Pravara Rural Education Society's

Arts, Science and Commerce College,

Kolhar Tal. Rahata, Dist.- Ahmednagar- 413710

Affiliated to Savitribai Phule Pune University, Pune

Self Study Report: 2023 (2nd Cycle)

Criteria -3

Research, Innovations & Extension

Key Indicator: 3.3
Research Publications and Award

Metric: 3.3.2 (QnM)

Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five year.

Submitted to

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

BENGALURU

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Year 2019-20

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मुंबई विद्यापीठ

द्वितीय वर्ष बी.ए. मराठी (भाषा/वाङ्मय विशेष)

(क्र-४)

साहित्यप्रकाराचा अभ्यास / आत्मकथन

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प्रकाशन क्र.160

ISBN NO.978-9383870-65-3

साहित्यप्रकाराचा अभ्यास - आत्मकथन

डॉ.चं.वि.जोशी - प्रा. गोकुळ शिखरे,डॉ.अंजली मस्करेन्हस ,डॉ.प्राजक्ता शित्रे

Sahityaprakarancha Abhyas -Novel

Dr. C.V.Joshi - Prof. Gokul ShikhareDr. Anjali Maskrenhas

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ऋतू प्रकाशन

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फोन -0241 -422318 / 9325459229

मुखपृष्ठ डिझाईन - चि.ऋतुपर्ण जोशी

मुद्रण - सिध्दीगणेश, अहमदनगर

प्रथमावृत्ती - दि. 2 /10/ 2019

किंमत -रूपये 120 मात्र

* अनुक्रम *

विशेष लेख

दलित आत्मकथनांचा सामाजिक अनुबंध

डॉ.राजेद वडमारे

० १. प्रास्ताविक

दलित साहित्याच्या केंद्रस्थानी प्रामुख्याने माणूस आहे. त्यामुळे या माणसाच्या भावविश्वाचे चित्रण हे दलित साहित्याचे मुख्य आशयसूत्र आहे. माणसाचे दु:ख, व्यथा आणि वेदना यांचा अत्यंत तीव्र आविष्कार दलित साहित्यातून विशेत: दलित आत्मकथनांतून आलेला आहे.

'वेदना–विद्रोह आणि नकार' या तत्वत्रयींचे उत्कट दर्शन दलित आत्मकथनांतून होते. साहित्याला जीवनाभिमुख करण्याचे श्रेय खऱ्या अर्थाने दलित आत्मकथनांनाच द्यावे लागते. दलित आत्मकथने म्हणजे सर्वार्थाने दलितांचे सामाजिक दस्तऐवज होत. या आत्मकथनांत सामाजिक आणि कलात्मक मूल्यांचा उचित समन्वय आढळतो. मराठी साहित्याला 'विद्रोह' हे मूल्य प्राप्त करुन देण्याबरोबरच जागतिक पातळीवर लोकप्रियता मिळवून देण्याचे ऐतिहासिक कार्य दलित आत्मकथनांनी केलेले आहे.

०२. दलित आत्मकथन : संज्ञानिश्चिती

आत्मकथन ही आत्मचरित्र या संज्ञेला पर्यायी संज्ञा म्हणून वापरली जाते. काही अभ्यासक आत्मकथनाला "आत्मकथा", "आत्मनिवेदन", "स्वकथन" अशा पर्यायी संज्ञाही वापरतात. सर्वसाधारणपणे आत्मचरित्र हे आयुष्याच्या अखेरच्या टप्प्यावर लिहिले जाते. आत्मकथन मात्र आयुष्याच्या कोणत्याही टप्प्यावर लिहिता येते. हा दोन्हीमधील मूलभूत भेद लक्षात घेऊन त्यातील वेगळेपण स्पष्ट करता येते.

दलित आणि दलितेतर लेखकांनीही मराठीत अशा प्रकारचे विपूल लेखन केलेले आहे. सर्वसाधारणपणे दलितेतरांनी लिहिलेल्या आत्मपर लेखनाला 'आत्मचरित्र' तर दलितांनी लिहिलेल्या आत्मपर लेखनाला 'आत्मकथन' असे म्हटले जाते. आत्मकथन ही संज्ञा मुळातच दलित साहित्याच्या प्रवाहाच्या उदयानंतर अस्तित्वात आलेली आहे. त्यामुळे तिचे जनकत्व दलित साहित्यालाच द्यावे लागते.

दलित आत्मकथन हा मुळातच रुढ आत्मचरित्रापेक्षा स्वत:चे वेगळेपण जपणारा स्वतंत्र वाङ्मयप्रकार आहे. हे वेगळेपण त्याच्या नावात जसे आहे तसेच ते त्याच्या

स्वरुपवैशिष्ट्यांमध्येही आहे. दलित आत्मकथने ही डॉ.बाबासाहेब आंबेडकर यांच्या विचार व कार्याच्या प्रेरणेतून लिहिली गेलेली आहेत. आंबेडकरी साहित्य चळवळीची 'वेदना–विद्रोह आणि नकार' ही मूल्येच दलित आत्मकथनाच्या स्वरुपाचा मूळ गाभा आहे.

डॉ.बाबासाहेब आंबेडकर यांनी संपूर्ण मानव मुक्तीचा लढा उभारतांना ''शिका, संघटित व्हा, व संघर्ष करा'' हा सामाजिक क्रांतीचा मूलमंत्र दिला. या मूलमंत्राचा परिस्फोट म्हणजेच दलित आत्मकथने होत. दलित आत्मकथनांचा विचार डॉ.बाबासाहेब आंबेडकरांच्या विचारधारेच्या परिप्रेक्ष्यातच करावा लागतो. या परिप्रेक्ष्याच्या बाहेरुन तो करताच येत नाही. त्यामुळे दलित आत्मकथनांना 'आंबेडकरी विचारकथने' किंवा 'आंबेडकरी आत्मकथने' हीच संज्ञा उचित ठरते.

दलितांनी दलित जाणिवेतून लिहिलेली व मानवमुक्तीची आस प्रकट करणारी आत्मकथने म्हणजेच आंबेडकरी आत्मकथने होत. ही आत्मकथने वेदना, विद्रोह व नकारयुक्त असली तरी ती आंतरिक उर्मीतून लिहिली गेलेली आहेत. त्यातील नायक हा येथील पारंपरिक समाजव्यवस्थेने नाकारल्यामुळे त्याच्या वाटयाला जे दु:खमय जीवन आले, त्याची वेदना नोंदवीत असतानाच त्या संपूर्ण व्यवस्थेविरुध्द विद्रोह पुकारणारा, तिला नकार देणारा आणि त्याचवेळी मानवतावादी भूमिकेतून सर्वकष मानवमुक्तीचा विचार मांडणारा असा हा नायक आहे. त्यामुळे त्याच्या संघर्षगाथेला वेगळे परिमाण प्राप्त होते. आंबेडकरी आत्मकथनांचे हेच खरे वाड:मयीन वेगळेपण आहे.

