास त्रास</p> <p>या विषणूचा संसर्ग झालेल्या व्यक्तीच्या संसर्गात आल्यास या संसर्गाचा फैलाव होतो. संसर्ग झालेल्या व्यक्तीच्या नाचत तोंडातून उठणाऱ्या तुषारीमुळे झांया फैलाव होतो तसेच हे तुषार जमिनीवर, वस्तुंवर तसेच त्या व्यक्तीने चापरलेल्या वस्तुंवर राहतात आणि इतर व्यक्तीने तोच हात आपल्या नाक, तोंडाला लावल्यास झांया संसर्ग फैलावतो. म्हणूनच संसर्ग झालेल्या व्यक्तीपासून किमान तीन ते सहा फुट अंतर ठेवणे गरजेचे आहे.</p> <p>इतर काही लक्षणे :- १. मळमळ २. उलट्या होणे ३. हजमण</p> <p>कोविड-१९ चा संसर्ग झालेल्या व्यक्तीला ही मुख्य लक्षणे दिसून येतात. मात्र केवढा वेळ कोणतेही लक्षणे जाणवत नाहीत व व्यक्तीला संसर्ग होतो, विशेषतः कोणतीही काळजी न घेत तो बरेही होऊन. विषणूचा संसर्ग झालेल्या व्यक्तीपासून उच्च दिवस इतर व्यक्तीला या विषणूचा संसर्ग होऊ शकतो.</p> <p>कोविड-१९ दरम्यान रोगप्रतिकारशक्ती वाढविण्यासाठी आपल्याला खालील गोष्टी लक्षात घ्यायला हव्यात. आपला आहार कसा असावा? रोगप्रतिकारक शक्ती वाढविण्यासाठी तसेच कोविड-१९ पासून बचाव करण्यासाठी आहारामध्ये जीवनसत्त्वे आणि प्रथिनांचा समावेश असणे गरजेचे आहे.</p>	
<p>157 Website – www.aadharsocial.com Email – aadharsocial@gmail.com.</p>	

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प्रथिने आणि खनिगांनी पुस्तक पदार्थ :-
 आपल्या शरीराला ज्यस्तोत नास्त प्रथिने आणि खनिगांचा पुषट्टा ज्ञाना पहिणे. जीवनसत्त्व 'क', जीवनसत्त्व 'ड', जीवनसत्त्व 'ए' रोजच्या आहारात घेणे गरजेचे आहे.
 आपल्या दैनंदिन आहारात काय घेणे गरजेचे आहे :-
तृणधान्य / कडधान्य :-
 गहू, ज्वारी, बाजरी, ओट्स, डाव, तांदूळ
भाज्या / पालेभाज्या :-
 पालक, मेवं, शंभू, मशरूम, टोमॅटो, शिमलाभिर्च, बटाटे, सांजी, बलकडी, चानर, बिट
फळे :-
 साधारणतः मोसमी फळे खाण्यावर भर द्या. सकरपंद, अमनस, संजी, मोसंबी, टरबुज, डाळीब
सुवामेवा :-
 बदाम, आम्रेड, खजूर, काळे मगूके, सॅनराने पांच बापर करा.
इतर पदार्थ :-
 बहो, लिंबू, लसुन चटणी, अंडी
हळद दुप :-
 सर्दी, खोकला यावर घागुली उष्ण दूध अथवा दळ्यांचे दूध सेवन करू शकतो. दिवसातून दोन वेळा घेतले तरी चालते. मात्र हे दूध घेतल्यानंतर लगेचच अन्य सेवन करू नये.
घरगुली काढा :-
 तुळस, दालचीनी, काळेभिरे, अदक, हळद पांचा काढा करून त्याचे सेवन करावे.
आरोग्यकरक पेय :-
 आंबळा ज्यूस, मिश्र भाज्यांचे सुप, पालक सुप, टोमॅटो सुप, कोकम ज्यूस इ.
पाणी :-
 तसेच कोरोनाला प्रतिबंध करण्यस्तोटी आपल्या शरीराला नास्त गरजेचे आहे पाणी. साधारणतः दिवसातून ८ ते १० ग्लास पाणी पिणे गरजेचे आहे.
गरम पाण्याची चाक -
 गरम पाण्याची चाक घेतल्यात या विषाणूच्या प्रादुर्भावापासून बचाव होऊ शकतो. तसेच गिळत्या पाण्याच्या घुळण्या सुद्धा घेणे गरजेचे आहे.
आहारात घेणे टाळा :-
 साखर असलेले फळे व मीठ शक्यतोवर टाळा ज्यांना स्थला, लहपणा, हृदयासंबंधी आजार, मधुमेह, कर्करोग आहे अशा व्यक्तींनी साखर, मीठ, तेलचा बापर आप्त प्रमाणात कराना.
 आपल्या आहारात शक्यतोवर कोणतीही प्रक्रिया केलेले पदार्थ, अन्न बापरू नका, नांक कुडपा बापर करू नका. उदा. पिझ्झा, बर्गर, कुकीन बापरणे स्निग्ध पदार्थ साखर व मिठाचे प्रमाण नास्त अस्तो. फेवॉगचे पदार्थ विकटा घेताना त्यावरील पैकींग तारीख तयसून घ्या.
रोगप्रतिकारकशक्ती वाडविण्यासाठी आहार आचोनन मार्गदर्शक तक्ता

वेळ	जेवणाचा प्रकार	पदार्थ	प्रमाण
सकाळी ६.०० वाजता	पेय	कोमट लिंबू, पाणी भिनलेले बदाम	१ ग्लास ५ गग
सकाळी ८.०० वाजता	नास्त	मीठ आलेली कडधान्य आंबवलेले पदार्थ ओट्स, संज, टरबुज, डाळीब	
सकाळी १०.०० वाजता	पेय	चळींच रस / सुप	१ ग्लास
सकाळी ११.३० वाजता	सकाळचे जेवन	घनती (चूड) पालेभाज्ये भल	२ गग १ प्लेट १ प्लेट

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		चरण रडो गानार कॉशिकीर	१ वाटी १ वाटी १ वाटी
दुपारी ३.०० वाजता	फळ	संत्रो, मोसंबी	१ नग
दुपारी ४.०० वाजता	पेय	चहा विस्कीट	१ कप १ कप
रात्रा ८.०० वाजता	रात्रीचे जेवन	छोटी भाकरी (ज्वारी, चानरी) पालोभाजी डाळ + तांदुळ भात मुगाचे वरण काकडी कॉशिकीर	२ नग १ वाटी १ वाटी १ वाटी १/२ वाटी
झोपतांना रात्री	पेय	दुध (हवळ घालून)	१ ग्लास

टिप : (आहारतल्लिकेत रगणाच्या आहार सवयीनुसार आवश्यक बदल करता येतील.)

कोविड-१९ च्या विषाणूपासून बचाव करण्याकरिता फॅटिक आहाराचे सेवन करून त्यासोबतच पुरेशी झोप घेणे व व्यायाम करणे हे देखील तिलाकेय गरजेचे आहे. कोरोना व्हायरसच्या वाढत्या प्रादुर्भावामुळे या सर्व गोष्टींचे आचरण पालन यशस्वी तर हा प्राणघातक विषाणू तुमच्या आसपासही फिरणार नाही.

संदर्भग्रंथ सूची :-

- १) मानवी पोषण आणि आहारशास्त्र, डॉ. संगिता जवंनाळ, डॉ. किरण बेलुरकर, श्री. साईनाथ प्रकाशन, नागपूर.
- २) Immunity Boosting Diet - SNT Women's University.
- ३) Prevention tips - २ July २०२०.
- ४) www.who.in/coronavirus/food-a&a
- ५) आरोग्य टिप्स - www.lokmat.com

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Aids: mahavidyalayin vidyarthininmadhil jagrukta ani upay yojna

Mrs. P.B.Bhamburkar

<p>B.Aadhar' International Peer-Reviewed Indexed Research Journal</p> <p>Impact Factor - (SJIF) -7.675, Issue NO, 303 (CCCH)</p>	<p>ISSN : 2278-9308 July 2021</p>
<p>एड्स : महाविद्यालयीन विद्यार्थिनीमधील जागरूकता आणि उपाययोजना प्राची बा. भांबुरकर विभाग प्रमुख, गृहअर्घशास्त्र विभाग माटोळी विमलकाई देशमुख महाविद्यालय, अमरावती. डॉ. संगीता आ. जवंजाळ विभाग प्रमुख, गृहअर्घशास्त्र विभाग श्रीमती रुधाकाई सारडा कला व साहित्य महाविद्यालय, अंजनगाव बुर्गी.</p>	
<p>प्रस्तावना :-</p> <p>संयुक्त राष्ट्रसंघान्वय (United Nations) एड्सच्या द्विवार्षिक अहवाल २००६ मध्ये असे नमूद केले की, २००५ च्या अंतापर्यंत भारतात ५७ लाख एड्सग्रस्त होते. जागतिक पातळीवर १८८९ मध्ये एड्स वे रोंड कळल्यावर भारतात एकूण २७००० ते ६८००० दरम्यान बळी पेतले करीता संयुक्त राष्ट्रसंघाने एच.आय.व्ही./एड्स ला 'महामारी' असे संबोधिले आहे. भारताचे आरोग्य व कुटुंबकल्याण मंत्री डॉ. अंजुमणी रामदीस यांनी जुलै २००७ मध्ये दिलेल्या एका महत्त्वपूर्ण माहितीनुसार भारतात २.७७ दशलक्ष एड्स रुग्ण आहेत.</p> <p>जागतिक स्तरावर मोठ्या प्रमाणात जनजागृती आणि एड्स विरोधी कार्य सुरू असतानाही २००९ पर्यंत जवळजवळ नवीन ३८ टक्के रुग्णांची भर पडली आहे. २००९ ते २००३ च्या दरम्यान २.१ मिलियन लोकाना लक्षण झाल्याचे दिसून आले आहे. GAPअहवालांमध्ये व्यक्ती हा कोटिविंदू ठेवून १९९५ पासून अहवालाला काळीकारी पाऊले उचलून प्रबोधनावर अधिक भर देण्याची गरज त्यांनी व्यक्त केली.</p> <p>आधुनिक जिवनशैलीत चार्वाकाच्या सत्यानाचा अंतर्भाव झाल्यावर 'खा प्या आणि मजा करा' ही प्रवृत्ती वाढल्यामुळे माणसाचा निसर्गत आणि समाजातील हस्तक्षेप वाढत गेला फेवळ मीच मजा घेणून अनारोग्यकारक जिवनशैलीला दुष्परिणामातून भयंकर रोगाने जन्म घेतला, वैद्यकाशास्य कितीही प्रगत झाले तरीही अशा भयानक आजारवर प्रतिबंधात्मक उपाय करण्याचेचामुळाने हा रोग होऊन नये म्हणून प्रयत्न सुरू झाले.</p> <p>भारतात एच.आय.व्ही. संसर्गित व्यक्तींची दररोज हजारोंची वाढ होत असून एच.आय.व्ही. विषाणुची बाधा शाळ, महाविद्यालयांमधील विद्यार्थी, युवक-युवती, कामगार यांच्यामध्ये झपाट्याने पसरण्याचा धोका (WHO)ने सूचित केला आहे. एच.आय.व्ही. संसर्ग सर्वत्र बसलेल्या दिशून येत असला तरी प्रामुख्याने तरुण पिढीवर एड्सने जाचपडला आणत आहे. एड्सने बाधित झालेल्या एकूण रुग्णांपैकी सुमारे ७५ टक्के रुग्ण हे तरुण पिढीतील म्हणजेच १५-३० वर्षे वयोगटातील आहेत. या तरुण पिढीवर समाजाचे, राष्ट्राचे भविष्य अवलंबून आहे, याच पिढीवर कुटुंब व्यवस्थेतील दोन महत्त्वाचे कार्ये म्हणजे अर्थोत्पादन व प्रजोत्पादन अवलंबून आहे. मतदान क्ववृत्ती, रक्तदान, नेत्रदान, देहदान आपुली कार्यक्रमांप्रमाणे या विषयाचे जागृती कार्यक्रम राबविणे महज शक्य नाही. चर्चांमधे मुली आणि महिलांमध्ये एच.आय.व्ही. एड्सबद्दल अज्ञान कायम राहते. महाविद्यालयीन तरुणींमध्ये या विषयाची जागृती आहे कायच असल्यास कितापत आहे हे पाहण्याच्या दृष्टीने प्रस्तुत विषय हाती घेतला आहे.</p> <p>संशोधनाचे महत्त्व :-</p> <p>एच.आय.व्ही./एड्स हा रोग मदीम-श्रीमंत, पुरुष-स्त्री, ग्रामीण-शहरी असा भेद करीत नाही. त्यासाठी स्वतःवर नियंत्रण, सहकार्यांस्तोकात एकनिष्ठता व आदर्श जीवनशैली इ. घेवृतीची आवश्यकता आहे. एच.आय.व्ही. संसर्ग झाल्यास रोगप्रतिकारकशक्ती नष्ट होते व व्यक्ती वेगवेगळ्या अज्ञानांत बळी पडतो. एच.आय.व्ही. वे प्रमाण तरुणांमध्ये जास्त असल्याचे प्रकटितेव विविध अहवालातून निदर्शनास येत आहे. त्यावर प्रतिबंधात्मक उपाय म्हणून शुद्ध आचरण ठेवणे, विविध छंद जोपासणे, मनावर संयम ठेवणे, विवाहवाक्य व विवाहपूर्व संबंध न ठेवणे, व्यसनांपासून दूर राहणे, जीवनविषयक सतततमक दृष्टिकोन ठेवणे आवश्यक आहे, तरुण तरुण तरुणींना एच.आय.व्ही. मुक्त जीवन जगता घेईल अन्वयाचा चाचे विदारक चित्र दिसेल.</p>	
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याकारिता तरुण पिढीचे एच.आय.व्ही. पासून संरक्षण होणे व त्यावर विविध उपाय योजने ही बाळाची गरज आहे.

उद्दिष्टे :-

- १) एच.आय.व्ही. / एड्स बाबत महाविद्यालयीन विद्यार्थिनींमधील जागरूकता जाणून घेणे.
- २) समस्येच्या निराकरणासाठी उपाययोजना.

वाढमयीन पुनरावलोकन :-

राजभरात चिंतेचा विषय बनून राहिलेला एड्स या भयानक रोगावर जगभरात संशोधन सुरू आहे. एच.आय.व्ही. या विषाणुमुळे रोगप्रतिकार शक्ती नष्ट करून एच.आय.व्ही. बाधित व्यक्तीस क्षयरोग, त्वचाविकार अशा संधीसाधू आजारांच्या प्रादुर्भाव होत असल्याचे आढळते. या विषाणूला प्रतिबंध करणे आपल्याच हातात आहे. आपल्या मनावर ताचा ठेवणे महत्त्वाचे आहे. (धायगुड, २००५)

एच.आय.व्ही. च्या लागणीमध्ये सर्वात चरना क्रमांक लैंगिक संबंधातून झेणाच्या लागणीपा आहे. एकूण लागणीपैकी ८० ते ८५ टक्के लागण लैंगिक संबंधातून झालेली आढळते. यातीलही सुमारे ५० टक्के लागण ही २५ वर्षांपर्यंतच्या मुलामुलींमध्ये आढळते. यासाठी सर्वांचे (विशेषतः वयात आलेल्या मुलामुलींचे) योग्यप्रकारे लैंगिक आरोग्य शिक्षण व्हायला हवे. (प्रयास आवृत्ती ५, २०१६)

संशोधन पद्धती :-

प्रस्तुत संशोधनात महाविद्यालयीन विद्यार्थिनींमधील जागरूकता व उपाययोजना करण्यासाठी सर्वेक्षण पद्धतीचा अवलंब करण्यात आला. संत गाडगे बाबा अमरावती विश्वापिठाशी सलग्नीत असलेले मातोश्री विमलाबाई देशमुख महाविद्यालय, अमरावती मधील ५० महाविद्यालयीन विद्यार्थिनींची संशोधनाकरिता निवड करण्यात आली. त्यांच्याकडून उद्दिष्टांनुसार अनुसरून तयार केलेल्या प्रश्नावलीच्यामाध्यमातून माहिती संकलित केली. प्राप्त माहितीचे टक्केवारीद्वारा सांख्यिकीय विश्लेषण करून तालिकाबद्ध करण्यात आले व आलेखांना वापर करून अर्थनिर्वाचन करण्यात आले.

सांख्यिकीय विश्लेषण व अर्थनिर्वाचन :-

अध्ययनाकरिता निवडलेल्या ५० विद्यार्थिनींनी ७ प्रश्नांना दिलेले अभिप्राय टक्केवारीमध्ये खालील सारणीमध्ये दर्शविण्यात आलेले आहेत.

अ. क्र.	विधान	सहमत		असहमत	
		संख्या	शेकडा प्रमाण	संख्या	शेकडा प्रमाण
१.	एच.आय.व्ही./एड्स हा गंभीर आजार आहे.	५०	१००.००	००	०.००
२.	एच.आय.व्ही./एड्स संसर्जन्य आजार आहे.	३२	६४.००	१८	३६.००
३.	एच.आय.व्ही./एड्सची लागण असुरक्षित लैंगिक संबंधामुळे होते.	३५	७०.००	१५	३०.००
४.	एच.आय.व्ही.बाधित गर्भवती मातेपासून तिच्या झेणाच्या बाळाला संसर्ग होतो.	३७	७४.००	१३	२६.००
५.	दुषीत रक्त व रक्तपटकांज्वारे एच.आय.व्ही. ची लागण होऊ शकते.	३०	६०.००	२०	४०.००
६.	महाविद्यालयीन तरुण-तरुणींना एच.आय.व्ही./एड्स बाबत माहिती देणे गरजेचे आहे.	५०	१००.००	००	०.००



७.	शासनाने विविध योजनेतून सेवाभावी संस्थेमार्फत विविध उपक्रम राबवून संपूर्ण माहिती जनतेपर्यंत पोहचविणे गरजेचे आहे.	५०	१००.००	००	०.००
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उपरोक्त सारणीवरून असे निदर्शनास येते की, सर्वथ विद्यार्थिनींना एच.आय.व्ही. / एड्स हा गंभीर आजार आहे यासंबंधी माहिती आहे. एच.आय.व्ही./ एड्स हा संसर्गाजन्य आजार आहे याबाबत ६४: विद्यार्थिनी सहमत असून ३६: विद्यार्थिनी असहमत आहेत. एच.आय.व्ही. / एड्सची लागण असुरक्षित लैंगिक संबंधामुळे होते याला सर्वाधिक ७०: विद्यार्थिनींनी सहमती दर्शविली असून फक्त ३०: विद्यार्थिनीच असहमत असल्याचे दिसून येते. एच.आय.व्ही.आधीत गर्भवती मातेपासून तिच्या होणाऱ्या बाळाला संसर्ग होतो याला ७४: विद्यार्थिनी सहमत असून फक्त २६: विद्यार्थिनीच असहमत आहेत. दुर्घट रक्त व रक्तपदार्थांद्वारे एच.आय.व्ही. ची लागण होऊ शकते याची माहिती ६०: विद्यार्थिनींना असून ४०: विद्यार्थिनी याबाबत अनभिज्ञ असल्याचे आढळून आले. महाविद्यालयीन तरुण-तरुणींच एच.आय.व्ही./ एड्स बाबत माहिती देणे तसेच शासनाने विविध योजनेतून सेवाभावी संस्थेमार्फत विविध उपक्रम राबवून संपूर्ण माहिती जनतेपर्यंत पोहचविणे गरजेचे आहे याबाबत सर्वथ विद्यार्थिनी सहमत असल्याचे दिसून आले.

निष्कर्ष :-

सांख्यिकीय विश्लेषणावरून असे निदर्शनास आले की, शाळा महाविद्यालयीन विद्यार्थ्यांना शास्त्रीय पद्धतीने लैंगिक शिक्षण देणे अनिवार्य आहे. एच.आय.व्ही./ एड्स बाबतची जागरूकता निर्माण करण्यासाठी जनजागरण मोहिम आरोग्य शिक्षणाचा प्रसार युद्धपातळीवर राबविणे आवश्यक आहे.

एच.आय.व्ही./ एड्स ही केवळ एक आरोग्याचीच समस्या राहिली नसून ती एक सामाजिक समस्या बनलेली आहे त्याचे घातक परिणाम तरुण पिढीवर होत आहेत त्यासाठी ह्या समस्यांकडे दुर्लक्ष करून आलेखाने नाही विशेषतः तरुण पिढीमध्ये प्रतिबंधात्मक दृष्टिकोनाचे निर्माण होणे गरजेचे आहे.

एच.आय.व्ही./ एड्स हा गंभीर व संसर्गाजन्य आजार असून असुरक्षित लैंगिक संबंधामुळे त्याचा संसर्ग होण्याचे हे एक प्रमुख कारण आहे परंतु विद्यार्थिनींमध्ये एच.आय.व्ही./ एड्स बाबत अनुनवी पुरेशी जाणीव आलेली नाही. विद्यार्थिनींना प्राथमिक स्वरूपाची माहिती असल्याचे निदर्शनास आले त्यांना अजून सखोल ज्ञान देण्याची गरज येते आहे कारण एच.आय.व्ही./ एड्स प्रस्तावने युवापिढीचे प्रमाण जास्त असल्याचे दिसून येते. कारण अज्ञान, अर्धवट चुकीची माहिती, जोखीम स्वीकारण्याची तयारी, अपुरे लैंगिक शिक्षण यामुळे युवापिढी अशा आजारातून बळी पडण्याची शक्यता नाकारता येत नाही.

शाळा महाविद्यालयातून एड्सविषयी माहिती देणारी पोस्टरसं पथनाटय, प्रदर्शनी, स्नेहसंमेलन, चर्चासत्र याद्वारे जागृती घडविल्या जाऊ शकते आणि या आजारातून आळा बसू शकते.

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Transgender Identity And Equality: A path To Development –

Dr.S.D.Thakare

(A High Impact Factor, Quarterly, Peer Reviewed, Referred & Indexed Journal)

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Transgender Identity and Equality : A path to development
 Dr. Savita D. Thakare, Assistant Professor & Head, Department of English, Matoshree
 Vimalabai Deshmukh, Mahavidyalaya, Amravati

Introduction
 Indian culture is rich, unique, diverse and attracted by many people all over the world. It is deep rooted, most, valuable, rich informative, present and future oriented and a great advantage to the innovative ideas and thoughts to the world. Indian culture is extremely influenced by Vedic literature.

India is multicultural country which hosts different cultures and ideologies. In India transgenders have a very ancient history. They used to enjoy a good position and adorned different official posts in pre-colonial India. A lot of change has been brought in the lives of transgenders in India by Colonization. They were treated and named as criminals and different laws were brought against them. This resulted in the marginalization of transgenders in society. However, the recent developments in India are a ray of hope for transgenders. The 2014 verdict of the Supreme Court recognizing transgenders as third gender and providing reservations to them seems promising.

Gender and Sex
 To understand third gender individuals peculiar characteristics, physiological and psychological uniqueness, the ancient Vedic literature in India must help us, which have thoroughly analyzed and recorded all aspects of human life. People of the third sex are mentioned throughout the Vedic literature in different ways due to their physiological and psychological appearances and uniqueness. Vedic literature concerning everything about third gender like the causes of their birth, various characteristics, types, practices, problem, occupations etc. In Vedic society third gender citizens were neither persecuted nor denied their basic rights like modern Indian society. They were allowed to keep their own societies or town quarters, live together within marriage and engage in all means of livelihood never treated as out caste and untouchable like today.

In Vedic society they were not perceived to be a threat and ridicule in any way and were considered to be aloof from the ordinary attachments of procreation and family life. In this way they were awarded their own particular status, dignity and welcomed as a part of civilized Vedic society.

Gender and sex are generally used as interchangeable terms. However, these terms differ from each other. Gender and sexuality are socially constructed, whereas sex of a person's biological. The society decides the roles for each gender and expects them to act accordingly and those who act differently to their gender are considered as queer. Gender identity differs for each person. Gender identity is generally considered as the sense of people as male or female and is related to people's existence as male or female. Transgenders are those whose gender identity does not match with their biological sex. "Transgender is the state of one's "gender identity" not matching one's "assigned sex". (Golden Kisha 2013)

Nevertheless, the existence of third gender and its identity is greatly neglected in our societies. Especially, in Indian society either male or female is considered as normal and anything or anyone that is other than male or female is considered abnormal or subhuman, which means they are not complete humans but are on an inferior level.

At present it is a very common sight in Indian railways and at many traffic signals of metropolitan cities or towns that a group of transgenders, or hijras, clad in traditional sarrees or chudidars, aggressively begging from the people clapping their hands and blessing those who offer them money and cursing those who deny. It is believed that their touch pollutes and their curses come true. Ironically, their blessings are considered to have a high value and in many places it is a custom to bring hijras home to bless the

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newly wedded couple or a new born. But they are kept at a safe distance and are not allowed to mingle with others. In a way, they are treated as untouchables. On the other hand, many hijras or transgenders are either forced or volunteered into prostitution as they don't have any other livelihood other than prostitution or begging. Rural transgenders or hijra sections are not just marginalized because of flouting gender norms, but are also oppressed by caste and class hierarchies, which intersect with gendered oppression to compound their disempowerment within social structures. Most people see transgenders from this viewpoint of aggressive beggars and prostitutes, but very little attention is paid to their diamid lives. In India, transgenders are called with different names in different parts of the country. They are known as Hijras, eunuchs, tirunangais, khoja, aravanis etc and they had been part of Indian society for centuries. Their existence can be seen in the mythological texts of the land 'Ramayana' and 'Mahabharata'. ;

Work place- related research on lesbian, gay, bisexual, and trans (LGBT) individuals reveals that trans workers are the most marginalized and are excluded from gaining employment, with discrimination occurring at all phases of the employment process, including recruitment, training opportunities, employee benefits, and access to job advancement. This environment inculcates pessimism and internalized trans phobia in trans people, discouraging them from applying for jobs. These extreme limitations in employment can push trans people towards jobs that have limited potential for growth and development, such as beauticians, entertainers or sex workers. Unemployment and low-paying or high risk and unstable jobs feed into the cycle of poverty and homelessness. When homeless trans people seek shelter, they are housed as per their sex at birth status at birth and not their experienced gender, and are subject to abuse and humiliation by staff and residents. In these environments, many trans people choose not to take shelter.

Legal systems often entrench this marginalization, feed inequality, and perpetuate violence against trans people. All people are entitled to their basic human rights, and nations are obligated to provide for these under international law, including guarantees of non-discrimination and the right to health; however, trans people are rarely assured of self-protection under these State obligations.

Systemic strategies to reduce the violence against trans people need to occur at multiple levels, including making perpetrators accountable, facilitating legal and policy reform that reduces criminality, and general advocacy to sensitize the ill-informed about trans issues and concerns. Strengthening the capacity of trans collectives and organizations to defend their rights can also act as a counter to the impunity of violence. Where legal recourse is provided legal aid and access to judicial processors, accountability can be ensured against perpetrators.

Trans people need access to housing, education, public facilities and employment opportunities. Developing and implementing anti-discrimination laws and policies that protect trans people in these contexts, including guaranteeing their safety and security are essential to ensure that trans individuals are treated as equal human beings.

Despite the challenges faced by trans people in the context of their human rights and health, promising interventions and policy progress have shown that positive change is possible, although this must be implemented at scale to have significant impact. Change is possible due to the efforts of trans advocates and human rights champions, often in collaboration with civil society supporters as well as sensitized judiciaries, legislative committees, and health sector functionaries.

Conclusion

The literature has explored each and every aspects of human life in a very wider perspective. The evolution, recognition and consideration of the identity of third gender are the most effective example.


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Female Roles in Utopian Literature with special. Reference to Bellamy's
"Looking Backward"

Dr.S.D.Thakare

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**Female Roles in Utopian Literature with Special Reference to Bellamy's
"Looking Backward"**

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Abstract:

Utopias are imaginary worlds, often created as a form of critique against grievances existing in the author's own world. Utopias are thus usually critical mirrors reflecting the times and societies in which they are written. Yet they also present ideas, concepts and hopes for a far happier and better world for both men and women.

Dystopias are imaginary worlds usually created as warning of social and political trends. They are not only 'utopias gone wrong' but also depictions of 'bad yet possible futures to which our society might evolve or regress.

Traditionally , negative roles of women threaten male dominance. In her extensive study on fear of women in literature, Margaret Hallissy analyses the figure of the venomous or poison using woman in literature and connects it, in a psychological analysis, with a general fear of females and their sexuality, as expressed by male authors.

The fictional society in *Looking Backward* is still strictly patriarchal. Women are given more space and responsibility, yet they still do not have the right to vote or to work in those professions which are traditionally regarded as belonging to the male domain. Their ambitions are constricted to the world of their own. They are also still confined to the traditional roles of prizes, even if Bellamy tries to stylish those facts in glorious words.


Introduction

Utopias are imaginary worlds, often created as a form of critique against grievances existing in the author's own world. Utopias are thus usually critical mirrors reflecting the times and societies in which they are written. Yet they also present ideas, concepts and hopes for a far happier and better world for both men and women.

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Traditionally , negative roles of women threaten male dominance. In her extensive study on fear of women in literature, Margaret Hallissy analyses the figure of the venomous

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or poison using woman in literature and connects it, in a psychological analysis, with a general fear of females and their sexuality, as expressed by male authors.

According to Hallissy, a woman, in her positive role, was supposed to represent the concept of home and shelter to the hero when he is in need of it and let him go again, after his needs have been fulfilled. In that case she is a nurturing mother and self-sacrificing lover. She leaves the male dominance unchallenged and the man stays free. The good woman serves others, the evil one serves her own goals. Therefore, if the woman wants to keep the male tied to herself and the house, she is perceived as negative, selfish and endangering the male dominance by entrapping the man in the house.


Katharine M. Rogers analyses the elements of misogyny in literature and presents various roles in which female characters were categorized from antiquity up to the twentieth century. Rogers concludes that the charges most often made against women are that their emotions and passions are stronger than their reason and that they often use men to gain financial or other advantages dictated to them by their greed or other passions.

Unlike so many of the portrayals of the bitch in male-authored fiction, contemporary feminist renderings of the bitch suggest that she is no born a bitch, she is instead, created by specific circumstances and, more importantly, by herself. This character makes the choice either consciously or sub consciously to reject the traditional roles open to her and to possess power, a power that is always presupposed to have been usurped from the male sphere. And although in most cases she does not reject her femininity. She does reject the social limitations of femininity.

Women in Early Utopian Tradition

Plato's *Republic* has been a fundamental influence on utopias and dystopias for centuries. Most regulations applied there frequently recur in later works of the genre, although sometimes appropriately modified to fit the developments of their time. The position and role of women in an ideal state is no exception to this influence. The role of the women in Republic will not be analysed in detail here, but has to be succinctly described in order to show how fundamental this influence is, especially in regard to women and professions and women's role in the present of eugenics, which is an aspect often found in utopian and dystopian literature.

In the eponym of the utopian genre, Sir Thomas More depicts the female citizens of the fictional state of Utopia in a rather liberal light, considering his historical and biographical background. Women in Utopia work and fight alongside their husbands and are free to spend their leisure time in intellectual pursuits. Consequently, all children get the same education, regardless of their sex. The tradition of a monogamous marriage is still kept in Utopia, yet women cannot be forced into marriage since both parties, male and female must consent. Also both parties are allowed to see each other naked before the marriage to assure themselves of the attractiveness of the future spouse. No man in Utopia can divorce his wife

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because she has become old and unattractive. Divorce is granted in cases where both partner consent to it due to mutual incompatibility or if one of them commits adultery or shows otherwise intolerable behaviour. Women and men in utopia are both punished alike for sins like adultery and premarital sexual intercourse. All those regulations constitute an immense progress compared to the double standards usually employed in More's society.

The role of women in *Plato's Republic* and *More's Utopia* stand as best representatives of those roles in pre-industrial utopian fiction. Similar works in English Literature, like *Francis Bacon's New Atlantis*, having nothing much to add to the analysis of female roles in utopian tradition. *New Atlantis* itself seems to be populated only by mothers.

Looking Backward and Women

In the novels *Preface*, Edward Bellamy begins by setting the time of December of the year 2000. Throughout the entire *Preface* the narrator describes of the prosperous society in which he is a part of.

This approach of writing in the future perspective is unique in comparison from past novels. Other novels we have read simply narrate a story through the authors present time. What the reader experiences here is a fictitious future, 20th century, acting like the present while looking back and comparing itself to Julian West's 19th century, which in reality is the present.


Bellamy himself has stated that having a daughter has made him aware of the women's situation in his time and was the basis of his wish to change that aspect of society. Bellamy clearly realized some of the defects in his own society in regard to the situation of its female members. Those were usually financially dependant on their husbands or other male relatives and as such had to stick to a certain code of unnatural, affected behaviour. The lack of education and the conduct expected of them by the society have put women in the role of the moral guardians, who clung to the old and conservative values and thus became enemies of any kind of positive progress.

Bellamy therefore agreed with many feminists of his time that women should be given the opportunities to educate themselves and earn their own living and thus escape the financial dependence, in which he saw the root of the whole evil. Yet he was also concerned with the fact that many novels, which dealt with emancipation of women, seemed to predict that such women would become domineering, selfishly ambitious and averse to household work and even motherhood.

There are three female characters in *Looking Backward* and only one, Edith Leete, is of any prominence in the novel. The first character we encounter is her namesake and great grandmother Edith Bartlett of whom we only learn, through Julian, that she is rich, beautiful and graceful, and thus fit to be married by Julian, whose criteria for a wife seem to be fulfilled by those three aforementioned qualities. She belongs to Julian's old life and is seen

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by him from a perspective of that age too. About Mrs. Leete we learn little more than that she too is good looking and "well-preserved". Otherwise she herself has little to say in the course of the novel, except to enlighten Julian as to Edith's ancestry. Thus we are left with Edith Leete as the only really visible representative of female sex in this novel. Edith is not the only one to behave inconsistently. Her father, who, by his own account, regards those females who marry 'undeserving' men as women "of evil courage", is absolutely happy that his daughter will marry a man who has not yet made any contribution to the society, let alone distinguished himself in any way but as a famous anachronism

However, Julian can be regarded as a reformed character at the end. He has realized the flaws of the society he came from and has learned to appreciate and approve of the new order, as is clearly shown in the way he behaves when he is thrown back into the nineteenth century, which might be regarded as his symbolic purification. Otherwise he is healthy, his insomnia cured, educated, handsome and willing to work. Bellamy seems to ignore the valiant efforts of Amelia Bloomer, Dr. Mary Walker, Susan Taylor Converse and others, who promoted more sensible clothes for women in the nineteenth century.

Conclusion

The fictional society in *Looking Backward* is still strictly patriarchal. Women are given more space and responsibility, yet they still do not have the right to vote or to work in those professions which are traditionally regarded as belonging to the male domain. Their ambitions are constricted to the world of their own. They are also still confined to the traditional roles of prizes, even if Bellamy tries to stylize these facts in glorious words.

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Status of English in New Education Policy

Dr.S.D.Thakare

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2021**Status of English in New Education Policy****Dr. Savita D. Thakare**Assistant Professor & Head Department of English
Matoshree Vimalabai Deshmukh Mahavidyalaya, Amravati**Introduction**

The directive principles are a mixture of various subjects that embraces the life of nation. Also, it includes principles that are a general statement of principles of administrative policy, statements of social policy, statement of the international policy and socio-economic rights. Furthermore, the sanction behind any directive is, of course, political and not judicial. Although, these directives are not recognized by the courts. So, if the government fails to carry out any of its objectives than no court can make the government implement these directives. Thus, these directive principles of state policy are fundamental to the governance of a nation.

The directive principles aim at making India such a state where full justice will be thrice to people and people will be protected against inequality, insecurity, exploitation, violence and discrimination in any form and in any way. The Directive principles are an important part of the Constitution. The short term purpose of the directive principles is to fix economic as well as social goals for immediate attainment. In this society there is equal and plenty of opportunities for everyone. Also these opportunities are in education, work, social justice and livelihood.

New Education Policy focuses on multilingualism

With the National Education Policy 2020 coming in effect, it is hoped to transform education and putting a significant thrust on learning about how to think critically and solve problems, how to be creative and multi-disciplinary, and how to innovate, adapt and absorb new material in novel and changing fields. The new curriculum will include basic arts, crafts, humanities, games, sports and fitness, languages, literature, culture and values in addition to science and mathematics, to develop all aspects and capabilities of learners, and make education more well-rounded, useful and fulfilling to the learner.

Young children learn and grasp non-trivial concepts more quickly in their home language/mother tongue wherever possible, the medium of instruction until at least Grade 5, but preferably till grade 8 and beyond will be the home language/mother tongue/local language/regional language. However, there will be greater flexibility in the three-language formula, and no language will be imposed on any State. The three languages learned by children will be the choicest of States, regions and of course the students themselves, so long as at least two of them are native to India. Nowhere the policy talks about shedding the English language instead it emphasizes on the importance of multilingualism which has great cognitive benefit for young children.

India will be promoted as a global study destination providing premium education at affordable costs thereby helping to restore its role as a "Vishwa Guru". A legislative

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framework facilitating such entry will be put in place, and such universities will be given special dispensation regarding regulatory, governance and content norms on par with other autonomous institutions of India.

New Education Policy and Language Learning

While the importance of use of mother tongue in education has caught everyone's attention what has escaped many is the importance given to the native languages of India. While the three-language policy is retained, and after the initial opposition at the drafting stage, learning Hindi is not mandatory for Indian children. Indeed, Hindi is hardly mentioned in the policy, neither is English. It appears as if the national policy has made an attempt to make all the different languages of India get equal footing.

In addition, the policy leaves it to the States to decide which three languages, they must offer to their students. The caveat, however, is that two of the three languages must be native languages of India. Thus, by default, English becomes a foreign language. This may not make many English speakers in India happy, because English has been treated by many as a second language and some even claim it as their first language, or in other words, home language.

As an academician engaged in language teaching, what struck my attention was the scope for learning native languages of India, including Sanskrit. The New Education Policy has provision for Sanskrit to be offered at all levels. Sanskrit is not only the carrier of Indian culture but is a scientific language which hammers at the importance of sound, the base of all kinds of verbal communication. The sound of the alphabets, the connection of alphabets to structure words and the grammar are all methodically arranged in Sanskrit language. The study of Sanskrit will not only give a grip on all other languages in terms of oral communication but the rule-based grammar will promote logical thinking in young children.

On the pretext of a concurrent subject the central policy has exercised much restraint and that is the hall mark of this new policy. It has not made anything mandatory, neither the learning of the national language. Hindi, nor the medium of instruction, to be the mother tongue. This will perhaps lead to private schools retaining their status quo of English medium instruction to entice students to learn in the so-called elite language. However, the emphasis on mother tongue or home language as the medium of instruction in primary and pre-primary is backed by research and the new policy by highlighting this provides a rationale for implementing it in government sponsored schools. Many may see this as a move which will result in degradation of English language education, although the fact remains that English language education is in a dismal state in the so-called English medium schools, albeit few elite schools. And these schools will not be affected by the new policy, anyway. On the other hand, this new policy will perhaps benefit millions of children especially from tribal areas who find it difficult to fit into an alien language and thus distance themselves from education altogether.