०३. दलित आत्मकथन : अंतरंग

आत्मशोधाच्या प्रक्रियेतून दलित आत्मकथनांचे लेखन झालेले आहे. ही आत्मशोधाची प्रेरणा त्याला डॉ.बाबासाहेब आंबेडकरांचे विचार आणि चळवळ यातून मिळालेली आहे. दलित आत्मकथनकार आपल्या आत्मकथनांतून आपल्या भूतकाळीन जगण्याचा आत्मशोध घेत असतो. हा शोध तो त्याच्या स्वत:च्या आणि सभोवतालच्या सामाजिक पार्श्वभूमीवर घेत असतो.त्यामुळे त्याच्या आत्मशोधाच्या प्रक्रियेतून त्याच्या स्वत:च्या समाजाचे तर दर्शन घडतेच, शिवाय त्याला लाभलेल्या इतर सामाजिक–सांस्कृतिक पर्यावरणाचेही दर्शन घडते.

दलित आत्मकथनांतील निवदेक 'मी' हा वैयक्तिक अथवा व्यक्तिगत नसतो, तर तो त्याच्या समाजाचा प्रतिनिधी असतो, असे म्हटले जाते. त्यामुळे दलित आत्मकथन म्हणजे दलित समाजव्यवस्थेचे चित्रण असते. तसेच ते त्याला लाभलेल्या दलितेतर सामाजिक पर्यावरणाचेही चित्रण असते.

''दलित'' हा शब्द एका विशिष्ट सामाजिक व्यवस्थेचा सूचक आहे. दलित म्हणजे दळला गेलेला, हिंदू धर्माने ज्यांना बहिष्कृत मानले आहे असा हा दलित समाज आहे. जातीव्यवस्थेच्या आणि वर्णव्यवस्थेच्या नावाखाली दलित समाजाला वर्षानुवर्षे पशूवत जीणे जगणे भाग पाडण्यात आले आहे. किंबहूना त्याचे माणूस म्हणून असलेले मूल्यच हिरावून घेतले गेलेले आहे. या जगण्याचा वास्तव आलेख दलित आत्मकथनांतून उभा राहातो. दलित आत्मकथनकारांनी जे जगणे वाटयाला आले ते जसेच्या तसे आपल्या आत्मकथनांतून मांडले आहे. त्यामुळे दलित आत्मकथनांना सामाजिकतेपासून अलग करता येत नाही.

दलित आत्मकथनांचा हा वाङ:मयीन विशेष डॉ.मनोहर जाधव यांनी विस्ताराने नोंदवला आहे. ते म्हणतात, ''दलित आत्मकथने हा एक सामाजिक दस्तऐवज आहे. दलित आत्मकथनकार स्वत:संबंधी लिहीत असला तरी तो समूहमनाचा प्रतिध्वनी असतो. इतकी सामाजिकता त्यात एकवटलेली असते. साहित्याच्या अभ्यासकाला अशी दलित आत्मकथने विचारप्रवश्त्त करतात. तशी ती समाजशास्त्राच्या आणि अन्य विषयांच्या अभ्यासकालाही दिशानिर्देश करीत असतात. अभ्यासविषय पुरवत असतात. जातिव्यवस्थेमुळे छळल्या गेलेल्या व्यक्ती–लेखनातून प्रस्थापित मापदंडाशी विद्रोह पुकारते तेव्हा तो विद्रोह,तो ज्या समाजातून आलेला आहे. त्या समाजाचा असतो. केवळ त्याच्या एकटयाच्या नसतो. या अर्थाने त्यात सामाजिकता असते''[०१]

प्रा.प्रकाश मेदककर यांनीही दलित आत्मकथनांचे सामाजिक अनुबंध स्पष्ट करण्याचा प्रयत्न केला आहे. ते म्हणतात, ''दलित आत्मकथनांमध्ये सामाजिक परिस्थिती, त्यातून निर्माण झालेली कोंडी केंद्रस्थानी आहे. याचा संदर्भ घेऊन व्यक्ती वाढत गेल्या आहेत. त्यामुळे या आत्मकथनांना सामाजिक दस्तऐवजाचे स्थान प्राप्त झाले आहे.''[०२] तसेच ''या आत्मकथा विशिष्ट व्यक्तींच्या असल्या तरी सर्व बाजूंनी शोषण झालेल्या अभावग्रस्त समाजाच्या दु:खाने भरलेला इतिहास यातून व्यक्त होतो''[०३] हे डॉ.भालचंद्र फडके यांचे विधानही दलित आत्मकथनांची सामाजिकता लक्षात घेण्याच्या दृष्टीने पुरेसे बोलके आहे.

दलित आत्मकथनकारांनी सामाजिकता हे मूल्य प्रमाण मानून आपले लेखन केलेले नाही. तर ही सामाजिकता त्यांच्या आत्मकथनांतून अपरिहार्यपणे प्रकट होते. दलित आत्मकथनकार हा बहिष्कश्त वर्गातील प्रतिनिधी असल्यामुळे आपण, आपला समाज आणि आपल्या सभोवतालची सामाजिक पार्श्वभूमी यातील परस्परसंबंधांचा

अन्वयार्थ शोधण्याच्या प्रक्रियेमुळे त्याच्या आत्मकथनाला आपोआपच सामाजिक मूल्य प्राप्त होते. दया पवारांचे ''बलुतं''(१९७८), पार्थ पोळके यांचे ''आभगन'' (१९८४), अशोक पवारांचे ''बिराड'' (२००१) आणि डॉ.राजेंद्र वडमारे यांचे ''माणूस नावाची झाड'' (२०११) अशी काही दलित आत्मकथने त्यातील सामाजिकता लक्षात घेण्याच्या दृष्टीने महत्वाची आहेत. हे आत्मकथनकार बहिष्कृत वर्गातील असले तरी त्यातही वेगवेगळ्या भौगोलिक–सामाजिक–सांस्कृतिक स्तरभेदातून आलेले आहेत. त्यामुळे या आत्मकथनांतील सामाजिक आशयाच्या संदर्भाना वेगवेगळे पदर प्राप्त झालेले आहेत.