Conclusion



In general, the NEP-2020 is flexible, creative and more productive. At the same time, English being a pan-Indian language, implementation of NEP-2020 with the State's freedom to choose the medium of instruction from pre-school will make SDG Goal 4 a reality.

India is respected across the world because of its good foundation in higher education. Today, India has been elevated from a "Snake - Charming" country to a software giant, only because of its education system. Legends like Sundar Pichai, Satya Nadella, Indira Nooyl, Vivek Sankaran, Sanjay Mehrotra, Ajay Singh Banga and Shantanu Narayanan, the names attached to the brands. They are all products of quality public higher education in English medium. Services contributed to almost 53 percent of the GDP, which again depends on the quality of services related to proficiency in English education.


As English is the Lingua Franca of the world, proficiency will help children learning, like videos, apps, video games, teaching aids, phones, T.V. In addition to post-covid online teaching are going to play a huge role in getting education to even the most remote part of the country.

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Analysis of Taxonomic Diversity of Millipede Species of Amravati District
(MS) India Using RAPD - PCR

Dr.K.E.Chaudhary

<p>B.Aadhar' International Peer-Reviewed Indexed Research Journal  Impact Factor - (SJIF) - 2.675, Issue NO, 281 (CCLXXXI) A</p>	<p>ISSN : 2278-9308 March, 2021</p>
<p>Analysis of Taxonomic Diversity of Millipede Species of Amravati, Dist. (M.S.) India, Using RAPD-PCR Anil J. Gour, K. E. Chaudhary. a) Department of Zoology, Bar. R. D. I. K. College, Badnera. b) Department of Biology, Matoshree Vimalabai Deshmukh College Amravati.444906.</p>	
<p>Abstract:- Genetic diversity is related to the ability of a species to adapt to a changing environment because the more genes are in a population, the more likely that one of those genes will prove helpful in the face of threats such as climate change or a new diseases. The arthropod class Diplopoda, the millipedes, ranks among the most diverse groups of terrestrial organisms, and they play an important ecological role in most terrestrial ecosystems, but little is known about the group's diversity, morphology, and phylogeny compared with other arthropod groups. Therefore for the first time the millipede fauna of Amravati district was screened using DNA based markers. This effort will provide genetic insight into the genetic diversity of associated with this neglected invertebrate group. Key words:-Millipede, Diplopoda, RAPD-PCR</p>	
<p>Introduction:- In an ecosystem, diversity can refer to the number of different species or ecological niches that are present. Scaling things up, within a region, there can be a diversity of ecosystems. If we move down to the species level, genetic diversity is how much genetic variation there is in a population. Genetic diversity is important because the more genes are in a population, the more likely that one of those genes will prove helpful in the face of threats such as climate change or a new disease. Genetic diversity is related to the ability of a species to adapt to a changing environment. The millipede class, Diplopoda, encompasses a spectacular hidden diversity: about 8000 species have been described from a worldwide fauna estimated to be tenfold greater (Hoffman <i>et al.</i>, 2002; Marek and Shelley, 2005). The arthropod class Diplopoda, the millipedes, ranks among the most diverse groups of terrestrial organisms, with over 12,000 species described. Although they play an important ecological role in most terrestrial ecosystems, little is known about the group's diversity, morphology, and phylogeny compared with other arthropod groups. Likewise phylogenetic analysis using the structure of three nuclear protein-coding genes places the insect/hexapod clade deep within the Crustacea, far distant from the myriapods (Regler <i>et al.</i> 2005). Therefore for the first time the millipede fauna of Amravati district was screened using DNA based markers. This effort will provide genetic insight into the genetic diversity of associated with this neglected invertebrate group. The millipede class Diplopoda is a megadiverse and ancient terrestrial group, with more than 12,000 nominated species and an estimated diversity of approximately 80,000 species (Hoffman R. L. <i>et al.</i>, 2002.). Despite their remarkable diversity and importance as detritivores in temperate and tropical forests, major classification problems persist at all taxonomic and phylogenetic levels within the group: The number of described species lags</p>	
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far behind diversity estimates. There are numerous monotypic genera; ordinal, subordinal, and familial relationships as well as placement of millipedes within the Arthropoda are either unresolved or controversial. Currently, 16 orders of extant and 8 orders of extinct millipedes are recognized. Taxonomic millipede expertise has always been limited to a few researchers, resulting in under representation in collections, especially from the tropics. Most millipede collections harbor large unidentified backlogs. The phylogenetics of the class was reviewed, with particular attention on diplopod placement within the Myriapoda and emphasis on recent advances using molecular approaches to phylogenetic reconstruction by Petra Sierwald & Jason Band (2007) and presented the first combined morphological and molecular analysis of the millipede orders, and a list of critically evaluated characteristics of nominal clades identifying putative apomorphies.

Materials and Methods: - In the present study we collected six millipede species commonly found in the Amravati district. These six species were chiefly collected from five talukas in the district namely, Amravati, Dhamangaon, Chikhaldara, Chandur Rly. and Anjangaon surji.

1. Anoplodesmus tanjoricus (Pocock, 1892), order Polydesmida.
2. Mordanius importatus (Demange, 1977), order Spirostreptida.
3. Phyllogonostreptus umbellae (Chamberlin, 1923), order Spirostreptida.
4. Chondromorpha mammifera (Artems, 1936), order Polydesmida.
5. Chondromorpha kelaarti (Humbert), order Polydesmida.
6. May be new genus and species (Hoffman), order Polydesmida.

These six species were screened with '10 - OPA series' RAPD primers using PCR.

Observations and result: Six taxa of millipede were collected from the Amravati district. Genomic DNA was isolated using Genetix Biotech Asia Pvt. Ltd tissue kit. The DNA was quantified using UV- spectrophotometer and archived at -20 °C. The quality of extracted DNA was checked by electrophoresis of them on 0.8% of agarose. The RAPD-PCR protocol has been set as follows. RAPD-PCR was performed in 30 µl reaction using 1µl of taq DNA polymerase 1.5 units (Fermentas, USA), 1µl taq buffer 10x (Fermentas, USA), 12 µl master mix (Fermentas, USA), 3µl primer (10mM, Operon technology) and 1µl (50 to 100 ng) diluted genomic DNA mix with 12µl nuclease free water in 0.2µl PCR tube. The Master cycler Gradient (eppendrof) was used to perform the Polymerase Chain Reaction (PCR). Pre-denaturation: 94°C for 5 min, Denaturation: 94°C for 1 min, Annealing: 37°C for 1 min, Extension: 72°C for 1 min, Final extension: 72°C for 5 min, 35 Cycle. (Table-D)

Table I: Following primers were used for RAPD-PCR profiling of millipede fauna .

Primer	Sequence 5' to 3'
OPA1	CAGGCCCTTC
OPA 2	TGCCGAGCTG
OPA 6	GGGCTCTGA
OPA9	AATCGGGCTC

Out of 10- OPA series primers, which were scanned ,it was found that the four primers namely OPA1, OPA2, OPA6 , OPA 9 to be polymorphic, as they yield polymorphic bands compared to monomorphic bands yielded by other OPA primers . Scoring of bands by binary coding (0,1) was transformed into genetic distance. The genetic distance calculated



from this binary data; splitting these six millipede species into two main clade, identified in the Neighbour joining (NJ) dendrogram ,constructed from outcome of this RAPD-PCR data. The other character based approach (maximum parsimony) used ,yield a dendrogram with poor bootstrap support hence not considered for further relatedness study. The another distance based approach (UPGMA) reveal similar topology as revealed by Neighbour joining method. The high bootstrap value of N-J dendrogram show splitting of six taxa into two main clades. The two clade identified by RAPP-PCR were designated as M1 and M2 and belong to giant millipede group and reveals the common ancestry.



figure I.



FigureII.

The above mentioned bands(FigureI,and Figure II) were scored with the eyes and recorded into binary (1, 0) format for the phylogenetic analysis. Using this binary (1,0) data genetic distance was calculated and based on this a dendrogram using Neighbor joining method was constructed. The dendrogram thus obtained reveal interesting relationship amongst the six millipede species. All this six species fall into two groups supported by high bootstrap value. The present work is the first attempt to cast light on the taxonomy of millipede fauna of Amravati district using molecular marker.

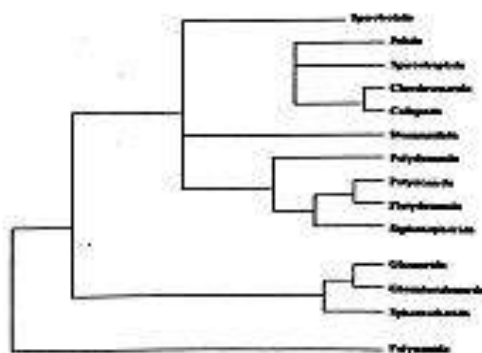


Figure 3:Phylogeny of all millipede orders based on nuclear protein coding(Regier et.al.2005)

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Conclusion:-

In future inclusion of more species and screening by more primers would add information to the genetic relatedness of this fauna. Through this study for the first time we screened the millipede fauna of Amravati district using DNA based markers. This effort will provide genetic insight into the genetic diversity of Millipede and help to increase knowledge associated with this neglected invertebrate group.

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Training Need Assessment of Rural Women in Home Science for income Generation – Dr.C.N.Vidhale

adhar International Peer-Reviewed Indexed Research Journal	ISSN : 2278-9308
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**Training Needs Assessment of Rural Women in Home Science
For Income Generation**
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Abstract :
The present study was formulated with aim to assess the areas of training of rural women for income generation. Rural women play a key role in supporting their households and communities in achieving food and nutrition, generating income, and improving rural livelihood and overall well being. Income generation simply means gaining or increasing income or money that an individual receives in exchange for providing a good or service after investing capital. Training need act as a motivating force for positive impact of training on its beneficiaries. By adopting descriptive research design the systematic, accurate identification of training areas and training need assessment of rural women was done. The present investigation was carried out in the rural areas of Amravati district of Maharashtra. Equal interval methods of random sampling was used for selection of sixty samples. The result of the study reveals that Home Science and related institution needs to organise training programmes of income generation for upliftment of rural women.

Key words : Training Need Assessment (TNA), Rural Women, Income Generation.

Introduction :
Women are an important segment of society who shoulder multifarious responsibilities in their homes. In villages women play a much more important role not only in managing home but also taking care of the live stock and farming. Despite women's tremendous contribution in the family, she is deprived of the economic independence. To enhance her economic status she needs to opt for some income generating activities which in turn is the supplement for her family income as well as economic security. In rural areas for poor families, survival is the main goal. They need the earning of all of their family members including women. In many households, women's capacity to work and earn is often the only source to call upon for survival or more crucial for better nutrition, health services, children's education and overall well being of their families. Hence women's upliftment has become a prominent issue in rural development. Of all the efforts for women's emancipation the most important is the education and special training programmes designed to help them acquire skill, which would enable them to earn income and become self dependent. In recent time, in view of rising earning of women, number of centres have been established to provide training for women with skills in type writing, computing, basket weaving, pottery, etc. In short training is an essential input for making the women efficient and equipping them with necessary knowledge, skill and attitude. However, economic opportunities in rural areas are low because of the seasonal nature of agriculture, women are tending to migrate to other seeking for livelihood. (Devasia 2001) Barring a few marginal occupations for supplementing family income agriculture, Home science and allied sectors continue to be most important field where women cling for their income support. So the training of different household skills with systematic approach will improve women's status as well as show new path for income generation.

Methodology :
The aim of the study was i) To identify the training areas of income generation in Home Science. ii) To assess the training needs of rural women for income generation.

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Training need assessment is the stepping stone in the training system on which all the success of training depends. The methodology of the present study is broadly divided into 1) Research design 2) Local of the study 3) Sampling procedure.

For the present investigation descriptive research design was adopted. The systematic and accurate identification of training needs involves three steps; organizational analysis, role and job analysis and individual analysis. The training needs have been operationally defined as extent of training needs expressed by the organization, experts as well as respondents. The important income generation training areas in the field of Home Science was listed on the basis of review of literature and discussion with subject experts. This list was then given to 50 subject expert of all over India to rate all major and sub-major areas for their relevance. The relevance rating were collected on three point continuum as Most Relevant (MR); Relevant (R) and Not Relevant (NR). Thus formed an inventory of income generating training areas in Home Science. On the basis of relevancy rating score obtained from 30 experts, fifteen training areas that is three from each five major areas of Home Science were listed. The TNA of rural women was done by task analysis on three point continuum i.e. Most Needed (MN), Needed (N) and Not Needed (NN) and on the basis of KSA level of related area.

The present investigation has been conducted in rural area of Amravati District in Western Vidarbha region of Maharashtra. Total 60 rural women respondent was selected from two villages by equal interval method of random sampling.

Structured interview schedule was used for data collection.

Result and Discussion :

The relevancy rating responses obtained from 30 experts for training areas of income generation in Home Science are given in the table No. 1 with their weighted mean and rank.

Table 1 : Inventory of Training Areas of Income generation in Home Science.

Sr. No.	List of Training Areas in Home Science	Judges Rating of Relevance of Training Areas for rural women					Rank
		MR x 3	R x 2	NR x 1	Score	Mean	
I	Family Resource Management	27	3	00	87	2.90	11
1.	Craft Making	20	4	6	74	2.47	7
2.	Pottery Painting	17	3	10	67	2.24	8
3.	Flower Arrangement	12	8	10	62	2.06	9
4.	Soft Toys Making	25	4	01	84	2.80	2
5.	Time and Energy Management	20	6	3	75	2.50	6
6.	Artificial Flower making	27	3	00	87	2.90	1
7.	Rangoli (tensil) making	23	4	3	80	2.67	5
8.	Mehandi Drawing	22	8	00	82	2.74	3
9.	Candle Making	12	6	12	60	2.00	10
10.	Artificial Jewelry Making	24	3	3	81	2.70	4
II	Textiles and Clothing	28	02	00	88	2.94	1
1.	Tailoring / Stitching	19	06	05	74	2.47	4
2.	Dying / Printing	14	4	12	63	2.10	8
3.	Fabric Painting	16	6	12	64	2.14	6
4.	Machine Embroidery	22	03	05	77	2.57	3
5.	Hand Embroidery	23	07	00	83	2.77	2
6.	Fabric Decoration	00	10	20	40	1.34	10
7.	Jod-Kam / Applique work	25	5	00	85	2.84	1
8.	Knitting	17	3	10	67	2.23	5
9.	Jute work	13	7	10	63	2.16	7


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10.	Crochet work	11	5	14	57	1.90	9
III	Food and Nutrition	26	4	00	86	2.87	III
1.	Preparation of Weaning Food	12	4	14	58	1.94	5
2.	Preparation of Therapeutic Food	00	2	28	32	1.07	10
3.	Preparation of Milk Products	24	6	00	84	2.80	2
4.	Preparation of Occasional Food	7	10	13	54	1.80	6
5.	Fruits and Vegetable Preservation	18	10	2	76	2.53	3
6.	Preparation of Fast Food	00	5	25	35	1.17	9
7.	Dish Decoration / Salad Decoration	4	12	14	50	1.67	7
8.	Nutrition Education	00	8	22	38	1.27	8
9.	Bakery Production	10	16	4	66	2.20	4
10.	Preparation of Ready mix	26	4	00	86	2.87	1
IV	Human Development	20	9	1	79	2.63	V
1.	Family Counseling	9	20	8	54	1.80	5
2.	Pre manage Counseling	2	16	12	50	1.67	6
3.	Old Age Counseling	00	14	16	44	1.46	7
4.	Personality Development	9	8	13	56	1.87	4
5.	Crache Education	15	9	6	69	2.30	2
6.	Toys Making	14	8	8	66	2.20	3
7.	Child Raving Practices	16	8	6	70	2.34	1
V	Communication and Extension	25	5		85	2.84	IV
1.	Self Help Group activities	18	12	00	78	2.60	2
2.	Leadership skill	12	5	13	59	1.97	7
3.	Household Entrepreneurial skill	20	10	00	80	2.67	1
4.	Consumer Education	14	8	8	66	2.20	5
5.	Communication Skill	14	6	10	64	2.14	6
6.	Computer Basics	15	10	5	70	2.34	4
7.	Agro Based Entrepreneurship	18	10	2	76	2.53	3
	MR- Most Relevant						
	R - Relevant						
	NR - No Relevant						

Table 1 shows that highest score was obtained for Textile and Clothing (2.94) followed by Resource Management (2.90) then Food and Nutrition (2.84), Communication and Extension (2.63) and Human Development (2.27). According to score, ranking for major and submajor training areas of Home Science showed the suitable areas for income generation. In similar way training areas for rural women were found out by Prasad (1986) and Sharma et.al. (2005) in their respective study.

From the inventory of income generating training areas fifteen areas were selected for the purpose of training need assessment of rural women. Thus obtained data from 60 samples were analysed and presented in Table 2.

Table 2 : Training Need Assessment of Rural Women.

Sr. No.	Training Areas in Home Science	Extent of Training Need			Weighted Score	Rank
		MN x 3	N x 2	NN x 1		
1.	Artificial Flower making	44	14	2	162	03

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2.	Soft Toys making	04	28	28	96	15
3.	Mehandi Drawing	28	20	12	136	08
4.	Jod-Kam / Applique work	50	10	00	170	01
5.	Hand Embroidery	48	10	02	166	02
6.	Machine Embroidery	08	24	28	100	14
7.	Preparation Ready mix food	36	20	04	152	05
8.	Preparation of Milk products	26	18	16	130	09
9.	Fruits/Vegetable Preservation	20	16	24	116	11
10.	Child Raring Practices	08	28	24	104	13
11.	Crache Education	22	20	18	124	10
12.	Toys making	16	20	24	112	12
13.	Household Entrepreneurial skill	30	20	10	140	07
14.	Self Help Group Activities	42	12	06	156	04
15.	Agrobased Entrepreneurship	30	22	08	142	06
	MN - Most Needed					
	N - Needed					
	NN - Not Needed					

The data showed that most of the respondent expressed their extent of training need in Applique work / Jod-Kam followed by Hand embroidery, artificial flower making. Thus the weighted score of TNA through KSA level of respondents received rank 1 to 15 showed significant extent of training needs. Complimentary methodology have been adopted by Antwal et.al., Kulkarni et.al. and Dharmale et.al. (1991) in identification of training need of rural women related to household arts.

Conclusion :

The finding of the study led to conclude that rural women expressed high extent of training need in Jod-Kam, Hand embroidery, Artificial flower making, Self-help group activities and entrepreneurship for income generation. Study gives the direction to Home Science and related institution to organize training programmes an different areas of Home Science to upgrade the KSA of rural women for income generation and economically self reliance. Thus need based training programmes in different field would act as a catalyst. For increasing the interest level of rural trainees, who in turn try to learn and gain maximum from training to make them efficient and self sufficient.

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**Women's Attitude towards Household Art skill training in Rural Area-
Dr.C.N.Vidhale**

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Women's Attitude Towards Household Art Skill Training in Rural Area

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Abstract :

Since the turn of the century, the status of women in India has been changing due to growing Industrialization, Globalization and Social legislation. With the spread of education and mass medias, women have shifted from kitchen to higher different level of professional activities. Their role is also being recognized and steps are being taken to promote women empowerment. Of all the efforts for women's emancipation, the most important is the special training programmes designed to help them to acquire skills, which would enable them to develop knowledge, skill, attitude to earn income and become self empower. Today, there are many government and non government organizations involved in women based educational training programme. However, it has often been argued that most of such training programme are concentrated in the urban areas at the expense of rural areas, where the majority of women work force live. A knowledge on the attitude of women can help to provide an insight into their level of involvement and also guideline for the organization and implementation of training programme. With the consideration of these points, a study was designed to ascertain women's attitude towards the Household Art Skill Training programmes which was specially developed by the investigator on hand embroidery and quilting art. To explain the opinion and attitude of rural women, an investigator developed the Household Art skill training programme on the basis of standardized training methodology and implemented on the rural women respondents. The study employed the experimental before-after research design and find out the attitudinal change towards training programme. The attitude was measured with the help of scale developed by Osunde Augustine and Francis (2003) with slight modifications. The responses were recorded on the three point continuum rating with the score 3 to 1 respectively and then converted into index. For the purpose of analysis and interpretation of results different statistical methods were used. Coefficient of correlation was used for measuring the degree of relationships between Attitude and Socio-economic characteristics of the respondents. From the result it can be inferred that the greater percentage of 64.67

and 74.00 attitude change was observed towards hand embroidery and quilting art training respectively. Thus the training programmes should be vigorously pursued and monitored to ensure it's effective implementation.

Keywords : Attitude, Household art, Skill training, Rural Women.

Introduction :

The economic growth and development of women require to be accelerated because economic development is not possible without the positive attitude and participation. There is a need of government, non government, promotional and regulatory agencies to come forward and play the supportive role in promoting the women's economic development in India. The government of India and many non government agencies has formulated various training and development cum employment generations programmes for the rural women to start their ventures. Rural women must be mounded properly with skill training to meet changing trends and competent enough to sustain and strive in the local economic arena. Attitude is the variable which can affect both the level of participation and benefits that the target audience can derived from the training. This in turn affect the state of the training. The success of any training programme depends largely upon the attitude of the trainee for whom it is designed.

It is well known fact that women's income in family is of paramount importance for nutritional, economic and educational up-liftment of the rural family. Therefore the rural women owing to their peculiar situation require a different kind of training setup of various skill development activities at their doorsteps, which will create additional income and self employment. Thus the rural women shall be made eligible to enter into the economics systems and attempt to break the hard nuts of poverty. In recent years, however, number of centers have been established to provide women with skills in Agriculture. Home science and allied sectors like computing,

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basket weaving, pottery, fashion designing, stitching, etc. All such skill training programmes aims at raising the economic status of women and promoting self empowerment. Needless to say that awareness, opinion or attitude level of the target group toward such training programmes would affects the results. A knowledge on attitude of rural women can help to provide an insight into their level of involvement and also help to establish good support with them. Besides this, it can provide guidelines for the implementation and organisation of training programme.

Keeping these points in mind a study was design to ascertain the attitude level and attitude change of rural women towards Household Arts Skill training programme specially developed by an investigator.

Purpose of the Study :

The specific objectives of the study were

1. To find out the attitude level of rural women towards Household Art Skill training programme before implementation.
2. To ascertain the significant difference occurs in attitude level after implementation of Household Art Skill training.
3. To establish the relationship of personal, social, economic and situational characteristics of rural respondents with their attitude change.

In order to achieve the objectives of the study following hypothesis were tested.

1. The attitude of the rural women towards Household Art Skill training programme is negative.
2. There is significant change occurs in the attitude of rural women towards Household Art Skill training programme.
3. There is no significant relationship between personal, social, economic and situational characteristics of rural women and attitude change in them.

Scope of the study :

In present study an attempt has been made to review, to preserve, to document and to popularize the Household Art Skill through training programmes for self empowerment of rural women. The main focus of the study is to change the out look of rural women towards Household Art Skill training and recognize their economic value, that these arts are not only to create beauty and leisure time activity but also have capacity to develop earning source for them. The special feature of the study is to develop field tested Household Art Skill training programme. As there are thousands of household arts in India and ample variation according to their caste, community and geographical conditions; there is a vast scope for such type of investigation. The study is in direction of the national development policy which gives

the guidelines for the extension work at our work place with available resource. The national commission on agriculture (1976) strongly recommended home science education and training of rural women for their empowerment.

Methodology :

The methodology of present study is broadly divided into 1) Research Design, 2) Locale of the study, 3) Sampling Procedure 4) Development of Household Art Skill training 5) Data Processing and Statistical Analysis.

To examine the attitude level and attitude change of rural women toward Household Art Skill training an investigator developed ready to use training programme for economic empowerment of rural women on the basis of standardized training methodology. In present study the experimental research design before-after without control was considered and was conducted for rural women in Amravati district of western Vidarbha region of Maharashtra. The same being purposively selected for easy accessibility and convenience in transporting equipment to the field situation. From fourteen blocks of district two block namely Tiwasa and Bhatkuli were selected randomly. Out of these two blocks six villages were selected by systematic random sampling and total 150 rural respondents were selected by equal interval method of random sampling. The development of Household Art Skill training programme was done in accordance with standardised training aspects; i.e. Training need assessment (TNA), Training plan development (TPD), Designing of training programme (DTP), Training programme implementation (TPI) and Training monitoring and evaluation (TME). On the aspect of TPD Hand embroidery and Quilting art were selected for training development. According to TME attitude evaluation was carried out by three point readymade scale WAOS (Women's Attitude and Opinion Scale) designed by Usunde Augustine and Francis (2003). The responses were obtained before-after the training. To measure the impact of Household Art Skill training on empowerment of women, investigator work out the total mean change in attitude of rural women.

For the purpose of data processing and analysis different statistical methods were used i.e. percentage, mean, standard deviation, coefficient of variation and coefficient of correlation.

Result and Discussion :

Attitude is an important component of human behaviour. Positive attitude is a pre-requisite for acquiring knowledge and skills. Attitude is the degree of positive or negative effect associated with some psychological objects (Thurstone; 1946). The attitude level of rural respondents about the Hand embroidery Art Skill (HAS) and Quilting Art Skill (QAS) before-after training were recorded and presented in table number 1.

Table 1 : Pre-post Attitude Level of Respondents Towards HAS and QAS Training.

Sr. No.	Attitude Level of Respondents	Pre Training Attitude Level				Post Training Attitude Level			
		HAS		QAS		HAS		QAS	
		No.	%	No.	%	No.	%	No.	%
1	Least Favourable	04	2.66	01	0.66	00	00.00	00	00.00
2	Favourable	104	69.33	115	76.66	08	5.53	04	2.67
3	Most Favourable	42	28.00	34	22.66	142	94.67	146	97.33
	Total	150	100.00	150	100.00	150	100.00	150	100.00
	Mean		57.16		55.85		83.72		83.24
	S.D.		15.14		12.86		10.57		94.5
	C.V.		26.50		23.03		12.63		11.36

HAS - Hand embroidery Art Skill
 QAS - Quilting Art Skill

From the table 1 it seems that, pre-training attitude level of respondents towards both hand embroidery and quilting art training was relatively favourable. Women's are basically inclined for such household enterprises and always like to learn it. Table also revealed that 28.00 and 22.66 percent respondents showed most favourable attitude towards both HAS & QAS training respectively while very small percent were having least favourable attitude. This favourable attitude of rural women might have inspired to the respondent to attend training programmes organized for them. Hence the hypothesis is rejected.

Table also shows that after training nearly all respondents i.e. 94.67 and 97.33 percent had most favourable attitude towards both selected household arts. Hence it is concluded that QAS and HAS training were proved effective in changing attitude. It was the success of trainer and organizer for creating effective training environment and motivation for respondents to change their attitude to maximum extent. Thus the hypothesis was accepted.

With the help of pre-post training attitude level of the respondent Attitude Change Index was work out and respondents were classified in four groups by equal interval method as follows in table number 2.

Table 2 : Distribution of Respondents according to change in Attitude towards HAS and QAS Training

Sr. No.	Attitude Change Index	HAS Training		QAS Training	
		No.	%	No.	%
1	Low Change	42	28.00	21	20.67
2	Medium Change	97	64.67	111	74.00
3	Medium High	10	6.67	08	5.33
4	High Change	01	0.67	00	00.00
	Total	150	100.00	150	100.00
	Mean		26.56		27.39
	S.D.		9.84		8.22
	C.V.		37.03		32.02

Table 2 shows that in HAS training most of the respondents i.e. 64.67 percent were reported moderate level of attitude change followed by 28 percent were found low level of attitude change while only 6.67 percent was in moderate high level of attitude change. This has been recorded quite satisfactory effectiveness of household art skill training.

Table 2 also reveals that in Quilting art skill training (QAS) 74 percent respondent were in moderate high level, 20.67 percent were in low level and only 5.00

percent respondent recorded in high level of attitude change. Thus the hypothesis is accepted.

The main purpose of the study was to change the attitude of rural women regarding household arts skills and to develop new outlook towards it. For this, an investigator studied the personal, social, economic and situational characteristics of the respondents and correlations coefficient was carried out. The results are depicted in table number 3.

Table 3 : Correlation of Change in Attitude Towards HAS and QAS training

Sr. No.	Characteristics of Respondents	Correlation Coefficient	
		HAS Training	QAS Training
1	Age	0.02	-0.21*
2	Education	-0.19	-0.17*
3	Social Participation	-0.08	-0.21*
4	Occupation	-0.05	0.17*
5	Training Experience	-0.14	-0.18*
6	Empowerment Awareness	-0.15*	-0.22*
7	Marital Status	0.06	-0.11*
8	Family Type	0.03	-0.12
9	Family Size	-0.07	-0.07
10	Family Social Participation	0.02	0.08
11	Family Education	-0.09	-0.11
12	Caste	-0.13	0.12
13	Size of Land Holding	0.06	-0.02
14	Family Annual Income	-0.04	-0.14
15	Family Occupation	-0.10	-0.05
16	Household Material Possession	-0.05	-0.07
17	Extension Exposure	-0.14	-0.03
18	Mass Media Exposure	0.04	-0.10
* Significant at 0.01 level			

Table 3 represents that regarding attitude change of respondents towards Hand embroidery only Education was found to be negatively correlated and rest of variables did not show relationship with attitude change. From this, it can be concluded that respondents had already favourable attitude towards this training. In case

of quilting art skill training occupation showed positive correlation but age, education, social participation training experience had negative correlation. Urmamesha and Channegowda (1988) supported to this findings. Thus the hypothesis is accepted.

Conclusion :

It has been found from this study that the rural women respondents are at par in their attitude towards household art skill training programmes. In fact greater percentage of women were found to have favourable attitude towards this training. This finding collaborates with the finding made by Naresh et al (2001) and Misra and Kablethiyal (1988) in their study of the attitude of beneficiaries towards such type of training programmes. The findings of the study have great implications for development and implementation of training programmes for women in rural area.

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Efficiency of Household Art Training Modules in Developing knowledge skill attitude Among Rural women

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EFFICACY OF HOUSEHOLD ART TRAINING MODULES IN DEVELOPING ENTREPRENEURIAL KNOWLEDGE SKILL AND ATTITUDE (KSA) AMONG RURAL WOMEN

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ABSTRACT

The emergence of entrepreneurs in agriculture, home science and allied sectors can propel our rural population in to self-sustaining individuals, who in turn can catalyze the development of economy. In the recent industrial policy, the government has given tremendous importance for the agro based and home based products. Women have a natural flair and instinct for knitting stitching, kashidakari, drawing, food preparation and processing. A new market is developed for these household products. Thus there are plenty of opportunities available for women entrepreneurs. Women empowerment can be better achieved through entrepreneurship. It is an adventure to do something new or it may be an inner urge to make use of knowledge and skills in profitable direction. Household enterprises are comparatively easy to establish and to provide income in rural areas with less investment. Like other professions, entrepreneurship can also be developed and fostered through specific training programmes, as well evidenced by behavioural studies and experiments. However women income is of paramount importance for nutritional, economic and educational upliftment of rural family. Rural women owing to their peculiar situation requires a specific kind of training set up of entrepreneurial knowledge and skill of their doorstep. Considering these facts investigator attempted to develop training module of entrepreneurial house hold arts and assessed its efficacy on rural women in terms of standard learning of knowledge, skill, attitude and by applying regression analysis on these parameters. Hand embroidery and artificial flower making training modules were developed and executed on 150 rural women respondents. Experimental research design before-after without control was used. Data was collected through interview schedule and scale was developed for specific purpose.

Keywords: Rural women, Training Module, Entrepreneurship Household art, Hand Embroidery, Artificial Flower making.

Introduction

Empowering women particularly rural women is a challenge. Micro enterprises in rural area can help to meet these challenges. It not only enhances the productivity and employment, but also help to develop knowledge skill and attitude for economic independence. Economic development of the country is determined by human, physical and financial resources. Even an abundance of physical and capital resources may go underutilized or misused, if human resource factor i.e. knowledge, skill, efficiency; are not adequately cultivated. The objective of any planned development, therefore, is to develop human resources among rural women to their brimming utilization. Empowerment of rural women is an important aspect today and self help groups (SGHs) is an important tool to develop a system of revolving credit for the benefit of group members on their own savings. Area identified for bringing economic empowerment among rural women are agriculture, home science, handicraft, herbal, forest industries. There is a need of

Government, nongovernment, promotional and regulatory agencies to come forward and play the supportive role in promoting the women entrepreneur in rural India. All these agencies should formulate various training and development cum income generation programmes for rural women to start their ventures. Thus right efforts from all areas are required in the process of women empowerment and entrepreneurship development in rural areas. Women by all means can be very effective agents to change for a better home, society and ultimately an economy. Henceforth, promoting entrepreneurship among rural women is certainly a short-cut to rapid economic growth and developments. Entrepreneurship development through training came to be viewed as a useful instrument for disseminating entrepreneurial knowledge skill and attitude among rural women. Researches in past have clearly established the efficacy of ready to use training modules for the development of various section of society which inspired for the present study. Training modules defines as

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breaking down a basic training programme into specific components of learning, which then described in terms of objectives, contents methods and materials. So the present study developed two training module of household arts which will become not only the leisure time activity but also the best avenue of entrepreneurship for rural women. Considering the need of popularising various household arts in the world which will explore Indian cultural heritage as well as enhance entrepreneurial excellence of rural women. Present study was conducted with following objectives

- 1) To assess the impact of two Household Art Training (HAT) Module in terms of change in Knowledge, Skill, Attitude (KSA).
- 2) To study the efficacy of training modules and its relation with selected characteristics of rural women.

Hypothesis of the study

A hypothesis is a conjectural statement of the relation between two or more variables. It is a tentative generalization a validity of which has to be tested.

- 1) The household art training (HAT) modules are effective for developing knowledge, skill, attitude (KSA) and learning about entrepreneurship.
- 2) There is no significant relation of personal socio-economic and situational characteristics of rural women with effectiveness of two HAT modules.

Methodology

Methodology deals with the description of research methods and techniques used in conducting the present investigation. The present study is attempted to develop or transfer the entrepreneurial KSA in hand embroidery and artificial flower making art

through well developed training module. In present investigation experimental research design with before-after without control was adopted. For this study six villages from two blocks of Amravati panchayat samitee were selected randomly. Total 150 rural women respondents of different self help groups (SHGs) were selected by equal interval methods of random sampling. For testing the effectiveness of training modules a five point rating scales was prepared for obtaining the responses just after completing each training module. For the measurement of knowledge development teschermade test for each module was developed and administered before and after training and pre-post knowledge was tested. For skill measurement of two household arts tailor made four point rating scale was prepared. Attitude evaluation was carried out by three-point readymade scale designed by Usunde Augustine and Francis (2003), WAOS (Women's Attitude and Opinion Scale). The responses were obtained before and after the training. For the purpose of analysis different statistical methods used were mean, percentage, standard deviation, coefficient of variation, and regression coefficient.

Result and Discussion

Data obtained after assessing the efficacy of two selected household arts in terms of developing entrepreneurial KSA of rural women have been presented under following heads and subheads. Pre-post training KSA level of respondents : The data obtained from pre and post training knowledge, skill and attitude regarding hand embroidery and artificial flower making art are presented in table 1, 2 and 3 respectively.

Table 1 : Distribution of respondents according to pre-post training **KNOWLEDGE** level of Hand embroidery and Artificial flower making art.

S.N.	Knowledge Level	Hand Embroidery Art				Artificial Flower Making Art			
		Pre Training Score		Post Training Score		Pre Training Score		Post Training Score	
		No.	%	No.	%	No.	%	No.	%
1	Low	64	42.67	06	04.00	64	42.67	01	00.67
2	Medium	77	51.33	39	26.00	74	49.33	29	19.33
3	High	09	6.00	105	70.00	12	8.00	120	80.00
	Total	150	100.00	150	100.00	150	100.00	150	100.00
	Mean		37.38		2.43		36.33		79.71
	SD		15.72		17.86		16.98		17.79
	C.V.		47.97		24.66		46.74		22.32

From the table 1, it is noted that 51.33 and 49.33 percent respondents had moderate level of knowledge for hand embroidery and flower making art respectively. Very small proportion of respondents had high knowledge which suggested need of training of these arts-

Table 1 also depicts that majority of respondents i.e. 70.00 and 80.00 percent gained their knowledge to high level of both household arts respectively, indicating the satisfactory change in knowledge. These finding are supported by Garvin (1993), Verma et.al. (1993), Sanyogita Deshmukh (1999).

Table 2 : Distribution of respondents according to pre-post training SKILL level of Hand Embroidery and Artificial Flower making art.

S.N.	Skill Level	Hand Embroidery Art				Artificial Flower Making Art			
		Pre Training Score		Post Training Score		Pre Training Score		Post Training Score	
		No.	%	No.	%	No.	%	No.	%
1	Low	107	71.33	08	5.33	89	59.33	01	0.66
2	Medium	41	27.33	54	36.00	56	37.33	37	24.67
3	High	02	1.33	88	58.67	05	3.33	112	74.67
	Total	150	100.00	150	100.00	150	100.00	150	100.00
	Mean		24.21		68.27		28.07		74.11
	SD		14.15		18.85		15.16		18.29
	C.V.		58.44		27.61		54.00		24.68

From table 2 it seems that the majority of respondents i.e. 71.33 and 59.33 percent had low level of skill at the pre training time in both household arts. Skill of hand embroidery is comparatively difficult than flower making art hence its benchmark skill level was relatively low which thus indicates the demand of training. Budhani and Singh (1996) supported to these finding.

Table 2 also depicts that 58.65 and 74.67 percent respondents acquired the skill of high

level while 36 and 24.67 percent learning the skill of medium level respectively after the implementation of training. The mean score of skill level of the respondents for hand embroidery and flower making art was 68.27 and 74.11 respectively. Thus the training modules were found helpful in developing entrepreneurial skill of both selected household arts.

Table 3 : Distribution of respondents according to pre-post training ATTITUDE toward Hand Embroidery and Artificial Flower making art.

S.N.	Attitude Level	Hand Embroidery Art				Artificial Flower Making Art			
		Pre Training Score		Post Training Score		Pre Training Score		Post Training Score	
		No.	%	No.	%	No.	%	No.	%
1	Low	04	2.66	00	00.00	00	00.00	00	00.00
2	Medium	104	69.33	08	5.33	96	64.00	08	5.33
3	High	42	28.00	142	94.67	54	36.00	142	94.67
	Total	150	100.00	150	100.00	150	100.00	150	100.00
	Mean		57.16		83.72		60.25		85.26
	SD		15.14		10.57		13.48		11.49
	C.V.		26.50		12.63		22.37		13.48

Table 3 reveals that pre training attitude related to both training modules was relatively favorable, which means women's are basically inclined for such enterprises and always like to learn it. Followed by 28 and 36 percent respondents was most favourable attitude which might have inspired the respondents to

attend the training programmes organized for them.