''वेदना'' हा दलित आत्मकथनांचा महत्वाचा विशेष आहे. ही वेदना वेगवेगळ्या पातळ्यांवर दलित आत्मकथनांतून आविष्कृत होते. दलितांना जात आणि वर्णाच्या नावाखाली हिंदू संस्कृतीने नेहमीच पायाखाली तुडविले. त्यामुळे त्यांच्या भावभावनांची कोंडी झाली. ही कोंडी त्याला पिढ्यानुपिढ्या मुसक्या बांधलेल्या पशूप्रमाणे आतल्या आत सहन करावी लागली. भोगावी लागली. या वेदनेची सल त्यांच्या आत्मकथनांतून व्यक्त होणे अपरिहार्यच होते.

हिंदू संस्कृतीने जातीच्या आधारावर देवा–धर्माच्या नावाखाली दलित समाजावर हजारो वर्ष मानसिक –शारीरिक गुलामगिरी लादली होती.त्याचे माणूस म्हणून जगण्याचे सर्वच हक्क हिरावून घेतले होते. ही वेदना त्याच्या उरात धगधगत होती. डॉ.बाबासाहेब आंबेडकरांनी त्याच्या या वेदनेला पहिल्यांदा वाचा फोडली; तिला मोकळी वाट करुन दिली. दलितांना शब्दाविष्काराची संधी मिळताच त्यांनी ठसठसशीतपणे ही वेदना अधोरेखित केली. मुळातच दलित आत्मकथने ही तृप्त व संयत मनाने लिहिली गेलेली नाहीत. ती ठसठसणाऱ्या जखमांनी विव्हळ झालेल्या अस्वस्थ मनाने लिहिली गेलेली आहेत. त्यामुळे त्यांना वेदनेची एक तीव्र धार लाभलेली आहे.

दलित आत्मकथनांतून भूकेच्या वेदनेचे चित्रण आलेले आहे. अस्पृश्यतेमुळे भोगाव्या लागणाऱ्या वेदनांचे चित्रण आलेले आहे तसेच सामाजिक–सांस्कृतिक–आर्थिक कोंडमाऱ्यामुळे होणाऱ्या मानसिक वेदनांचेही चित्रण आलेले आहे. हे चित्रण हृदय पिळवटून टाकणारे आहे. भुकेल्या पोटाची आग शमविण्यासाठी मेलेल्या शेळीचे किडे पडलेले मांस खाताना (अशोक पवार,''बिराड'') किंवा हागणदरीच्या गोखाडीतील भाजी खाताना (राजेंद्र वडमारे, ''माणूस नावाची झाड'') या माणसांना किती मानसिक वेदना होत असतील, याची कल्पनाही करवत नाही, इतकी ही वेदना दलितांच्या हाडामाशी भिनलेली आहे.

दलित्वाची जाणीव ही दलितांना पदोपदी छळणारी, पराकोटीची आत्मपीडा देणारी . या दलित्वाच्या मूळाशी असलेल्या कारणांचा शोध घेत असताना तो एक प्रकारे ल्या भूतकाळाचीच चिरफाड करीत असतो. यातून भारतीय समाजव्यवस्थेतील एक ट वास्तव उभे राहाते. हे वास्तव एवढे कडवट आणि जहरी आहे की त्याला मूल्यांच्या किंवा तंत्राच्या चौकटीतही बसवता येत नाही. त्यामुळे जसे आहे तसेच ग्याशिवाय त्याच्यापुढे दुसरा पर्यायही उरत नाही. दलित आत्मकथने हीच खऱ्या अर्थाने तीय समाजव्यवस्थेची लक्तरे वेशीवर टांगतात असे म्हटले जाते ते यामुळेच. दलित मकथनाला सामाजिक मूल्य प्राप्त होण्याचे हे एक महत्वाचे कारण आहे.

दलित आत्मकथनांना सामाजिक मूल्य असते. त्यामुळे केवळ कलावादी मूल्यांच्या षावर त्यांचे मूल्यमापन करता येत नाही. कारण दलित आत्मकथनाला भूतकाळाचा र्भ असतो. या संदर्भाच्या पार्श्वभूमीवरच त्याचे मूल्यमापन करावे लागते. दलित मकथनांच्या मूल्यमापनाची दृष्टी कशी असावी यासंदर्भात माधव कोंडविलकर म्हणतात, ूतववादी कलाकृतीचे गुणदोष तपासताना समीक्षकाला सामाजिक स्थितीचं भान क असणं अत्यंत आवश्यक आहे. म्हणजे तो लेखक कलावंत जन्मला कुठं? वाढला ा? त्याला जगावं कसं लागलं? या सर्व गोष्टींकडे दुर्लक्ष करुन कलाकृतीचे, दलित मकथेचे मूल्यमापन करण्याचा प्रयत्न केला तर तो त्या कलाकृतीवर व पर्यायाने दलित हित्यावर अन्याय होईल.''[७७]

कोंडविलकरांनी दलित आत्मकथनांच्या मूल्यमापनासाठी लेखकाच्या भूतकालीन नप्रवासाची व त्यातील वास्तव घटना,प्रसंगांची अपेक्षा गृहित धरलेली आहे. दलित मकथन हा मुळातच जीवनवादी साहित्यप्रकार असल्यामुळे कोंडविलकरांची ही भूमिका कारण्यासारखी आहे.

याचा अर्थ दलित आत्मकथनाला कलामूल्ये नसतातच असा मात्र नाही. स्वत:च्या क्तिगत आयुष्याचा समग्र समाज व्यवस्थेशी लावलेला अन्वयार्थ दलित आत्मकथनांतून शय प्रांजळपणे व्यक्त झालेला आहे. त्यामुळे त्याला आपोआपच कलामूल्य प्राप्त .

आत्मकथन म्हणजे त्या लेखकाचा आत्मशोध असतो. हा आत्मशोध घेताना डॉ. हर जाधव म्हणतात, त्याप्रमाणे त्या लेखकाला,''आत्मकथन लिहिताना उभा लाजिरवाणा काळ मानसिक पातळीवर जगावा लागला आहे. या मनासिक उत्पीडनामुळेच काही

दलित आत्मकथनांनी साहित्यिक भाषेचे पारंपरिक संकेत धुडकावून दिलेले आहेत. दलित आत्मकथनकार ज्या सामाजिक स्तरातून आला आहे, त्याच समाजाची रोजची बोलीभाषा तो अभिव्यक्तीसाठी वापरताना दिसतो. प्र.ई. सोनकांबळे ("आठवणींचे पक्षी"), रुस्तुम अचलखांब ("गावकी") यांच्या आत्मकथनांतून मराठवाडयातील महारी बोलीचे घडणारे दर्शन वैशिष्टयपूर्ण आहे. राजेंद्र वडमारे यांच्या "माणूस नावाची झाडं" या आत्मकथनात नगरी महार बोलीचे रुप बघावयास मिळते.