Table 3 also shows that after training almost all respondents i.e. 94.67 percent had most favourable attitude towards selected household arts training modules. Mean, SD and CV of hand embroidery post training were 83.72, 10.57, 12.13 and the same for flower making

were 85.26, 11.49 and 13.48 respectively. Hence it is concluded that HAT modules were effective in learning and changing of KSA.

In order to find out the effectiveness of HAT training modules perception of the respondents was collected and categorised in four groups and presented in table no. 4.

Table 4 : Effectiveness of Hand Embroidery and Artificial Flower making training modules

Sr. No.	Effectiveness of Modules	Hand Embroidery Art		Artificial Flower making Art	
		Respondents Responses		Respondents Responses	
		(No)	(%)	(No)	(%)
1	Fair	01	0.66	00	0.00
2	Good	23	15.34	09	6.00
3	Very Good	66	44.00	68	45.33
4	Excellent	60	40.00	73	48.67
	Total	150	100.00	150	100.00
	Mean		74.17		77.69
	SD		13.17		10.58
	C.V.		18.16		13.62

It is revealed from the table 4 that nearly fifty percentage of the respondents reported very good to the effectiveness of both the modules, followed by 40 and 48.67 percent excellent to effectiveness where as only 15.34 and 6.00 percent respondents good to the effectiveness respectively. Further negligible percent reported fair to the effectiveness of hand embroidery and flower making training respectively. The mean score of effectiveness of both modules was 74.17 and 77.69

respectively which confirms the training modules were very effective. Similar finding were reported by Sofia and Girija Devi (2003), thus this report clearly supported the hypothesis.

For the prediction of total influence of each independent variable on the effectiveness of both training modules multiple regression coefficient was carried out. The result obtained had been presented in table no. 5.

Table 5 : Regression Analysis of HAT Modules Effectiveness.

Sr. No.	Respondents Characteristics	Hand Embroidery Training Module		Artificial Flower Making Training Module	
		Regression Coefficient	T Value	Regression Coefficient	T Value
1	Age	-0.130	-1.720	-0.929**	-5.489
2	Education	2.813	8.440	2.566**	9.614
3	Social Participation	2.252	6.976	0.970	-1.720
4	Occupation	3.429*	2.354	0.811**	3.412
5	Training Experience	3.650**	4.253	2.866**	3.276
6	Empowerment Attitude	0.202**	5.310	0.002**	4.253
7	Marital Status	0.687*	-2.354	2.932**	-4.109
8	Family Type	-0.259	-0.365	0.876	-1.099
9	Family Size	0.998	0.487	-0.243	-0.731
10	Family Social Participation	-2.057	0.000	-0.726	-0.243
11	Family Education	0.318**	3.687	0.049**	3.412
12	Caste	2.142	0.365	-1.205	-1.346
13	Size of Land Holding	-0.059	1.099	0.129	1.720
14	Family Annual Income	0.000**	3.687	0.000**	2.613
15	Family Occupation	2.126**	4.546	1.830**	3.967
16	Household Material Possession	-0.052**	3.826	-0.222**	2.744
17	Extension Exposure	0.292**	3.276	0.111	1.846
18	Mass Media Exposure	-0.020	1.846	0.045	1.720
	R ²	0.51		0.61	
	F	7.45		11.57	

* Significant at 0.05 level of Probability

** Significant at 0.01 level of Probability

Table 5 reveals that, out of eighteen variables Age, Marital status and Family type were found statistically significant but were negatively associated. The other variables namely Occupation, Training experience, Empowerment attitude, Family education, Family income, Family occupation, Household material possession and Extension exposure contributed positive significance towards HAT module of hand embroidery art.

Table 5 also shows that out of eighteen variables only Age, Marital status were negatively related with effectiveness of artificial flower making training module.

The value of R² is 51 percent and 61 percent respectively concluded that the predication level of selected variables was relatively high

regarding effectiveness of both HAT modules. Therefore the null hypothesis is rejected.

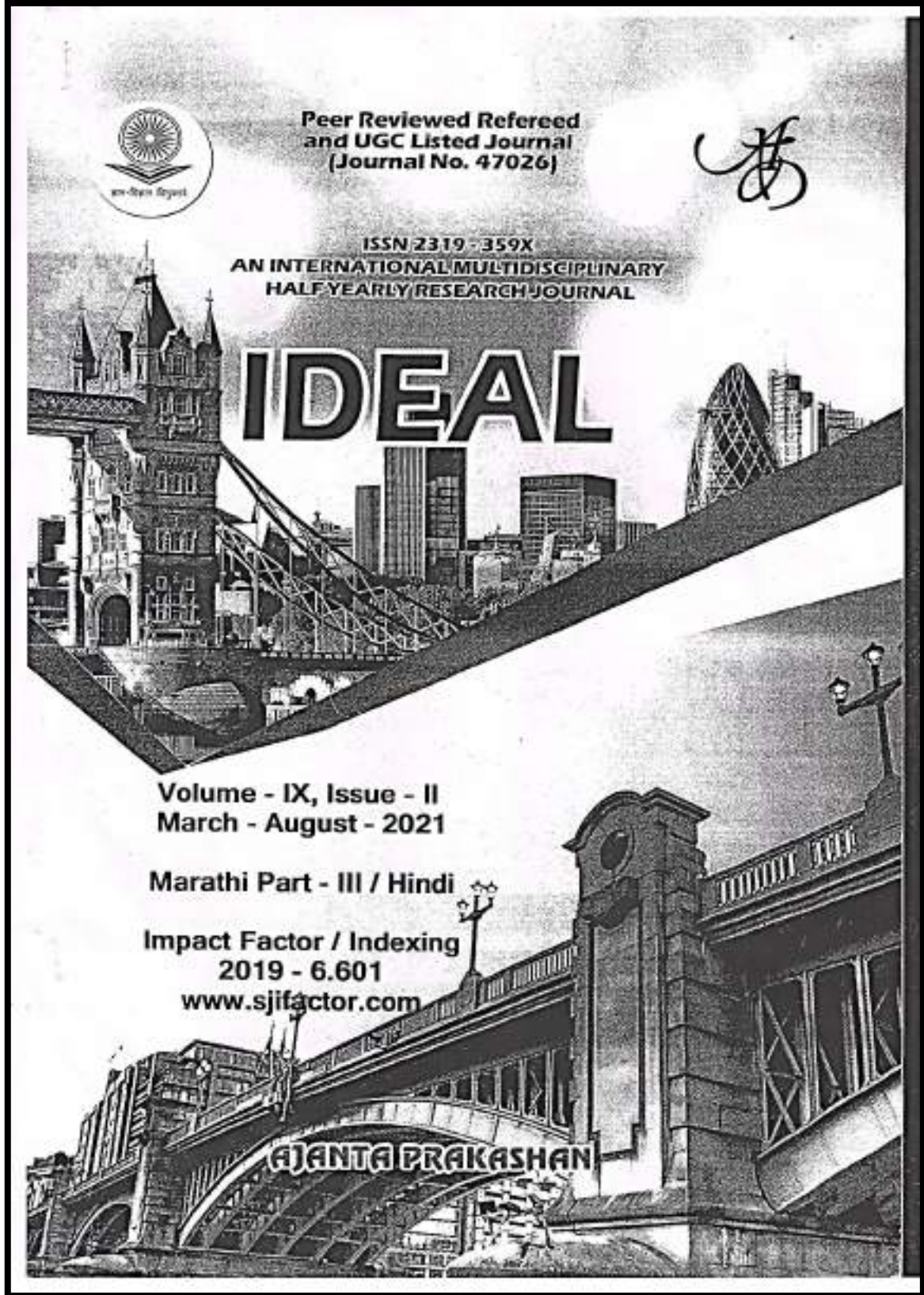
Conclusion

The finding of the present study lead to conclude that, training modules developed by investigator give an ideal direction of entrepreneurship in selected household arts to the rural women. It could be concluded from the study that the personal social economic and situational characteristics of rural respondents were significantly related with the effectiveness of HAT modules. The study has brought forward the need of introducing systematic modular training approach for entrepreneurship development of rural women for enhancement of knowledge skill attitude (KSAs) regarding home science.

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महिला सक्षमीकरण मे डॉ. बाबासाहेब आंबेडकर कि भूमिका -
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डॉ. आम्बेडकर संसदीय लोकतंत्र के पक्षधर थे। इन शासन प्रणाली में कार्यपालिका संसद के प्रति उत्तरदायी होती है। शासन को सारी शक्तियाँ मंत्रिमंडल में निहित होती है। राज्य का अध्यक्ष नाममात्र वह शासन होता है। तथा वार्षिक शक्तियों का प्रयोग मंत्रिमंडल और प्रधानमंत्री करते है। इन शासन प्रणाली में अधिनायकवाद के पनपने का कम खतरा रहता है। संसदीय अथवा मंत्रिमंडलीय शासन प्रणाली के विरोध में अध्यक्षतात्मक अथवा राष्ट्रपतीय शासन प्रणाली होती है। राष्ट्रपती सीधे जनता द्वारा चुन जाता है और वह विधानमंडल के प्रति उत्तरदायी नहीं होता। उसका भी अपना मंत्रिमंडल होता है। लेकिन उसके मंत्रिमंडल के सदस्यों की अपनी कोई स्वतंत्र स्थिति नहीं होती और वे उसकी कृपा पर निर्भर होते है। राष्ट्रपती को उसके कार्यकाल में पद से नहीं हटाया जा सकता राष्ट्रपती के अधिनायक बनने की अधिक संभावना रहती है। भारतीय संविधान ने इंग्लैंड के आदर्श पर संसदीय शासन प्रणाली की स्थापना की है। यह शासन प्रणाली केंद्र और राज्यों दोनों सतरो पर है।

संघीय शासन

आम्बेडकर केंद्रीय शासन को मजबूत रखने के पक्ष में थे। उनका विचार था की प्राचीन काल में भारत पर विदेशों से अनेक आक्रमण हुए और भारत राजनितिक एकाता के अभाव में इन आक्रमणों का सामना नहीं कर सका और उसे बार बार पराजिता होना पड़ा। ब्रिटिश सरकार ने भारत में उच्च कोटि की केंद्रीय एकात्मता शासन प्रणाली स्थापित की थी लेकिन यह बराबर अनुभव किया जा रहा था। की, भारत पर विदेशों से अनेक आक्रमण हुए और भारत राजनितिक एकाता के अभाव में इन आक्रमणों का सामना नहीं कर सका और उसे बार बार पराजित होना पड़ा।

ब्रिटिश सरकार ने भारत में उच्च कोटि की केन्द्रीत एकात्मता शासन प्रणाली स्थापित की थी। लेकिन यह बराबर अनुभव किया जा रहा कि, भारत जैसे विशाल देश के लिए। जहाँ जातियाँ, धर्मों और भाषाओं की विभिन्नता है, अतिशय केन्द्रीकरण किसी भी दशा में उपयुक्त नहीं है। मोटेग्यू चेम्सफोर्ड रिपोर्ट में विश्व में भारत को एक संघ के रूप में संगठित करने के प्रश्न पर स्पष्ट रूप से विचार किया गया था। १९२५ के भारतीय शासन अधिनियम ने एक अखिल भारतीय संघ की स्थापना का प्रस्ताव किया था, लेकिन व्यवहार में इस संघ की स्थापना नहीं हो सकी। स्वतंत्र भारत के संविधान ने देश में संघ-शासन की स्थापना की है। पर संविधान में फेडरेशन शब्द का कहीं प्रयोग नहीं हुआ है। भारत को राज्यों का संघ कहा गया है।

भारतीय संविधान में संघीय शासन की मुख्य विशेषताएँ विशिष्ट हैं। संविधान ने केंद्रीय सरकार और अवयवी राज्यों की सरकारों के बीच शक्तियाँ वितरण कर दिया है। संघ सूची, राज्य सूची और समकाली सूची ने प्रत्येक सरकार के नियंत्रण से मुक्त है दूसरे शब्दों में राज्य भारत संघ की स्वायत्तशाली इकाइयाँ हैं। केंद्र और राज्य दोनों अपनी शक्तियाँ सीधे

संविधान से प्राप्त करते हैं। संविधान देश का सर्वोच्च कानून है उसमें असानी से परिवर्तन नहीं किया जा सकता संविधान ने स्वतंत्र न्यायपालिका को स्थापना की है। वह संविधान को संरक्षक है और उसकी व्याख्या करती है। यदि संघीय संसद अथवा राज्य विधानमंडल द्वारा पास किया गया कोई कानून संविधान के प्रावधानों के प्रतिकूल पड़ता है, तो उच्चतम न्यायालय और राज्यों के उच्च न्यायालय उसे अवैधानिक घोषित कर सकते हैं।

भारत में अमेरिका की तरह अथवा एकता के अपने निजी संविधान बनाने का अधिकार बनाने वाली संस्था थी। भारत में संघ और राज्य दोनों का संविधान सभा संघ और राज्यों दोनों के लिए संविधान बनाने वाली संस्था थी। भारत में संघ और राज्य दोनों का संविधान एक नहीं है। दोनों का संविधान की सिमाओं के भिन्न रह कर धर्य करना है।

भारत का संविधान दुहरो नागरिकता को मान्यता नहीं देता। इस दृष्टि से भारतीय संविधान अमेरिकी संविधान से भिन्न है। अमेरिका में प्रत्येक नागरिक न केवल समग्र देश का ही नागरिक होता है, वह अपने विशेष राज्यों की नागरिकता का भी उपयोग करता है। भारत में केवल एक नागरिकता है। वह भारतीय को नागरिकता है। भारत में राज्य नागरिकता का प्रावधान नहीं है। प्रत्येक भारतीय को नागरिकता के एक से अधिक प्राप्त है, चाहे वह किसी भी राज्यों में जन्मे न रहता हो।

भारत में राज्यपाल राष्ट्रपति द्वारा नियुक्त होते हैं। राष्ट्रपति के प्रसाद पर्यन्त पद धारण करते हैं। यदि राज्य में ऐसी कोई आकस्मिक स्थिति पैदा हो जाए जिसके बारे में संविधान में कोई प्रावधान नहीं है। तो राष्ट्रपति राज्यपाल को सलाह दे सकता है। कि वज किस प्रकार कार्य करे इस प्रावधान के द्वारा राष्ट्रपति को राज्यों के शासन पर नियंत्रण बनाए रखने में सहाय्यता मिलती है। यह उपबंध भी सच्चे संघीय शासन और राज्यों का शासन इससे विधायी, कृतिय और प्रशासनिक क्षेत्रों में विविधता उत्पन्न होती है। यह विविधता कुछ सीमा तक तो स्वीकार की जा सकती है। लेकिन एक निश्चित सीमा से आगे बढ़ने पर विविधता अव्यवस्था उत्पन्न कर देती है। ऐसा अनेक संघ राज्यों में मूलभूत मामलों में जो देश को एकता को बनाए रखने के लिए जरूर है, एकरूपता स्थापित करता है यह तीन उपायों द्वारा किया है १) एक न्यायपालिका २) दीवानी और फौजदारी मामलों की एकरूप प्रणाली और ३) समान अखिल भारतीय सेवाएं भारतीय राज्यों के उच्च न्यायालय और उच्चतम न्यायालय एक समन्वित न्याय व्यवस्था को सृष्टि करते हैं। दीवानी और फौजदारी कानून व प्रक्रिया की एकरूपता इन विषयों को समवर्ती सूची में रख कर निश्चित को गई है। अखिल भारतीय सेवाओं के सदस्य केंद्र तथा राज्यों में उच्च पदों रखे जा सकते हैं।

लोकतंत्र

लोकतंत्र की सफलता के लिए कुछ शर्तें आवश्यक है, जनशिक्षा, प्रबुध लोकतंत्र राजनितिक दल व शासन में नागरिकों का सक्रिय योग, सहिष्णुता, एकता, आर्थिक सुरक्षा आदि।

अम्बेडकर पूर्ण लोकतंत्रवादी थे और उसे जीवन के समग्र दश के रूप में स्वीकार करते थे। उसकी लोकतंत्र के सैध्यांतिक प्रश्नों में नहीं, लोकतंत्र की व्यावहारिक समस्याओं में दिलसु थी। वे लोकतंत्र को निम्न स्वतंत्रता, समता और बहुल्य को आपात पहुंचे अम्बेडकर लोकतंत्र की सफलता के लिए समाज के विविध वर्गों के बीच सहयोग को आवश्यक समझते थे। उसके विचार से भारत में निर्धरता, अशिक्षा और जातिगत भेद लोकतंत्र के लिए भारी खतरे थे सामाजिक लोकतंत्र अम्बेडकर के विचार से लोकतंत्रात्मक शासन प्रणाली लोकतंत्रात्मक समाज में ही फल फूल सकती है। सामाजिक लोकतंत्र के अभाव में लोकतंत्र का औपचारिक संगठन महत्वहीन होगा लोकतंत्र वास्तव में शासन प्रणाली नहीं प्रत्युत समाज

की एक व्यवस्था है। अम्बेडकर के सामाजिक लोकतंत्र में समाज के सभी वर्गों के साथ समतायुक्त और मानवोचित व्यवहार अपेक्षित है। सामाजिक लोकतंत्र के दो तत्व हैं। समाज के सभी वर्गों के प्रति सम्मानपूर्ण व्यवहार और सामाजिक प्रतिरोधों से मुक्त सामाजिक संगठन।

संराज

राज्य अम्बेडकर के चिंतन में राज्य की अपेक्षा समाज को अधिक महत्व दिया गया है, फिर भी वे मानव कल्याण के लिए राज्य की अनिवार्यता को स्वीकार करते हैं। उन्होंने राज्य को निरपेक्ष सत्ता नहीं माना है। वे उसे मानव सेवा का माध्यम मानते हैं राज्य का वास्तविक और प्रत्यक्ष रूप सरकार है।


अम्बेडकर राज्य के कार्यक्षेत्र को कम से कम रखने के पक्ष में हैं उनके राजनीतिक चिंतन में स्वच्छिक संस्थाओं के लिए गुंजायश है। जो नागरिकों की अनेक आवश्यकताओं को पूरा करते हैं। अम्बेडकर संसदीय लोकतंत्र के पक्षधर थे वे केन्द्रीय शासन को मजबूत रखने को हिमायत थे, उस विचार था कि केन्द्रीय सरकार के कमजोर होने पर देश की स्वतंत्रता खतरे में पड़ जाती है भारतीय संविधान में संघीय शासन का रूप दिया जा सकता है। अम्बेडकर स्व शासन के पक्षधर हैं। लेकिन विचार से स्व शासन का सुशासन होना आवश्यक था सुशासन की कमी है निष्पक्षता, न्याय, स्वच्छ प्रशासन और एक ऐसे वातावरण का निर्माण जिसमें लोग अपनी सामाजिक, आर्थिक राजनितिक और सांस्कृतिक उन्नति कर सकें।

अम्बेडकर के प्रतिनिधिक शासन में दलों के महत्व को स्वीकार करते हैं उनके विचार से एक दल का शासन लोकतंत्र की भावना के विरुद्ध है। लोकतंत्र में बहुमत का अपना महत्व है लेकिन बहुमत को अल्पमत की भावनाओं का ध्यान रखना आवश्यक है।

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Homemade mask Prevents droplet transmission of CORONA Virus -
Mrs.A.P.Harne

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HOME MADE MASK PREVENT DROPLET TRANSMISSION OF CORONA-VIRUS
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ABSTRACT:-
 A shortage of disposable filtering facepiece respirators can be expected during a pandemic respiratory infection. Some individuals may want to use common fabric materials for respiratory protection as a affordability reason also. The best fabric for homemade masks is highly woven 100% cotton fabric, which act as a mechanical barrier to particles, but avoiding knitted fabrics because they creates holes when they stretch which the virus could get through. But the homemade masks technically are not hospital approved
Key Words – Home made Mask, Corona virus
Instruction :
 The new corona-virus that causes COVID-19 is mainly through respiratory droplets, when an infected person coughs, sneezes, speaks or breathes. There droplets form is a wide range of sizes, but the tiniest ones called aerosols, can easily slip through the opening between certain cloth fibers, leading some people to question whether cloth masks can actually help to prevent disease.
 We need to know about the different types of Masks.
N-95:- N95 masks, which are also called respirators the "N" is stands for " not resistant to oil" and the "95" means that during "worst case" testing, the filter was able to capture 95% of the most penekating particles in the air. N-95 masks fit tightly around the nose and mouth, blocking both incoming and outgoing germs. N95 masks should only be used by health care professionals.
Surgical Masks:-Surgical masks are looser fitting than N 95s and dont have the respiratory valve. These mask are effective in blocking splashes and large particle droplets.
Home made Mask : The best fabric for homemade masks is tightly woven, 100% cotton fabric. Remember, you're only protected if you wear your mask correctly, so make sure it fits snugly and take it off carefully. Always avoid contact with your eyes, nose and mouth while taking a mask off. Wash your hands immediately afterwards, Staying a safe distance away from people and avoiding touching your face when your hands are dirty is very important.
Objective : The objective of the study is to examine homemade masks is reduce of droplet transmission corona virus
Methodology :
 Volunteers, some social workers, as well as health workers made their own face masks, the fabric is tightly woven 100% cotton , as well as prewash the fabric using hot water to kill the germs and to mashrink the material, so it doesn't change shape after wash it by themselves. The mask fit correctly our mouth & nose because the number of microorganisms isolated from cough's of healthy volunteers wearing their homemade masks.
 Cloth masks are what the general public should use to protect the community. This type of mask can help you stop the spread of the virus. Studies like this one published in the new England Journal of Medicine show that people infected with COVID-19 may not have symptoms. A homemade mask will help people who are sick but don't it from releasing droplets in to the air and spreading the virus.