या भाषेत दलित समाजाचा रांगडेपणा, आडदांडपणा अभिव्यक्त होतो. त्यामुळे ही भाषा प्रस्थापित साहित्यभाषेच्या रुढ संकेताना धक्का देणारी ठरली आहे. दलितांना भोगाव्या लागणाऱ्या दाहक व दु:खमय अशा वास्तव अनुभवांना तेवढयाच ताकदीने पेलणारी ही भाषा दलित आत्मकथनांना कलात्मक उंची देते.

०४. दलित आत्मकथन:प्रेरणा

बहुतेक दलित आत्मकथनांच्या लेखनप्रेरणांत एक समान सूत्र दिसून येते. हे समानसूत्र डॉ.बाबासाहेब आंबेडकरांच्या विचारधारेशी आणि त्यांनी दिलेल्या "शिका, संघटित व्हा व संघर्ष करा" या तत्वत्रयींशी निगडीत आहे.

डॉ.बाबासाहेब यांच्या मानवमुक्तीच्या सामाजिक क्रांतीतून दलित साहित्याचा उदय झाला हे निर्विवाद सत्य आहे. मानवमुक्तीच्या क्रांतीसाठी डॉ.बाबासाहेब आंबेडकरांनी क्रांतीचे हत्यार म्हणून स्वत: हातात लेखणी तर घेतलीच, शिवाय समस्त दलितांच्या हातातही लेखणी दिली. डॉ.आंबेडकरांमुळे हजारो वर्ष मूक असलेल्या दलितांना वाचा फुटली. डॉ.आंबेडकरांची विचारशैली शिरोधार्य मानून दलितांनी साहित्यांची निर्मिती सुरु केली. त्यामुळे डॉ.बाबासाहेब आंबेडकर हेच दलित साहित्याच्या निर्मितीचे आद्य प्रवर्तक ठरतात.

दलित साहित्याच्या निर्मितीप्रमाणेच दलित आत्मकथनांच्या आद्य प्रवर्तकाचा मानही डॉ.बाबासाहेब आंबेडकर यांनाच द्यावा लागतो. दलित साहित्याचे सापेक्षी अभ्यासक डॉ.गंगाधर पानतावणे यांनीही हा मान डॉ.बाबासाहेब आंबेडकरांनाच दिलेला आहे. ते म्हणतात, "डॉ.बाबासाहेब आंबेडकर हे दलितांचे पहिले आत्मकथनकार, आपल्या वृत्तपत्रांतून, खाजगी पत्रांतून आणि सभासंमेलनातून त्यांनी केलेली आत्मनिवेदने म्हणजे जीवनभाष्येच. हीच प्रेरणा "हकीकत व जटायू" (प्रा.केशव मेश्राम) ते "रात्रंदिन आम्हाका"(शांताबाई दाणी) हया सर्व दलित आत्मकथनांमागे आहे."[११] डॉ.बाबासाहेब

आंबेडकर यांच्या एकूणच कार्याचे आणि लेखनाचे स्वरुप बघितले, तर डॉ.बाबासाहेब आंबेडकर हेच दलित आत्मकथनांच्या निर्मितीमागील महत्वाचा प्रेरणास्त्रोत ठरतात.

- संदर्भ ग्रंथ

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११. गंगाधर पानतावणे : ''अस्मितादर्श'', जानेवारी–फेब्रुवारी–मार्च,१९९१.

डॉ.राजेद्र वडमारे । प्रवरा शिक्षण संस्थेचे सात्रळ कॉलेज.

साहित्यातील सामाजिकता आणि जीवननिष्ठांचा संतुलित शोध येथे डॉ० राजेंद्र सलालकर यांनी घेतला आहे. साहित्याची जीवनसंबद्धता सर्जनशीलतेत कशी संक्रमित होते; साहित्यमूल्यांचे अस्तित्व कितपत जाणवते, हे कुतूहल या समीक्षात्मक लेखांमधून प्रकर्षाने जाणवत येते. मध्ययुगीन संत कवयित्रींच्या वाङ्मयीन कर्तृत्वाचा शोध घेताना येत जागतिकीकरणाच्या काळातले बहुजन प्रतिमेचे अस्तित्वाचाही चिकित्सकतेने न्याहाळलेले आहे. देशीवादी जाणिवा, साम्यवादी जाणिवा, वास्तववादी जाणिवा यांचे प्रकटीकरणही चिंतनशीलतेने संशोधिले गेले आहे.

'अश्वमेध', 'चक्रव्यूह', 'ताम्रपट', 'ध्रुपद', 'प्रमिष्टाचा जाहीरनामा', 'या शतकाचा सातबाराच कोरा होईल', 'धूळपेरा उसवता', 'सूर्य की अंतिम किरणसे सूर्य की पहली किरण तक', अशा साहित्यकृतींचे सैद्धान्तिक आकलनही मूल्यमापनाच्या दिशेने मांडलेले आहे. साहित्यकृतींप्रमाणेच पद्मश्री डॉ० विठ्ठलराव विखे पाटील, डॉ० बाळासाहेब विखे पाटील यांच्या कर्तृत्वाचे तदनुषंगी मूल्यमापनही महत्त्वाचे.

जागतिकीकरणाच्या प्रक्रियेच्या [illegible]
सौंदर्यमूल्यांचा-जीवनमूल्यांचा [illegible]
संशोधनाच्या [illegible]
[illegible]

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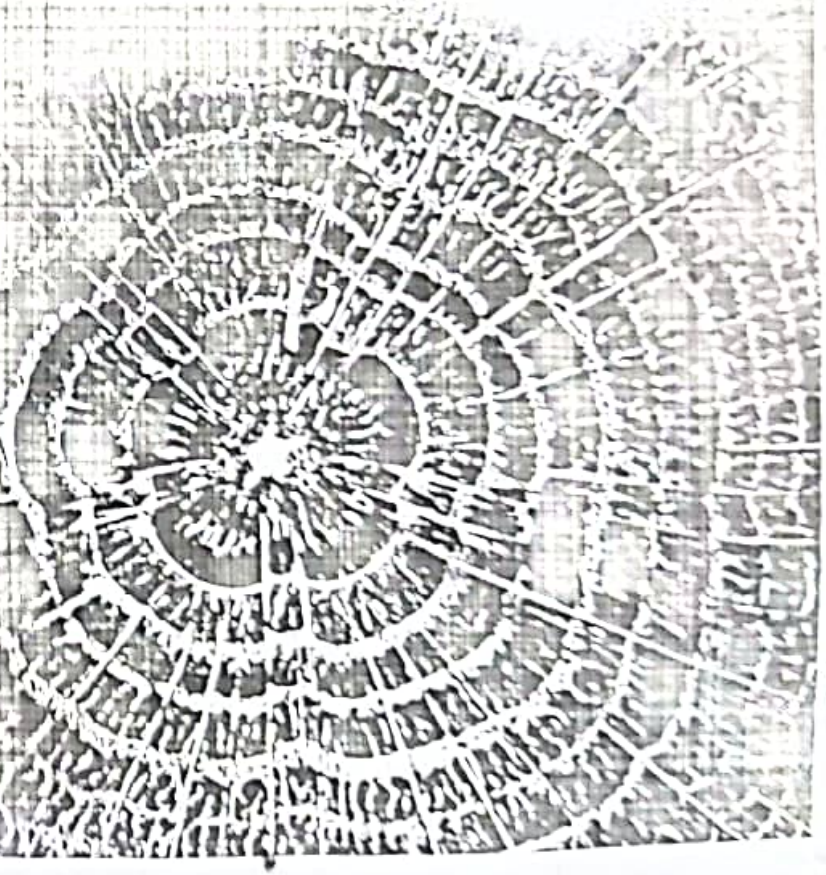
मूल्य : २६० रुपये

9 [illegible]

साहित्य : संशोधन व समीक्षा

राजेंद्र सलालकर

साहित्य संशोधन व समीक्षा



हर्मिस प्रकाशन

ISBN : 978-93-85565-34-2

Sahitya - Sanshodhan Va Samiksha :
Rajendra Salalkar

साहित्य : संशोधन व समीक्षा
राजेंद्र सलालकर

प्रकाशक-मुद्रक
सुशील घरसकटे
हर्मिस प्रकाशन, ए-१७/१०४, मंगल भैरव,
नांदेड सिटी, सिंहगड रोड, पुणे ४११ ०६८
संपर्क : ९८२२२६६९३९

'सृजन', निशिगंध कॉलनी, वीरभद्रनगर,
लोणी खुर्द, ता० राहाता, जि० अहमदनगर,
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अनुक्रम

मनोगत

'साहित्य : संशोधन व समीक्षा' हा ग्रंथ आपल्या हाती देताना मला आनंद झाला. गेल्या पाच-सहा वर्षांत वेगवेगळ्या निमित्ताने मी काही समीक्षात्मक लेख लिहिले, ते येथे एकत्र केले आहे. काही लेख नव्यानेही लिहिले आहेत. पूर्वी लिहिलेल्या लेखांचे पुनर्लेखन करून, त्यात नव्या निरीक्षणांची भर घातली आहे. मी ज्या विषयाचे वाचन-चिंतन करीत असे, त्या विषयांवर काही लिहिण्याची उर्मी बळावते. उदा० हिंदीतील प्रसिद्ध लेखक सुरेंद्र वर्मा यांचे 'सूर्य की अंतिम किरण से सूर्य की पहेली किरण तक' हे नाटक माझ्या वाचनात आले. मी त्या नाट्यानुभवाने विचारप्रक्रियेत गुंतून गेलो. मानवी मनाच्या खोल तळात बुडी मारण्याची सुरेंद्र वर्मा यांची या नाटकातील कृती अत्यंत प्रभावशाली आहे. त्यामुळे या साहित्यकृतीला सर्जक प्रतिसाद देताना वैचारिक चिंतन सुरू राहिले.

एकात्मिक ग्रामीण विकासाचे आद्य प्रणेते पद्मश्री डॉ० विठ्ठलराव विखे पाटील यांच्यावरील चरित्रसाधन संग्रहाच्या अनुषंगाने त्यांच्या व्यक्तिमत्त्वाची समीक्षा केली आहे. एक साधा निरक्षर शेतकरी आपल्यासारख्याच शेतकऱ्यांना एकत्र करतो, त्यांच्यामध्ये नवनिर्मितीची प्रेरणा भरतो, त्यांना एका विशाल ध्येयाकडे खेचून नेतो आणि बघता-बघता त्यांच्या प्रयत्नाला यश येते. त्यातून एका व्यापक चळवळीची निर्मिती होते आणि ती ग्रामीण महाराष्ट्राला विधायक दिशा देणारी ठरते. या चळवळीला अधिक वेगाने हमरस्त्याला नेण्याचे काम त्यांच्या पुढच्या पिढीतील लोकनेते डॉ० बाळासाहेब विखे पाटील यांनी केले. त्यातूनच ग्रामीण महाराष्ट्राच्या विकासाची स्फुल्लिंगे पेटली. डॉ० बाळासाहेब विखे पाटील यांच्या आत्मचरित्र लेखनाच्या काळात माझा त्यांच्याशी निकटचा संबंध आला. एकाच माणसामध्ये अनेक प्रकारच्या गुणांचा समुच्चय असल्यानंतर त्याचा जो भोवतालावर विधायक परिणाम होतो, तो मला जवळून अनुभवता आला. त्या सानिध्याला पुनरुज्जीवित करणारा एक लेख आहे. इतरही लेख