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Results and Discussion :	
Homemade mask and surgical mask are significantly reduced the number of microorganisms expelled by people although the surgical mask was three times more effective in blocking transmission than homemade mask. Homemade mask technically are not hospital approved, so some hospitals won't accept there masks. Healthcare workers in other facilities like nursing homes and urgent care centers are also dealing with mask shortage while working with COVID-19, patients. Even non healthcare workers like veterinarians and firefighters are left without face masks and have said they would accept homemade versions.	
At last it is suggested that a homemade mask should only be considered as a last resort to prevent droplet transmission from infected individuals but it would be better than no protection.	
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Madhubani Painting - Folk art of Mithila

Mrs. A.P.Harne

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Madhubani Painting – Folk Art of Mithila

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Abstract :-

This article takes the historical journey of a unique art form, that of the painting of walls, floor, spaces, and medium of paper of Madhubani painting, referring to the place from where it became famous from the region of Mithila in North Bihar. The article aims to document the history, the difference sources from which the colours are derived for use have also been noted.

Key Words – Madhubani, Madhubani Painting, Folk Painting of India.

Introduction:

Madhubani painting is a style of Indian painting practiced in the Mithila region of Bihar. Tradition states that this style of painting originated at the time of the Ramayana, when King Janak commissioned artists to do paintings at the time of marriage of his daughter, Sita, to Lord Ram. The painting was traditionally done on freshly plastered mud wall of huts, but now it is also done on cloth, hand-made paper and canvas. Madhubani painting mostly depict nature and Hindu religious motifs, and the themes generally revolve around Hindu deities like Krishna, Ram, Shiva, Durga, Lakshmi, and Saraswati. Natural objects like the sun, the moon, and religious plants like tulsi are also widely painted, along with scenes from the royal court and social events like weddings. Generally no space is left empty. Traditionally, painting was one of the skills that was passed down from generation to generation in the families of the Mithila Region, mainly by women. The painting was usually done on walls during festivals, religious events, and other milestones of the life-cycle such as birth, Upasayanam (Sacred thread ceremony), and marriage.

Madhubani, which in literal translation means Forest of Honey, (Madhu . honey, Bans . forest or woods) is a small village in the northern part of Bihar, which has now become a market town. The traditional Madhubani artists now reside mainly in the districts of Jitwanpur and still exercise their art with full passion and creativity. An outstanding observation about Madhubani artists is that they do not allow caste, race or creed to hinder them in the progress of their work of art. All are one when it comes to art. This village is located in the Mithila region of northern Bihar and so the art is also known as Mithila Painting. Hindu Mythology is the main theme in Madhubani Painting and it is usually done on cow dung treated paper with natural paints. It has mainly three schools: Kayastha, Brahmin, and Taitoo.

History and Folklore:-

The state of Bihar consists of about seventy-two thousand villages and one of its unique features is that it has a number of aboriginal tribes. In fact it has the third largest tribal population in India, which belongs to two language groups: the Austic and the Dravidian. Religion plays an important role in the lifestyle and tradition of the people of Bihar. It is because of their desire to please their gods and to develop their spirituality that brought in Madhubani Painting. It is the womenfolk who tried to keep alive the folk songs, folk tales, folk arts and folk crafts. But for the womenfolk, folklore could not have been able to withstand the changes in this fast moving world and adhere to its traditional form.

It is them who have kept alive the old traditions of the rural life and this enthusiasm is passed down from mother to daughter from generations. In folk art, especially in painting, women play a vital role. Women do most of the Madhubani Paintings and their creativity can be interpreted and



visualised from these paintings themselves. Like almost all other folklore around the world, there is an element of myth in the folklore of Bihar too. It consists of the tales of the origin of the earth, existence of supernatural beings like gandharvas, apsaras, morals, and cumulative and pastoral songs. Coming to folk art, Bihar enjoys a prominent place. Mulk Raj Anand says: The sources of folk art of Madhubani lie on the dim areas of silence, of the approximation to the heightened moments of creation itself.

With an extraordinary history in its art, women in the villages around Madhubani have been practising their folk art for centuries but it has been recognised as a form of art only in the recent years. The women painters lived in a closed society and were unwilling to paint openly. Eventually due to a drought (1966-68) in the surrounding areas of Mithila that resulted in severe economic crisis women began to commercialise their art. The All India Handicrafts Board encouraged the women artists to produce their paintings on handmade paper for commercial sale. The government of India, the state government of Bihar and the regional craft guilds have all come in together to initiate the productions and marketing for these women painters. This sudden change in the form of art and its presentation has enabled the world to discover a new form of art with an enviable linkage to the lives of women.

The ancient tradition of elaborate wall paintings or Bhatti - Chitra in Bihar played a major role in the emergence of this new art form. The original inspiration for Madhubani art emerged out of women's craving for religiousness and an intense desire to be one with God. With the belief that painting something divine would achieve that desire, women began to paint pictures of gods and goddesses with an interpretation so divine that captured the hearts of many. Women of upper castes mainly did the wall paintings of the Kohbar Ghar, Gosain Ghar and the Aripan Floor paintings. The use of colours would differentiate each from their work. Colours like pink, green, Brahmins use yellow, lemon, blue and black. Kayastha painting consist of just black or deep red. These paintings have representations of lotus flower, palki, horse, elephant, goose, peacock, bans, pan, sun, moon, birds, fish, and snakes in union, each as a symbol. They are painted with brushes made of rags, which are tied to the end of a stick, in the occasion of a wedding. According to the tradition the bride takes along with her the paper design of the Bhatta-Chitra to her husband's home.


Motifs and techniques:-

Kohbar Ghar paintings are elaborate wall paintings of the nuptial chamber with representations of the lotus (purnain), bamboo grove, fish, birds and snakes in union, which largely symbolises fertility and life. Women members of the bride, family, village and caste, paint them on the occasion of a wedding. The bride and groom spend three nights within the painted walls but are allowed to consummate the marriage only on the fourth night. Various motifs, each with a different symbol, are used: The Kohbar motif, Bans (bamboo grove motif), Latpatia Suga (parrots in union), Bidh-bidhata (a male and a female bird facing each other), Patia (mat woven from moth), Nagnagin (entwined male and female cobras), Panki ghar (leaf house) and Naina jogin (Goddess with magical powers). Women paint Aripan floor paintings on a sacred day of every lunar month.

Rice paste is used as pigment and a twig is used as a brush. Gosain Ghar paintings (room for kuladevata or the deity of the family) are also prevalent.

Conclusion:-

This ancient art which began as murals on walls and floors of village homes in North Bihar continues its journey with both the traditional motifs and the outlets selling the craft. The traditional families will continue to make the painting during ceremonies and art form will adorn the khabars. On the other hand in addition to narrating the mythological event from the strong repertoire of Indian legends daily life and rituals, or depicting themes and motifs of animals and birds, the painting will find a place in public spaces and elite drawing rooms thus ensuring a market for survival. The

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painting practice provides income and empowers women who also have a goal to empower others, which makes them aware of their rights and gives them confidence.

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Adolescent Girls ' Mental Health and Wellbeing: a road map to Women upliftment – Mrs. S.S.Mohod

	<p><i>Sanskrit International Multidisciplinary Research Journal</i> IMPACT FACTOR - (IFSIJ) – 5.565 (2020), (CIF)–4.186 (2018) Special Issue 009 - DRIVE WOMEN TO THRIVE SCIENCE, TECHNOLOGY, COMMERCE AND HUMANITIES (QUEENS OF ERA-2021)</p>	<p>E-ISSN: 2455-1511 April- 2021</p>
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Adolescent Girls' Mental Health & Well-being: A Roadmap to Women Upliftment

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ABSTRACT:


India is one of very few countries in the world where girls and boys have nearly similar life expectancy at birth. However, this typical benefit in early female life expectancy is not evident further in their adolescence. Undoubtedly, gender is an important social factor which affects such health outcomes in girls. As girls mature into adolescence, lack of education and empowerment, absence of proper guidance, parent's ignorance, violence against women, gender discrimination, and insufficient timely medical care, impact their health status adversely. Along with physical health, the society's negative attitude has a bigger adverse effect on the mental and behavioral health of adolescent girls, which has further consequences not only for these girls, but also for their forthcoming generations. Though government of India has been taking several efforts to improve women's physical health, there is a need to focus on providing psychological, mental health services, and behaviour change communication to all women. This paper is an attempt to discuss such mental and behavioral health issues especially in adolescent girls which has higher impact on the future generations and national well-being in coming years. Different factors leading to these adolescent girls' mental and behavioral health issues, the signs and symptoms to detect them, treatment options, and certain statistics related to these areas are presented in this paper. This paper proposes how additional emphasis on adolescent girl's health could help us achieve upliftment of the future young and adult women.

KEYWORDS: Adolescent Girl; Mental & Behavioral Health; Gender Discrimination.

1. INTRODUCTION

Women's upliftment is a process of empowering women by promoting their sense of self-worth, making them independent, and in a sense bringing them at par with other individuals. The upliftment can come in the form of social, educational, economic, psychological and political. Though the psychological upliftment through mental and behavioral well-being of women plays a key role in empowering them in all other forms of life. This mental fitness of women cannot be attained suddenly and needs to be long nurtured from early on in their life. The physical and emotional development of a woman at different stages of her life collectively plays role in determining her adulthood and her individuality. Of these different stages, however, adolescent age is of special importance and plays the most crucial role.

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Adolescence is the stage of life ranging between childhood and adulthood between the ages of 12 and 19. Adolescence is a unique and influential phase of development with multiple physical changes happening and thus is a period of vulnerability. According to 2011 census, India has 21% adolescents (24.3 crore). Although adolescents have quite fit physical health, depression is the leading cause of multiple diseases in adolescents. Around 50% of the mental health issues arise in early adolescence before the age of 14 and the suicide is found to be leading cause of death among all adolescents. Appallingly, nearly 50% - 75% of adolescent girls' deaths are due to suicide.

In childhood, girls are not matured enough to get affected by negative gender biased societal attitude, though in adolescence they gain more understanding and knowledge about it. Societal and domestic factors such as inequality in education, violence against women, and gender discrimination become more evident and distress girls in their adolescence. This causes rise in mental health issues such as stress, negativity, and depression leading to low self-confidence. When such mental health issues are left untreated, they prompt suicides or propagate into girls' adult life, impacting their educational attainment, employment, relationship difficulties, and even parenting for forthcoming generation, which all in turn hinders their empowerment.

Thus, emphasizing on mental health and behavioral issues of adolescent girls' and resolving them at adolescent age is very vital in helping them being empowered for their adult life. This paper discusses this issue in detail. Section 2 below gives insight into different mental and behavioral health issues faced by adolescent girls'; the signs and symptoms to detect them; and different possible treatment options. Section 3 concludes the discussion with how this early emphasis and treatment could help in upliftment of women in altogether.

2. MENTAL & BEHAVIORAL HEALTH ISSUES IN ADOLESCENT GIRLS

The mental health is a state of individual's well-being which includes several factors, such as biology, genetics, brain structure, environmental influences, and psychology. And, the behavioral health refers to how individual's daily habits impact physical, emotional, and mental well-being. Thus, mental and behavioral health are often used together interchangeably.


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Most of the mental health issues are preventable and if detected early can reduce risk of further medical complications. Few of the common mental and behavioral health issues observed in adolescent girls which are often overlooked as normal or frustrating behavior are listed in the table below.

Mental & Behavioral Health Disorders	Details
Depression	Loss of self and depersonalization, which can further lead to and is an indication of severe health diseases such as bipolar disorder.
Anxiety Disorder	It is a phase above occasional anxiety and can also escalate into a panic disorder. It is a persistent sense of fear and worry.
Eating Disorders	Excessive or extreme less appetite. It includes severe disturbance in how an individual perceives their body image and can lead to medical complications as well as mental illness such as self-image doubts and lack of self-control. <i>Around 13.3% adolescent girls indicate early onset of obesity and around 45% girls have BMI less than 18.5.</i>
Sleep Disorders	Condition that affects sleep quality, timing, and duration.
Self-harm	Tendency to injure oneself which is usually tied to one's negative self-image. <i>56.6% of adolescent girls' deaths are due to suicide.</i>
Emotional Disorders	Extreme emotions in forms of anxiety and depression. Puberty is one of the major factors leading this disorder and thus emotional disorders usually emerge during adolescence.

2.1. FACTORS RESPONSIBLE

The major cause of increased mental and behavioral issues in adolescent girls is their increased yet insufficient cognitive understanding of environment and surrounding issues. As they transition from childhood to adulthood, girls start interpreting the discrimination they have faced at home, at school, and in general in society. This discrimination includes gender discrimination, unequal treatment at home, parent's ignorance, and social violence against women. Girls also start experiencing the after-effects of the discrimination faced since childhood, such as lack of further education opportunities, early marriage, sexual abuse, increasing financial dependence, increasing gap between ambitions and possible

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achievements. These ultimately lead deterioration of mental health. Also, with adolescence, puberty brings in many physical and hormonal changes, further deepening many mental health issues. In today's world, the increased communication, access to information, and familiarity with social habits of people worldwide, the vulnerable girls develop more stresscausing severe mental health issues.


Along with actual individual's behavioral factors leading to mental health issues, another important factor for its advancement is the deep-rooted stigma about mental health and lack of help. The lack of education, awareness, and misbeliefs about mental health issues inhibit girls from seeking medical consultation. Also, in India, out of around 9,50,000 doctors, only roughly 4,500 psychiatrists are there to aid our population of 1.3 billion, thus intensifying the health condition more.

2.2. SIGNS & SYMPTOMS

All mental and behavioral health issues show some indications which can be identified and treated early. Few of such common issues and their overlooked signs and symptoms are given in the table below.

Mental & Behavioral Health Disorders	Signs & Symptoms
Depression	Loss of interest, Fatigue, Changes in appetite, Weight gain or loss, Unexplained feelings of guilt or shame, Excessive crying or irritability, Emotional numbness, Hopelessness, Social isolation, Slowed activity, Thoughts of suicide.
Anxiety Disorder	Pervasive feeling of worry or fear, Anger or irritation, Sweating, Trembling and shaking, Heart palpitations, Chest pain, Tense muscles, Difficulty breathing or swallowing, Stomach pain, nausea, or diarrhea, Feelings of embarrassment, a flight-or-fight response, Feelings of being trapped, Sleep disturbances, Avoiding certain places, people, or certain situations.
Eating Disorders	Obsessions with weight, eating habits, food, body image, binge-eating.
Sleep Disorders	Insomnia, Sleeping too much or too little, restlessness.
Self-harm	Social exclusion, Suicidal attempts.
Emotional Disorders	Anxiety, Depression, Extreme Irritability, Frustration, and Anger, Emotional outbursts, rapid and unexpected changes in mood.

Along with these specific symptoms for each disorder, overall mental health deterioration of adolescent girls can be identified by peers through other common and usually overlooked symptoms such as, emotional tantrums, anti-social attitude, social exclusion, low confidence, stage and public speaking fear. Awareness and understanding about these symptoms can help

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peers to identify the mental health issues in adolescent girls and help them seek medical attention on time.

2.3. PREVENTION & TREATMENT SOLUTIONS

There is a need for a special emphasis on adolescent girls' mental health with coordinated efforts across all sections of society. To strengthen the mental and behavioral health care system, it should be promoted and supported by various government policies, school health programs, law, special economic budget, and parent's training.

Role of Parents: The biggest influential factor for adolescent girls is undoubtedly their parents. Parents' love and healthy support contribute to children's healthier mental health and encourage help-seeking attitude in them. The parents' approval and opinions for girls tend to shape their own views as well. Thus, removal of gender discrimination and domestic violence against women right from home plays a very important role in long term. Trainings for parents should be made available so that they understand the need of gender equality and implement it in their family. Also, parents are the first most peer group that can identify any early signs and symptoms of mental health issues in adolescent girls. Thus, awareness programs for parents about mental and behavior health and its early treatment's importance can prove as the fastest detection and resolution mechanism for adolescent girls' mental well-being.

Role of School and Public Institutions: Schools are the second safest and trusted place for students after home. The mental health programs and its awareness initiatives when undertaken at schools can help adolescent girls understand their rights, identify gender discrimination and violence against women, and cultivate confidence in them to face these issues. Life skill training programs can be organized in schools. These programs can help girls get unbiased and equal understanding away from family or societal pressure of what they are capable of. The programs should focus on empowering adolescent girls by conveying them their equal rights to education and empowerment, as well as guide them in knowing various government schemes available to be used such as Adolescent Friendly Health Clinics (AFHCS). Schools should appoint a counselor to resolve such issues and give students a direct point of contact available to them when they need help while maintaining confidentiality.

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Role of Society: Society has overall influence on behavior of individual adolescent girls, parents, and public institutions. Thus, overall society's attitude towards women empowerment and well-being has a bigger impact on adolescent girl's mental health and future determinacy. Voluntary public social awareness programs to remove gender bias from all sections of society should be arranged for society upliftment altogether.

3. CONCLUSION

The mental and behavioral health play an important role in shaping the future of any adult life. Specifically, for women, with so many hurdles to cross with negative social attitude due to gender bias, mental and behavioral issues become the biggest concerns. As discussed in this paper, detection of signs, symptoms and treatment for such issues are easily possible if paid attention to. And, earlier the resolution of these issues, healthier the life girls can attain. Thus, to guarantee the empowered adulthood for girls, paying consideration to their health, predominantly their mental and behavioral health, right at their adolescence is must. Additional importance on mental health during adolescence will cultivate strong and confident women. Most importantly, the strong personalities will not only help in betterment of their own life but also pass on to their forthcoming generation. Thus, to ensure that future generation and especially future women are empowered, the nurturing should start early and at the accurate age. Henceforth, from this discussion, I propose that, by accomplishing a roadmap for mental health well-being of adolescent girls in particular, we will eventually embark on upliftment of women and ultimately betterment of the nation.