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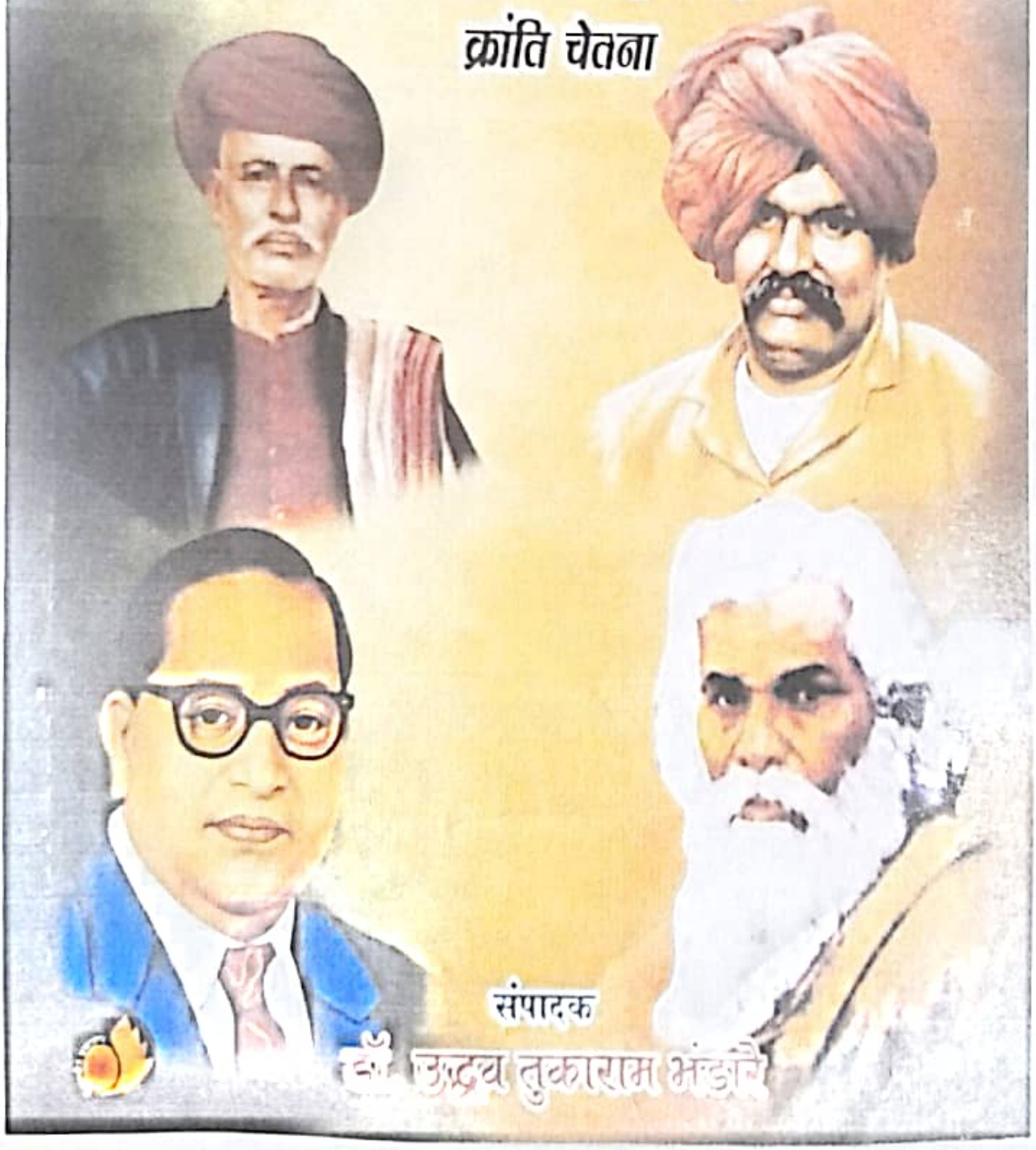
द्वि-दिवसीय अंतर्राष्ट्रीय संगोष्ठी
१४-१५ फरवरी, २०२०

हिंदी और मराठी दलित साहित्य में अभिव्यक्त क्रांति चेतना



संपादक
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विद्यापीठ प्रकाशन

(ओ.पी.सी.) प्रा.लि.

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विलेपार्ले (पूर्व), मुंबई - 400057

दूरभाष: 9987478404/9869341047

ई-मेल: vidyapeethprakashan@gmail.com

प्रथम संस्करण : 2020

ISBN : 978-93-89925-01-2

मूल्य: ₹ 350/-

Hindi Aur Marathi Dalit Sahitya mein Abhivyaktya Kranti Chetana

Edited By : Dr. Udhav Tukaram Bhandare

भारत में मुद्रित

विद्यापीठ प्रकाशन (ओ.पी.सी.) प्रा.लि.

न्यु कलईवाला, शहाजी राजे मार्ग, विलेपार्ले (पूर्व), मुंबई - 400057

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राजर्षी छत्रपति शाहू महाराज : दलितोत्थान की बेबाक पहल

डॉ. भाऊसाहेब नवनाथ नवले

आधुनिक महारष्ट्र के निर्माण में जिन महापुरुषों का योगदान महत्त्वपूर्ण रहा है, उनमे राजर्षी छत्रपति शाहू महाराज का नाम उल्लेखनीय मानना होगा। समतावादी जीवन की कल्पना, शिक्षा नीति, जाति उन्मूलन, डॉ. बाबासाहेब आंबेडकर एवं छत्रपति राजर्षी शाहू महाराज भेंट, आरक्षण विषयक नीति, दलितों के प्रति असीम आस्था तथा अंतरजातीय विवाह का समर्थन आदि बिंदुओं के अधयन से स्पष्ट होता है कि राजर्षी छत्रपति शाहू महाराज का व्यक्तित्व एवं कृतित्व यथार्थ के साथ आदर्शोन्मुख परिलक्षित होता है। कहना गलत न होगा कि वर्तमान संदर्भ में राजनीति, समाज तथा प्रशासन के बहुआयामी परिप्रेक्ष्य की दृष्टि से प्रस्तुत दलितोत्थान की पहल पर्याप्त मात्रा में प्रासंगिक एवं उपलब्धि सिद्ध होगी इसमें संदेह नहीं है।

कुंजी शब्द:

दलितोत्थान, बहुजन, आरक्षण, अंतरजातीय, जाति उन्मूलन, समतावादी, डॉ. बाबासाहेब आंबेडकर, वर्णव्यवस्था, अस्पृश्य, घुमंतू, वेदोक्त आन्दोलन।

विषय प्रवेश-

राजर्षी छत्रपति शाहू महाराज की पहचान बहुजन समाज के उद्धारक के रूप अनन्यसाधारण महत्व रखती है। महाराष्ट्र के कोल्हापुर जैसे छोटे से जिले में एक संस्थान के प्रमुख के रूप में राजर्षी छत्रपति शाहू महाराज की पहचान रही है। उन्होंने अपने समय में तत्कालीन समाज जीवन में आमूलचूल परिवर्तन किया, जिसका परिणाम दिखाई देता है। महाराज का मानना था कि आम जनता को शिक्षा दी जाए, स्वयं का जीवन स्तर बढ़ाने के लिए उसे प्रवृत्त किया जाए, अंधविश्वास को समाप्त किया जाए, जिससे समाज में विशिष्टता कृत्रिम दिखाई देने लगी है। इसके कारणों को जड़ों के साथ उखाड़ फेंक दिया जाए, इसी उद्देश्य से अथक प्रयास किया है। यह काम आसान नहीं है और छोटा भी नहीं है। उन्होंने वर्णव्यवस्था को समाप्त करके स्वयं के अपने पुरोहित तैयार किए। स्वाभाविक