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Social Changes, Social Values and Development in Indian English Literature of Post Independent India

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SOCIAL CHANGES, SOCIAL VALUES AND DEVELOPMENT IN INDIAN ENGLISH LITERATURE OF POST INDEPENDENT INDIA

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Abstract:
A literary man is the product of his society and his art is produce of his reactions to life. The greatest of artists is sometimes a conscious or unconscious exponent of his time spirit. Literature gives us a reflection of the spirit of the age. As in India after the long years of servitude, Independence was a great turning point in the political history. Literature in India has not remained same since its first stages of development in 3000 BC. Indian Literature since the Vedas and the Upanishads has produced more volumes of beautiful writings than any other part of the world. Industrialization, urbanization, globalization and modernization constitute the minor themes recurrently and consistently treated in the Post Independence Indian English novel. Indian Writers in English have made the most significant contribution in the field of the English novel. Indian novel has grown considerably in bulk variety, and maturity. The development of Indian novel follows certain definite patterns, and it is not difficult to trace its gradual progression from the imitative stage to the realistic to the Psychological to the experimental stage.
Keywords: Eloquenty, contemporary, literature third generation novelist, distinctive

Introduction:
Partition was a great turning point in the political history of India. It uprooted the whole community and perhaps the biggest mass emigration in the world history.
It was no ordinary tragedy. Partition riots resulted in the slaughter of nearly one million Hindus, Sikhs and Muslims on both sides of the hurriedly drawn borders. The haste and indiscriminateness that marked the British action of drawing the borders also caused the largest ever cross-migration of population in human history. More than ten million people became refugees within a time span of merely six months. Partition was bad enough. But it was made immeasurably worse,

with its painful memories lasting for a long time, by the callous manner in which it was carried out. In post-independent India various social evils were prevalent in the society. Various social evils like untouchability, child-marriage, un-educated women and custom of dowry in middle class society. As the *varna* system was prevalent in society; some sections of the society remained uneducated, deprived of even basic rights; unprovided even the basic amenities of life; they were not allowed to get the drinking water from community tap and moreover they cannot sit with the other students in the class. Such disparities can be noticed in the literature of the contemporary society.
The Post-independent India adopted the democratic system of governance. But soon it was occupied by moneyed and corrupt people. As India is a secular state. Here religion and ritual are the part and parcel of our life. Although it is a great motivating and guiding force of human life yet due to lack of real truth yet rituals have become synonymous with religion
Literature in India has not remained same since its first stages of development in 3000 BC. Indian Literature since the Vedas and the Upanishads has produced more volumes of beautiful writings than any other part of the world. The interplay of a number of material and cultural factors has brought tremendous change in recent times. It has a deep influence on the lifestyle and thinking of the people at a mass level. The intervention of these influences has introduced new trends in the emerging art forms including literature. Literature no longer remains limited to particular geographical, national or cultural circumstances. Indian writers have made a very significant and important contribution in English writings and novels. Here are many new inclination and developments in the humanities and literature. We have a gallery of writers who are writing and translating into English.
The Indian writers expressed the role and position of men and women though their writings in English have enlightened the literature with its

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quality and vividness. Truly, it represented the culture, history, and all the variants necessary for the enhancement of the literature worldwide. In fact, India is the third largest producer of the novels after USA and UK. Although the writings profoundly deal with regionalism, they crossed the natural boundaries with universal themes. India is the land of diversity with so many languages, religious, races, and cultures. This multiplicity gave the writers an enormous liberty to deal with various themes. The voice of Indian women writers also dealt with historical, cultural, philosophical and much more basing their themes around mankind. The Indian writers have concentrated their themes around sociological, Diasporic elements, Science and Technologies, explorative writings and much more.

Indian English literature (IEL) refers to the body of work by writers in Indian who write in the English language and whose native or co-native language could be one of the numerous languages of India. Its early history began with the works of R.K.Narayan, Mulk Raj Anand, Raja Rao who contributed to the Indian fiction in the 1930s. It is also associated with the works of members of the Indian diaspora, such as V.S. Naipaul, Anita Descent. It is frequently referred to as Indo-Anglian literature. Indo-Anglian is a specific term in the sole context of writing that should not be confused with the term Indo-Anglian. As a category, this production comes under Anita Desai is a renowned contemporary Indian women writer. Of all contemporary female novelists, she is most powerful and popular novelist. She has written about urban society, contemporary issues and Indian European and American sensibilities. Amitav Ghosh is finest creative novelist. He is indeed the best example of multi faceted brilliance that contemporary India has produced. Ghosh has presented social and human drama of psychological intensity in a fine idiom and imaginary.

All these writers were born after Indian Independence and English does not have any colonial associations for them. Their work is marked by an impressive feel for language and completely authentic presentation of contemporary India, with all its regional variations Postcolonial perspectives have also impacted the critical and the creative aspects of Indian English fiction. How the colonial rulers created a particular image of their subject races to perpetrate their hold on them forms an important feature of the emerging forms of narrative. Contemporary writers hailing from the previously colonized nations, particularly

India, explore forms of life that existed during the British rule. They also expose the subtle strategies employed to make the colonized people, to take their subjugated position as something natural and transcendental. These writers also bring out the functioning of almost the same power politics that defines the relations between the power wielding people and the people kept of the margins even after the end of political imperialism.

Industrialization, urbanization, globalization and modernization constitute the minor themes recurrently and consistently treated in the Post Independence Indian English novel. Recent Indian English novels employ a variety of experimental narrative techniques to present a wide range of subject matter. The last decade has readership in view, but acclaimed by an increasingly international audience. Another theoretical perspective that asserts multiplicity, heterogeneity, and plurality in socio-cultural reality and the world of ideas relates to Bakhtin's insights about dialogic nature of discourse and significance of interactive voices.

Indian Writers in English have made the most significant contribution in the field of the English novel. Indian novel has grown considerably in bulk variety, and maturity. The development of Indian novel follows certain definite patterns, and it is not difficult to trace its gradual progression from the imitative stage to the realistic to the Psychological to the experimental stage. In the growth and development of Indian English novel, the 1980s occupy a unique position. During this period, some very promising novelists published their first works. Some old masters also came out with works, which show that their creative powers have been intact all along. It is during the eighties that Indian novelists earned unheard of honours and distinctions not only in Indian but also in abroad. The works by these novelists, like third generation novelists, speak eloquently about their originality and unprecedented inventiveness.

India has significantly contributed to the overall world literature. This contribution of India has been chiefly through the Indian writing in English, novelists being in the forefront in this respect. A number of novelists on the contemporary scene have given expression to their creative urge in no other language than English and have brought credit to the Indian English fiction as a distinctive force in the world fiction. To attempt creative expression on a national scale in an alien medium has seldom happened in human history, and it speaks of the prolific quality of the Indian mind to assimilate the newly confronting situations and the

complex dilemmas of modern World. The new English fiction exhibits confidence in tackling new themes and experiments with new techniques and approaches to handle these themes. The novelists come to their task without any preconceived notions of what constitutes literary content. This encourages them to focus on a vast and comprehensive canvas and to invest their themes with epic dimensions.

The new Indian writing, published in between 1980s and 1990s has ushered in a literary renaissance in the third generation Indian English writers like Salman Rushdie, Vikram Seth, Vikram Chandra, Shashi Tharoor, Anita Desai, Arundhati Roy, Shashi Deshpande, Upamanyu Chatterjee, Gita Mehta, Bharati Mukherjee, and Amitav Ghosh. These are the fore-most third generation novelists and who hold centrality in the contemporary literary Scenario. They have made a distinct mark on the World literary scene with their rich cultural heritage and skilled language control. They have received national and International recognition, fabulous royalties and prestigious awards.

Conclusion:

In the contemporary Indian Literary scenario, Indian writers in English reflect the truth of Indian reality. They bear numerous responsibilities in the world of literature. They execute with admirable aplomb as the anthropologists, sociologists, novelists, essayists, travel writers, teachers and slip into global responsibility for establishing peace as the ambassadors.

They also have become the only negotiators to mediate the core social and cultural problems of India and other colonized nations. All their major works have enjoyed immense academic attention across the globe and which have invited and produced a great amount of literary criticism especially on feminism. They have created a wide readership and a strong critical endorsement that reflect the attention of serious academicians and scholars. All the post colonial and postmodern predicaments are wrestled to demonstrate a high level of self-consciousness, which continues to interrogate the social, philosophical cultural issues of rape and sexual harassment of innocent women


in the contemporary Indian society. Thus, the study of the recent Indian-English fiction reveals a deep impact of all these views on the writings of various novelists. Their writings in Indian English literature reflect the truth Indian reality which gets the global attention. A marked shift in their fictional concerns and the emerging form can be observed easily. But the emergence of new orientation in the recent publications of a number of Indian-English writers does not mean that this change is all pervasive. For example, if there are novelists like Salman Rushdie, Amitav Ghosh, and Shobha De who have explored new themes in a different way, there are novelists like Rohinton Mistry concentrating on contemporary social reality from traditional realistic perspective. The present article intends to trace the impact of recent developments on the subject and form of contemporary Indian-English fiction. This study presents the recent publications of some of the established and emerging fiction writers has been taken up to critically analyze their writings on the basis of new orientations informing literary theory and practice.

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राष्ट्रीय शैक्षणिक धोरण आणि बोली भाषा

Dr. M M Nandurkar

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राष्ट्रीय शैक्षणिक धोरण आणि बोलिभाषा
डॉ. मंदा माणिकराव नांदुरकर
मातोश्री विमलाबाइ देशमुख महाविद्यालय अमरावती

भारत आणि विश्वातील इतर देश यात अनेक वाचतित मोठा फरक आहे. भारत जगातील देशांपेक्षा वेगळा आहे. विश्वातील बहुसंख्य देश कोणत्या तरी एका धर्माचे आहेत. आहेत. उदारचार्ये ख्रिश्चन, इस्लाम, बौध्द, पण भारत कोणत्याही एका धर्माचा देश नसून तो निधर्मी देश आहे. जगात महा हजरा पेक्षा जास्त भाषा बोलल्या जातात. भाषा ही मानवी संस्कृतीचा महत्त्वाचा ऐवज आहे. भाषेमुळेच मानवी संस्कृतीचा विकास होऊ शकला. पृथ्वीतलावर इतर लाख स्थित्य प्रजाती आहेत. पण त्यात बोवु लक्षगारा म्हणजेच भाषेचा वापर करणारा माणव एकमेव प्राणी आहे. बुद्धि आणि भाषा या जोरावरच माणवाने सर्व धान्यापेक्षा श्रेष्ठत्व प्राप्त केले आहे.

आत्मप्रकटीकरण आणि संवाद ही कोणत्याही भाषेची मुख्य कर्तव्य असतात. संस्कृती, शिक्षण,साहित्य, व्याख्यान अश्या अनेक महत्त्वाच्या क्षेत्रात भाषेचे महत्त्व अनन्यमाधारण असते. शिक्षण क्षेत्राचा विचार केल्यास भाषा हेच शिक्षणाचे माध्यम असते. भाषा अभ्यास हा प्रशिक्षणातील अतीशय महत्त्वाचा पायाभूत भाग असतो. कुठली तरी भाषा अवगत असल्याशीवाच मानुस शिक्षण घेऊच शकत नाही.च मुलभरणे जगुही शकत नाही एवढे भाषेचे महत्त्व आहे.

उद्धिष्टे:

- दैनंदिन व्यवहारात बोलिभाषेचे अनन्यमाधारण महत्त्व आहे.
- विचार करवाची प्रक्रिया ही आपल्या बोलिभाषेतुनच होताना दिसून येते.
- आत्मप्रकटीकरण आणि संवाद भाषेची मुख्य कर्तव्य आहेत.
- नविन शैक्षणिक धोरणात बोनी भाषेचा समावेश अतिशय महत्त्वपूर्ण आहे.

भारतात पुर्वी मुसकूल पध्दतिने जीवन शिक्षण दिले जात असले तरी आधुनिक शिक्षणाची चर्चा अर्धेने मुसकूल ब्रिटीशांच्या काळात झाली. त्याना हा देश घडवायला नसल्यामुळे त्यानी राष्ट्र विकासाचे शिक्षण दिले नाही. कायकुन पडवणारे शिक्षण देणे हा त्यांचा मुख्य उद्देश होता. त्यानी भाषा इंग्रजी असल्यामुळे राज्यकारभारा साठी त्यानी इंग्रजीचा वापर केला वा शिक्षणाचे माध्यम म्हणुनही त्याच भाषेचा पुरस्कार केला. त्यामुळे स्वातंत्र्यप्राप्ती मंतरल्या देशी भाषांचा वापर शिक्षणात होऊ लागला. महात्मा गांधिजी हे विश्वातील सर्वोत मोठे व्यक्तित्व मानले जाते. महात्मा गांधिजी विश्वातील महत्त्वाचे शिक्षण शास्त्रज्ञ आहेत. महात्मा गांधिजीनी मानुभयतुन शिक्षण दिले गेले पाहीरिने असा विचार मांडला.भारतीय आणि विदेशातील जवळपास सर्व शिक्षण शास्त्रज्ञानी तो विचार मान्य केला. जगातील इतर देशात मानुभाषेतुन शिक्षण हा विचार कुतीत आनघेसोपे होते. कारण संपुर्ण देशाची मानुभाषा एकच होती. परंतु भारता सारख्या बहु संस्कृती व बहुभाषिक देशात मानुभाषेतुन शिक्षण ही बाब अत्यंत कठीण होती स्वातंत्र्योत्तर काळात शैक्षणिक आयोग नेमण्यात आले व राष्ट्रिय शैक्षणिक धोरणे उरविण्यात आनी त्यातशिक्षणाच्या भाषिक माध्यमावर प्रामुख्याने विचार करण्यात आला व ब्रिटीशांच्या काळात इंग्रजी हे माध्यम प्रमुख होते त्या भाषाना महत्त्व देण्यात आले.

भारत १९४७ ला स्वातंत्र्य जाला. १९६० ला भाषावार प्रांत रचना करण्यात आली. त्यानंतर प्रांतीय भाषेतुन शिक्षण देणे अधिक मुलभ माने. अनेक देशांमध्ये एकच भाषा शिकविली जाते. भारतात मात्र इंग्रजीमुळे व शास्त्रिय विज्ञान, वैद्यकीय ज्ञान देशी भाषांमध्ये उपलब्ध नसल्यामुळे इंग्रजी जिकणे आवश्यक जाले. तसेच हिंदी ही देशाची राष्ट्र भाषा जाल्यामुळे हिंदी आवश्यक जाली. चाशिवाच तीसरी भाषा म्हणजे मानुभाषा म्हणुन भारतीय शिक्षण व्यवस्थेणे बीभाषा सुच स्विकारले. इंग्रजी, हिंदी व मानुभाषा या पुर्विल्या १९९६ च्या राष्ट्रीय शैक्षणिक धोरणातही बीभाषा सुच स्विकारलेले आहे व २०२० च्या शैक्षणिक धोरणातील विभाषा सुच व पुर्विले शैक्षणिक



धोरनातील विभाषा मुख याल फरक आहे, पुर्विच्या तिनही भाषा शासन ठरवत होते. नविन शैक्षणिक धोरनात तिसरी भाषा ठरवण्याचा अधिकार विद्यार्थ्यांना व पालकांना देण्यात आला आहे.

भारतीय राज्यघटनेने वाचिस भाषाना माण्डला देली आहे. या भाषांपैकी तुम्ही तिसरी भाषा म्हणून कोणतीही भाषा घेत शकता. या नविन शैक्षणिक धोरणातील सर्वात महत्वाची बाब म्हणजे मातृभाषेच्या संकल्पनेत केलेला बदल. मातृभाषेच्या संकल्पनेचा विस्तार जशी पंजाबी ची भाषा पंजाबी किंवा आंध्रप्रदेश ची तिसरी भाषा तेलगु अशी महाराष्ट्राची म्हणून तेलगु कन्नड प्थाचचाची असेल राज्यघटनेतील वाचिस भाषांपैकी एक घेता येते, पण एवढेच नविन शैक्षणिक धोरणाचे वैशिष्ट्य नाहीतर महाराष्ट्राची इंग्रजी हिंदी व्यतीरिक्त तिसरीभाषा मराठी पण मराठी च्या शंभरच्यावर बोली आहेत. आणि मातृभाषेतून शिक्षण म्हणजे मरधीतून शिक्षण नव्हे तर बर्हावी, ज़ाबी, कोचनी, मराठवाडा अश्या कोणत्याही बोलीभाषेतून शिक्षण म्हणजे सच्चा अर्थाने मातृभाषेतून शिक्षण ही बाब स्वातंत्र्यानंतर प्रथमच नविन शैक्षणिक धोरणात माण्ड करण्यात आली आहे. हिंदी पंजाबी मराठी हि मातृभाषा असतेच असे नाही भाषेच्या बोली मातृभाषा असतात त्यातून शिक्षण घेण्या अर्थाने मातृभाषेतून शिक्षण असते. माणसाच्या आकलन आणि विचार करणे या शैक्षणिक प्रक्रिया मातृभाषेतून म्हणजे बोलीभाषेतून होत असतात. आज हूनारो नव्हे त्याखाले विद्यार्थी दहावित मराठीच नापास होवत. कारण प्रमाण मराठी ही त्यांची मातृभाषा नसून कोणतीतरी बर्हावी बोली, अहिराणी बोली, झाडी बोली, त्यांची मातृभाषा असते. नविन शैक्षणिक धोरण २०२० यानी प्रथमच ही सन्धीर बाब विचारात घेतली. ही महत्वाची बाब आहे. प्रत्येक विद्यार्थी त्याच्या बोलीभाषेतून आत्मप्रकटीकरण व संवाद प्रभावितपणे मातृ अकतो. मराठीच्या शंभरावर बोली आहेत. बोली भाषेतून पाठ्यपुस्तक तयार करणे अत्यंत कठीन बाब आहे. पण मराठीच्या पाठ्यपुस्तकात विविध बोलीचे पाठ घेणे अशक्य होते. ते प्रामुख्याने होतना विमुन घेत आहे. नव्य शैक्षणिक धोरणाने त्याला निश्चित अधिक वती मिळेल.


शैक्षणिक धोरणातील महत्वाचा मुद्दा असा की, शिक्षकाने जो विद्यार्थ्यांशी संवाद साधायचा व सुचना द्यायच्या त्या स्वानिक बोलीतून द्याव्यात. पाठ प्रमाण मराठीत असला तरी तो स्वानिक बोलीतून विद्यार्थी जो बोलीभाषा बोलतात त्यातून समजाउन सांगता. प्रमाण मराठी म्हणजे शुध्द व बोली म्हणजे अशुध्द हा विचार चुकीचा आहे, ती भाषा विज्ञानाना माण्ड नाही. भाषाविज्ञान भाषेपेक्षा बोलीचे महत्त्व अधिक माणते. कारण ती अस्मान स्वभाविक उर्जावान व सज्जतीय असते. बोलीचे महत्त्व सामर्थ्य २०२० च्या नविन शैक्षणिक धोरण हे माण्ड केले आहे व भाषा शिक्षकाचे विद्यार्थ्यांना स्वानिक बोलीतून सुचना स्पष्टीकरण द्यावे त्यात बोलीतून विद्यार्थ्यांशी संवाद साधता व त्यात बोलीतून सुचना द्याव्यात. हे स्पष्टकेले आहे. बोलीतून बोलतारा विद्यार्थी भाळेत टिगल टवाळीचा विषय होताना दिसून येतो आता शिक्षकच बोलीतून बोलतील, शिकवतील विद्यार्थ्यांना उगरे देताना किंवा उत्तरे लिहिताना बोलीचा म्हणजे त्यांच्या खर्चा मातृभाषेचा उपयोग करता येईन, त्यामुळे प्रमाण मराठी मातृभाषा नसतारे साखो लळागाळानील, आदिवासी भाषानील, खेळ्यापाळवानील बर्गिब, ग्रामिण विद्यार्थी शिक्षकाच्या प्रवाहात येतील त्यांना शिक्षकाच्या उच्च शिक्षनाच्या संधी प्राप्त होतील. बोलीच्या शिक्षनातील बापरांमुळे भाषिक विषयता नष्ट व्हायला मदत होईल. बोलीमुळे कौनाना अशानी अशिक्षित समजणे बंद होईल. विद्यार्थ्यांनी आकलन व प्रकटीकरणाने क्षमता वाढेल. गळती व नापास होण्याचे प्रमाण कमी होईल. बोलीभाषेची उत्तम जाण असतार्या शिक्षकांनी निवृत्ती करानी नागेल. विद्यमान शिक्षकाना बोलीचा अभ्यास करावा लागेल. आजचा विद्यार्थी उद्याचा युवक युवती आहे हे बोलीभाषेला प्राधान्य देतारे राष्ट्रीय शैक्षणिक धोरण युवक आणि स्त्रीया विक्षेपता ग्रामीण भाषानील, युवक, स्त्रीयाना बळ वेतारे ठरपार आहे. म्हणून या निर्मायाने स्वगत आहेत.

निष्कर्ष:-

- राष्ट्रीय शैक्षणिक धोरणात बोलीभाषेचे महत्त्व लक्षात घेता येते.
- राष्ट्रीय शैक्षणिक धोरणात बोली भाषांचा समावेश अतिशय महत्वाउर्न आडळतो.
- राष्ट्रीय शैक्षणिक धोरणात बोलीभाषेच्या समावेयामुळे अनेक विद्यार्थी शिक्षकाच्या प्रवाहात येतील.

एकुणच राष्ट्रीय शैक्षणिक धोरणात बोलीभाषेचा समावेश महत्त्वपूर्ण आडळतो.

Treatment of Diaspora in Amitav Ghosh's "River of Smoke "-
Dr.S.D.Thakare




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TREATMENT OF DIASPORA IN AMITAV GHOSH'S RIVER OF SMOKE

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ABSTRACT

As decades of research have shown, "feminism" and "Indian-ness" reflect dynamic outcomes of often contradictory political, social, cultural, and economic processes. Feminisms and a focus on gender in Indian diasporas offer a glimpse into these local-to-global processes. Both the terms of migration—whether Indians were permanent or temporary migrants, or whether they arrived as indentured labour, as family dependents, or as migrants who could access jobs and citizenship more easily—and the relative power of the nation states in which they settled, positioned diasporic groups in the global North as powerful players among diasporas. India's eagerness to acknowledge some diasporas through offers of overseas Indian citizenships also contributes to the hierarchy among diasporas. At the same time, hierarchies and conflicts mark the experiences of different groups within diasporas. The main purpose of the research paper is to examine about postmodern traits with specific reference to Indian diaspora in fictional work of Amitav Ghosh. The novel like River of Smoke of Amitav Ghosh has been specifically considered for this review. The novel is the perfect evidence for the postmodern traits and the treatment of diaspora written by Amitav Ghosh. In this novel, Ghosh has engaged incessantly in the risk of putting marginalised individual back in the middle of the narrative, and saving from getting lost in the hegemonic portrayal of the nation. Especially concerned with the South Asian diaspora in the various regions of the world, the novel endeavoured narrations of anti-Hegelian history of the world, including the hitherto left-out narratives of the familiar individual – the predicament against the historical backdrop, this endeavour is to resist the hegemony of the nation through the own experiences and story and search for the own identity.

Keywords:Postmodern traits, treatment of diaspora, fictional works, emigration and diaspora, River of Smoke, Amitav Ghosh

Introduction

Amitav Ghosh, a novelist with an exceptional sense of place and history, is one of the most popular novelists of the time. One can identify the sense of historical reality, in Ghosh's novels. The idea of displacement, craving for strong identifications and race-relations, is the staple-stuff of Ghosh's novels. The term displacement is associated with diaspora and has got the poignancy in the hands of Ghosh. The theme of displacement will be found in all the novels of Ghosh and it fills both the structure and texture in the novels. The term 'Displacement' has got a vast connotation with respect to diasporic literature which involves

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the theme of a homeland, a place from where displacement took place and narratives of tough journeys undertaken because of the economic compulsions. The word diaspora came from Greek words 'dia' and 'speirein', etymologically means 'dispersal' and which involves two cultures and two countries are embedded in the migrant's mind, side-by-side. Amitav Ghosh is one of the postmodernists. Postmodernism has developed and determined in the Indian novels by the novelists, especially Amitav Ghosh. Ghosh belongs to the International School of writing which deals successfully of the modern world with the post-colonial ethos without sacrificing the old histories of the lands. Ghosh blends fiction and fact perfectly with magical realism. Ghosh weaves the magical realistic plots with the themes of postmodernism.

Amitav Ghosh's *River of Smoke* is the book in his much acclaimed Ibis trilogy. The book begins with a glimpse into Diti's shrine. Diti is widowed yet again as her new husband Kalua alias Madhu is forced to flee from the ship. The name which the Colonizers had imposed on him – MaddowColver, now becomes the name of Diti's clan. The clan has grown and prospered and Diti now appears to be the matriarch of a large and a fairly prosperous family. Diti's influence on the family can be seen in her organization of the trips to her shrine and by continuing to remain the link between her brethren on the ship. In this novel, Paulette is foregrounded. Her escapades continue to be dramatic as she takes on the garb of a man and continues to live by herself in the Isle of Maurice. Later, Paulette joins Mr. Penrose on a journey to Canton on a botanical expedition. Canton becomes the centre of Ghosh's concern in this novel and much of the China of the 19th century is seen through the eyes of Paulette who deciphers the place from the long letters written to her by Robert Chinnery, the fictional illegitimate son of the painter George Chinnery. Ghosh stresses the worth and solidity of his female characters. They are seen as doers with very definite agency. In the life and times of the first set of Diasporics, it is the women who create, construct and nurture. From life unfolding from the Hindu tool box to the annual visit to Diti's shrine, Ghosh presents his women characters as the creators and nurturers of civilization. In the debate on gender and diaspora whether it is liberating or debilitating for women, Ghosh opines with the former. While being torn away from one's land and cultural traditions is extremely painful, his women characters are able to thread their lives in the adopted land and Amitav Ghosh's *River of Smoke* is the second book in his much acclaimed Ibis trilogy.

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with very definite agency. In the life and times of the first set of Diasporics, it is the women who create, construct and nurture. From life unfolding from the Hindu tool box to the annual visit to Diti's shrine, Ghosh presents his women characters as the creators and nurturers of civilization. In the debate on gender and diaspora whether it is liberating or debilitating for women, Ghosh opines with the former. While being torn away from one's land and cultural traditions is extremely painful, his women characters are able to thread their lives in the adopted land and start their lives afresh emphasizing their zest for life and a very definite political and social agency to start their lives afresh emphasizing their zest for life and a very definite political and social agency.

It deals with how indentured system affected the role and conditions of women in the society in the 19th century, which was marked as mass human displacements, primarily from the labouring class across regions, nations and continents. With the growth of colonies as well as capitalist production system, a new labour regime was introduced in which labourers migrated from agricultural or cotton industries to gigantic industrial or plantation activities across the continent under the indentured system. Through the indentured system, the Indian immigrants from Chota Nagpur in Eastern India, Saran, Chapara, Shahabad, Champaran, Gaya and other places of Bihar went to European colonies such as Mauritius, Fiji, Guyana, Natal, Surinam and so on. The importation of Indian labourers was carried out through informal networks of recruiters in localities. However, the lacking of legal and civic rights resulted in their socio-economic exploitation in terms of long working hours, poor wages and no protection for their lives. The sexual exploitation of women by the employer and/or the recruiters has been evident. There was ownership of time, labour and person of indentured labour. The owner applied various forces and coercive methods to extract maximum labour. There were restrictions on mobility of labour as well as moving outwards for deliberative opportunities. The labourers were subjugated, exploited and marginalized by the employers as well as by owners.

Conclusion

This concept of indentured system in India and explored various socio-cultural issues related to immigrants of India. She pointed the "Jahaji Bhai" phenomena which was predominant during colonial period. The Indian immigrants felt homelessness while residing outside the country. The concept of "purity and impurity" was also dominant among these immigrants when they had to cross the Kala-pani, which was against the religious faith as it was believed that one becomes impure after crossing it.

Indian writing in English has stamped its eminence by mixing up modernity and tradition in the production of art. A remarkable change could be seen in the novels issued after the First World War, which is known as, modernism. Amitav Ghosh is one of the postmodernists. Ghosh is immensely affected by the cultural and political milieu of post independent nation. Ghosh weaves the magical realistic plot along with postmodern background. Postcolonial migration to the foreign nation is yet another trait of postmodernism. Irony plays an important role in the postmodern fiction. Ghosh is very careful in using the vernacular transcriptions and English. Ghosh improves a rich and conscious tradition in Indian English

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fiction. . In Amitav Ghosh novels, *The Glass Palace*, *River of Smoke* and *Sea of Poppies*, the post-colonialism, postmodern traits and the treatment of diaspora are obviously present. The novels of Amitav Ghosh centre around multiethnic and multiracial issues; as a wandering cosmopolitan travels around and weaves them with the narrative beauty.

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

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आदिवासी लोकगीतातील नव्या जाणिवा

डॉ. मंदा माणिकराव तांदुरकर

बराडी विभाग मातोश्री विमलाबाई देशमुख महाविद्यालय

बीज शब्द : आदिवासी, लोकगीत, नव्या जाणिवा

सारांश:

आदिभूषणजे सुरुवातीपासून आधीपासून आणि नासी भूषणजे निवास करणारे ,अदिम काळापासून निवास करणारे निसर्गपूजक , शब्द ,संगीत, नृत्य या तीन पटकऱ्यांवासमन्वय भूषणजे लोकगीत. लोकगीतांची देवाण-वेवाण हे एका पिढीकडून दुसऱ्या पिढीकडे सातत्याने होताना दिसून येते. स्थळ काळ व वातावरण या सर्वांचा परिणाम लोकगीतांवरनिश्चितपणेहोताना दिसून येतो. जनजागृती, समाज प्रबोधन, निरगुळा ,मनोरंजन ,संदेश, आठवणी तर स्थळ-काळ निर्देशानुसार ही लोकगीते असतात. परंपरेनेहस्तांतरित होणाऱ्या लोकगीतांमध्ये नवीन शब्दांची भर घातल्याने पडत असते.लोकगीतांचा ठेवा एका पिढीकडून दुसऱ्या पिढीकडे गीतांच्या माध्यमातून होत असतो. आदिवासी जमातींची स्वतंत्रबोलीअसते त्यांच्या बोलीतील लोकगीते हा बोलीचा ठेवा असतो लोकगीत यांच्या माध्यमातून बोलीचे जतन केल्या जाते, याच लोकगीतातून नव्या जाणिवा समृद्ध होताना दिसून येतात.

प्रस्तावना:

आदिमता भूषणजे मानवी जीवनाची प्राचीनतमनिसर्गनिष्ठजीवनावस्था. आदिवासींच्याविशिष्ट परंपरा, चालीरीती, भाषा ,पोशाख सण-उत्सव सामुदायिक जीवन ,नियमांवलंबी जीवन जगत असताना मिळणारा नैसर्गिक परिपूर्ण आनंद या विशिष्टरंगी संस्कृतीच्या अभ्यासाने एक प्रमुख साधन भूषणजे लोकगीत होय.निसर्गाशी बाते जोडून माणूस आपनमाणुसापण निर्माण करत असतो, आकाशातले सूर्य ,चंद्र ,चारे ,आडे ,पाने , फुले , पधुपक्षी या सगळ्याशी मैत्रमान निर्माण करणारे लोकमान लोकगीतातून आपल्या नेणितेला सुष्टी निपथी त्रिन्हुळा अन्त करीत असते .लोकगीत ही एका घनाची निर्मिती नसून अनेक घनाची निर्मिती असते लोकांच्या सामुहिक नेणितेचा अविष्कार लोकगीतातून होत असतो.

शोधनिकेसाठी उद्दिष्टे:

*आदिवासी लोकगीतांचा ठेवा मौलिक आहे.

*आदिवासी लोकगीत एक पिढीकडून दुसऱ्या पिढीकडे हस्तांतरित होतानादिसून येते.

*आदिवासी लोकगीतातील नव्या जाणिवांचा शोध घेतायेणे.

नवीन बदलांना आदिवासी सामोरे जाताना दिसून येतात.पारंपरिक लोकगीतांच्या शब्दांच्या माध्यमातून आदिवासींच्यासहजपणे नव्याने स्वीकारलेल्या जीवनशैलीचे बर्णन सहजरीत्या प्रकट करते. या सर्व बदलत्या बोलीचा, भाषेचा, बोलीचा अभ्यास होणे सामाजिक बांधिलकीच्या दृष्टीकोनातून आणि साहित्य संवर्धनाच्या दृष्टिकोनातून अत्यंत गरजेचे ठरते. आदिवासी बांधनांनी मध्ये शहरी प्रगत समाजाच्या अन्वहारी नृचीना स्पर्श डोकावताना दिसून येत नाही अशाच आश्रवाचे एक आदिवासी लोकगीत ऐकताना वेगळाच आनंद येतो.

नदीकिनारी बंगला बांधीला

चारी बामू रंग इहिणी

त्या बंगल्यावर नक्षी काढली

चिमणी पोपट मोरगइहिणी



त्या देवाचार देवली इच्छी

च्या इच्छित ठेविली नवनी

त्या नधीचे मोल कर गदद्विगी

नदीकिनारी बंगला बांधीला

बरीत विवाह गीतांमधून आही विद्विगी चे कौतुक तर तय्यात घेता वेतेच परंतु आधुनिक जीवनशैलीतील बंगला, टेबल, नक्षी माने नर्गन महजपणे ध्वज रचनेतून प्रकट झालेले विगून वेते, पारंपरिक जीवन जवत अयत्नाना अत्यंत खडतर असलेली आदिवासी जीवनशैली आता आधुनिकतेच्या प्रवाहात नवनवीन प्रवासी वाहनांचा बापरही गरांगपणे करताना विगून वेतात. हुचाकी, चारचाकी वाहनांचा बापर मोठ्या प्रमाणात होऊ लागला आहे त्याचेही प्रतिबिंब धालील विवाह गीतांमधे पडलेले विगून वेते.

डोंबराच्या आडून बार्ड

एक चांद उगवला

त्या चांदाला बपाया

साया चांदण्या निघाल्या

नवरदेवाची बाडी घाललीच

वेघात बायुरचाडीला

गाडीला नपाया

साय्याच विघाल्या

डोंबराच्या आडून बार्ड

एक चांद उगवला....

आधुनिक जीवनशैलीचा स्वीकार करताना, परंपरा जपण्याचे कौशल्य, तात्याचे महत्त्व टिकवण्याचा प्रयत्न भावदेपणा या गाण्यातून प्रकट होताना विगून येतो.

अलीकडच्या काळात रेल्वे, परिवहन मंत्रालयाच्या सोयीसुविधा आदिवासी भागात असल्यामुळे रस्ते, रेल्वे, मार्ग माने जाळे आदिवासी रस्त्यात असलेल्या काहीदुर्गम भागात विंगले गेले त्यामुळे सहाय्यिक नोकरी-व्यवसायासाठी, शेतीचा माल विकण्यासाठी किंवा नोकरीमुळे बरचेचर होणाऱ्या प्रवासांमुळे शहरी संपर्कांमुळे त्यांचे नाविन्य, आकर्षण आदिवासी शिवान्या गीतात उमटलेले विगून वेते.

आनीनगाडी कसारा

एगदी बाडी पुढे जाऊ द्या

नवरदेवाचा बाप पैलाबाला

मला पाहू द्या

नवरदेवाची आई पोळानाली

मला पाहू द्या

नवरदेवाचा भाऊ हुंपी माला

मला पाहू द्या

नवरदेवाची बहीण

साडीबाली

मला पाहू द्या

आनीनगाडी कसारा

एगदी बाडी पुढे जाऊ द्या



बैलगाडी ऐनजी आगगाडीनून प्रवास करण्याची सोयी मिळाली त्यामुळे बैलगाडी ऐनजी आगगाडीचे कौमुक वाढू लागलेले दिसून येते .तसेच आदिम जीवन पद्धतीमध्ये निसर्गाच्या साशिक्ष्यात सातत्यानेवापरजांना जे जे काही उपलब्ध होते त्याचाच वापर सौंदर्य खुलवण्यासाठी केला जात असतो. रंगीबेरंगी वगड ,मणी, साडांची वाळवणी पाने, मुळे इत्यादींच्या उपयोगातून वागिने तयार केले जात. प्रगत समाजाचा संपर्क जसजसा वाढू लागला आणि परंपरागत अर्थव्यवस्थेचे स्वरूप असे बदलू लागले तसे निसर्गदत्त राहणीमान बदलू लागले. सोने चांदी स्टीलच्या वस्तू यांचा वापर वाढू लागला ,आदिवासी लोकगीतात हा झालेला बदल दिसून येतो.

सोनिवाचा गल्लास
चांदीवाचं ताट
पंढून गेले हनुमान
शितेला सोडून गेले राम
मुळशी बेलाचे पान
शितेला सोडून गेले राम
सोनिवाचा पाळसा
रेअमाची दोरी हुलविते हुलविते
ओका मेला तांब रे
येते माचारी जरा थांब रे

सध्या फॅशनचे वेड सर्वांनाच लावलेले आहे शहरी भागात तसेच दूरदर्शन वरील जाहिरातीचे परिणाम आज खेदोपादी दिसून येत आहे ,वाचाच परिणामया लोकगीतातून प्रतिबिंबित होते.

हिरो धातेरा जीन्सकेरसी
हिरो धातेराशान पायी

हिरो ता स्टार्डल निके बायो
हिरो धातेरा टोपी केरसी

हिरो धातेरा गोंगला केरसी

मुन जीन्स घातून कधी स्टार्डल ,कृती करतात कशाप्रकारे टोपी व सप्पा परिधान करतात हे आधुनिकतेचे परिणाम म्हणून या गीतातून व्यक्त होताना दिसून येते.

यार मेरा सुपरस्टार

आदिवासी कलाकार

यार मेरा सुपरस्टार

आदिवासी कलाकार

यार तेरा सुपरस्टार

आदिवासी कलाकार

यार तेरा सुपरस्टार

आदिवासी कलाकार

सुपरस्टार सारखे आधुनिक तांत्रिक शब्द गीतातून डोक्याताना दिसून येतात.

कोरोनावाळातील विचार करता,

मोटो डेंजोर डेंजोर

ई कोरोनावायरस

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यासारखे नवीनशब्दांची भर गीतांमधून दिसून येते. आदिवासी समाजात रुढी, परंपरा, जातीरीती एका पिढीकडून दुसऱ्या पिढीकडे गीतांच्या माध्यमातून हस्तांतरित होत असते. स्वछ, काळाचा विचार करता पारंपरिक लोकगीतांमध्ये सातत्याने नवनवीन शब्दांची भर पडत जाते व नव्या जागिऱ्या समृद्ध होताना दिसून येतात.

एकूणच

लोकगीतातून समाजमनाचे प्रतिबिंब होकावताना दिसून येते.

लोकगीते प्राचिक परंपरेने चालत आलेली असली तरी त्यात नवनवीन शब्दांची भर पडताना दिसून येते.

लोकगीतांचे समृद्ध बांधार नव्या जागिऱ्यांनी प्रगल्भ होताना दिसून येते.

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