रूप से यह सामाजिक और धार्मिक क्रांति का स्वर कहा जा सकता है।

समतावादी जीवन की कल्पना-

छत्रपति शिवाजी महाराज के हिंदवी स्वराज की कल्पना थी कि समाज का सर्वांगीण तथा बहुआयामी विकास हो। वस्तुत: महापुरुषों का सहानुभूति पक्ष व्यापक तथा जनहित की पर्याप्त हिमायत करता है। छत्रपति शिवाजी महाराज का मानना था कि मुसलमानों को भी शिक्षा मिलनी चाहिए, वे भी राष्ट्र का अविभाज्य अंग है, उनका जीवन अज्ञान की खाई से बाहर निकलना चाहिए। इसी विचारधारा को अपना लक्ष्य मानने वाले छत्रपति शाहू महाराज नवभारत के पहले राजा कहे जा सकते हैं। उन्होंने समाज के हरिजन तथा गिरिजन कहे जानेवाले उपेक्षित तथा दलितों को पाठशाला, अस्पताल, रजवाड़े, तालाब तथा राजा महाराजाओं के भोज आदि सभी को खुले कर दिए। उनके प्रति उपेक्षा का भाव बंद किया उन्हें, अपने अधिकार बहाल किए गए। उन्हें सम्मान के साथ जीने का अधिकार उपलब्ध कराया और उन्हें नौकरियां भी दी गई। साथ ही व्यवसाय तथा व्यापार के लिए भी प्रोत्साहित किया। यहां तक कि एक दलित के होटल में महाराज स्वयं चाय पीते थे। राजकन्या के विवाह में उन्होंने अन्य समाज की तरह हरिजन तथा दलितों को भी अतिथियों के स्वागत की जिम्मेदारी सौंप दी थी। कहना गलत ना होगा कि राजर्षी में दलित तथा अस्पृश्यों के जीवन में आमूलचूल परिवर्तन किया। इसी समाज से ही आगे चलकर अच्छे हैं नागरिक तैयार हुए। दत्तोबा पोवार जैसे दलित कार्यकर्ता समाज उद्धार का काम करने लगे। धनंजय कीर का कहना है-'' महात्मा फुले की तरह ही छत्रपति के व्यवहार, विचार, कृति एवं प्रचार में दलितोद्धार के प्रति असीम आस्था परिलक्षित होती है।"[१] कहना गलत न होगा कि राजर्षी शाहू महाराज की दलितों के प्रति आस्था देखंकर अस्पृश्य लोग उन्हें अपना आराध्य मानते थे। डॉ बाबासाहेब आंबेडकर जी के नेतृत्व में कोल्हापुर के अलावा महाराष्ट्र के दलित तथा अस्पृश्य समाज के स्वातंत्र्य के लिए लड़ने लगे।

शिक्षा विषयक नीति-

राजर्षी शाहू महाराज के कृतित्व का महत्वपूर्ण पहलू उनका शिक्षा विषयक दृष्टिकोण माना जा सकता है। उन्होंने प्रमुख केंद्रीय आंदोलनों में शिक्षा को महत्वपूर्ण माना था। उन्होंने २४ जुलाई १९१७ को एक घोषणापत्र में मुक्त तथा अनिवार्य शिक्षा का कानून पारित किया। यह कानून समाज के मजदूर, गरीब अभावग्रस्त, पीड़ित, दलित तथा उपेक्षित समाज की दृष्टि से महत्वपूर्ण उपलब्धि कहीं जा सकती है। इस योजना के अंतर्गत उन्होंने ५०० से १०० तक जनसंख्यावाले गांवों में प्राथमिक स्कूल शुरू किए गए। इस

संदर्भ में जयसिंगराव पवार का कहना है "एक साल में संस्थान परिक्षेत्र के गांवों में ९६ नए स्कूल शुरू किए गए। ४ मार्च १९१८ को बिखली गाँव में पहली तथा अनिवार्य पाठशाला का उद्घाटन समारोह स्वयं शाहू महाराज के हाथों संपन्न हुआ।"[१] शाहू महाराज के इसी दूरदृष्टि कार्य के कारण राज्य में प्राथमिक शिक्षा की नींव मजबूत हुई। प्राथमिक शिक्षा के साथ-साथ राजर्षी ने स्त्री शिक्षा के लिए भी प्रेरित एवं प्रोत्साहित किया। उन्होंने अस्पृश्य समाज की लड़कियों के लिए अलग से स्कूल शुरू किए। कहना गलत न होगा कि छत्रपति शाहू महाराज का शिक्षा विषयक दृष्टिकोण समाज के सर्वहारा तथा बहुजनों की दृष्टि से महत्त्वपूर्ण था। उनके इस व्यापक तथा दूरदर्शी विचार का महत्वपूर्ण कारण था, 'शिक्षा के बूते पर ही सामाजिक विकास संभव है।' शाहू महाराज के शिक्षा विषयक विचार के बारे में मराठी के लेखक सारिपुत्र तुपेरे का मानना है की "शाहू महाराज के विचार बहुजन समाज की शिक्षा की मुख्य प्रेरणा है, यह विचार महाराष्ट्र के ही नहीं अपितु भारतीय शैक्षिक नीति निर्धारण में दिशा-दर्शक है, ऐसा कहा जा सकता है"[१] दृष्टव्य उद्धरण से स्पष्ट होता है कि शाहू जी महाराज के शैक्षिक विचार समाज के दलित, पीड़ित, शोषितों तथा उपेक्षितों के लिए प्रेरणादाई है। यही कारण है कि शाहू जी महाराज के ये विचार मात्र महाराष्ट्र तक ही नहीं बल्कि संपूर्ण देश के लिए पथ-प्रदर्शक बने रहेंगे इसमें संदेह नहीं है।

आरक्षण विषयक नीति-

राजर्षी शाहू महाराज के कृतित्व का महत्वपूर्ण पहलू उनका आरक्षण विषयक दूरदर्शी विचार कहा जा सकता है। उन्होंने स्कूल तथा छात्रावास आदि के माध्यम से समाज के उपेक्षित, पीड़ित, दलित, मजदूर तथा श्रमिक आदि के लिए शिक्षा के द्वार खुले किए। साथ ही नौकरियों में ५० प्रतिशत आरक्षण की शुरुआत कर महत्वपूर्ण कदम उठाया। यही कारण है कि इस घोषणा पत्र को भारत के संपूर्ण दलित समाज का घोषणा पत्र कहा जाता है। उनका मानना था कि समानता की नीति पर आरक्षण ही सामाजिक दृष्टि से उपेक्षित तथा दुर्बल समाज की प्रगति का महत्वपूर्ण माध्यम है। शाहू महाराज ने पहचान लिया था कि भारतवर्ष की जातिकेंद्री समाज व्यवस्था के लिए आरक्षण की अत्यंत आवश्यकता है। कहना समीचीन है कि उन्होंने दलित तथा पीड़ित समाज के प्रति व्यापक सहानुभूति का भाव अभिव्यक्त किया है। महाराज इस बात से परिचित थे कि शिक्षा के अभाव में अन्य समाज की तरह दलितों की शैक्षिक प्रगति नहीं हो सकी है। उन्होंने जान लिया कि आरक्षण के बगैर यह समाज प्रगति नहीं कर सकता, और यही कारण है कि २६ जुलाई १९०२ को छत्रपति शाहू महाराज ने क्रांतिकारी घोषणा पत्र प्रसिद्ध किया।

सिद्धार्थ का कहना है ''आधुनिक भारत में जाति के आधार पर मिला पहला आरक्षण था। इस कारण शाहू जी आधुनिक आरक्षण के जनक कहलाये। परवर्तीकाल में डॉ बाबासाहेब आंबेडकर ने शाहू जी द्वारा लागू किये गए आरक्षण का ही विस्तार भारतीय संविधान में किया।"[१] कहना सही होगा की वर्तमान में दलित तथा पिछड़ी जनजातियों की शिक्षा तथा प्रगति की जड़े राजर्षी शाहूजी महाराज के इसी दूरदर्शिता में समाहित परिलक्षित होती है, इसे स्वीकार करना पड़ेगा। यदि आधुनिक भारत में दलितों के लिए आरक्षण का प्रावधान न होता तो आज भी यह समाज विकास की धारा से कोसों दूर रहता, इस सच्चाई को नकारा नही जा सकता।

जाति उन्मूलन में योगदान-

छत्रपति शाहू महाराज के सामाजिक विचार दूरदर्शी तथा व्यापक परिलक्षित होते हैं। वे चाहते थे कि समाज के उच्च वर्ग से लेकर निम्नवर्ग तक सामाजिक न्याय किया जा सके। जाति निर्मूलन की दृष्टि से राजर्षी शाहू महाराज के विचार महत्वपूर्ण रहे हैं। जातिभेद के कारण ही सामाजिक वैषम्य को बढ़ावा मिलता आया है, जब तक समाज में जातिगत भेदभाव की नीति सक्रिय रहेगी तब तक सामाजिक विकास की संकल्पना नहीं की जा सकती। इस बात से महाराज भलीभांति परिचित थे। यही कारण है कि जातिभेद ही देश की राष्ट्रीय एकता एवं उन्नति में सबसे बड़ा अवरोध रहा है। राजर्षी शाहू महाराज जाति उन्मूलन के लिए संगठित प्रयासों की आवश्यकता पर बल देते थे। जाति उन्मूलन के लिए दूरदृष्टि की आवश्यकता है, उसे संकुचित दृष्टि से न देखें। शाहू जी महाराज ने जातिभेद, जातिगत वैषम्य तथा जाति द्वेष के उन्मूलन के लिए सामाजिक समता को केंद्र में रखा। इसलिए समाज के सभी जातियों के लोगों को आगे आने की आवश्यकता पर बल दिया। यही कारण है कि ३० मई १९२० को अखिल भारतीय बहिष्कृत समाज परिषद में उन्होंने कहा कि ''जातिभेद उन्मूलन का प्रयास मात्र निम्न वर्ग से शुरू होने पर उसका परिणाम सकारात्मक नहीं होगा, उच्च वर्ग कहे जानेवाले लोगों से यह काम पहले शुरू होने पर यह त्याग सभी जातियों के लिए बोधजन्य होगा।"[२] इस विचार से स्पष्ट होता है कि जाति उन्मूलन के लिए प्रधान कहा समाज के उच्च वर्ग से प्रयास होना जरूरी है ऐसा राजर्षी शाहू महाराज को लगता था इससे उनका समाज विशेष दृष्टिकोण परिलक्षित होता है। शाहू महाराज का जातिभेद उन्मूलन का कार्य समानता की हिमायत करता है। उनका मानना था की जातिभेद की नींव वैषम्य ही है। ''राजर्षी शाहू महाराज बहुजन समाज को सामाजिक अन्याय, शोषण, पीड़ा, दरिद्रता तथा अज्ञान से मुक्त कर उन्हे उनकी बौद्धिक, नैतिक एवं भौतिक उन्नति ही उनका लक्ष था।"[३] दृष्टव्य मान्यता

से स्पष्ट होता है कि समाज का जो वर्ग बहुसंख्यक है, जो अन्यान्य कारणों से शोषण का शिकार है, उन्हें शोषण से मुक्ति दिलाने के लिए राजर्षी शाहू महाराज प्रतिबद्ध दिखाई देते है। जहाँ एक ओर राजर्षी शाहू महाराज ने अस्पृश्य समाज के उद्धार में महनीय भूमिका अदा की वैसे ही अत्यधिक उपेक्षित कही जानेवाली घुमंतू जनजातियों के उद्धार में भी शाहू महाराज अग्रणी रहे है। बंजारा, बहेलिया, कैकाड़ी, उठाईगिर, मांग-गारोडी आदि जनजातियों के साथ इस वर्ग अन्य जातियों के उद्धार का कार्य भी शाहू महाराज ने किया है। ''शाहू महाराज के नवंबर, १९१२ के आदेशानुसार उन्होंने कोल्हापुर कोटितीर्थ नामक स्थान पर २३ बहेलिए परिवार को जगह उपलब्ध करके उन्हें घर बनाने के लिए १२०० रूपए राशि मंजूर की।"[७] कहना सही होगा की राजर्षी शाहू महाराज ने घुमंतू जनजातियों के गुनहगार बनने के कारणों की पड़ताल करके उन्हें मुख्य धारा में लाने की दृष्टि से प्रयास किया हुआ दिखाई देता है। साथ ही घुमंतू जनजातियों में बहेलियों की ओर देखने का समाज का दृष्टिकोन अत्यधिक नकरात्मक रहा है। लेकिन शाहू महाराज ने कोल्हापुर के लाल्या नाम के बहेलिये पर अपने निवास की सुरक्षा की जिम्मेदारी सौंप दी। जिसने अपनी ईमानदारी का परिचय देते हुए समाज को दातों तले उंगलिया दबाने के लिए मजबूर किया।

दलितों के प्रति असीम आस्था:

राजर्षी शाहू महाराज में दलितों के प्रति असीम आस्था दृष्टिगत होती है। वेदोक्त आन्दोलन में यदि राजर्षी के बदले कोई दूसरा साधारण व्यक्तित्व होता तो हथकंडो में पारंगत विरोधी उन्हें तथा उनके विचारों को मिट्टी में मिला देते। लेकिन राजर्षी शाहू महाराज ने अपने बुद्धि कौशल से विरोधियों के हथकंडो को नाकामयाब किया और दलितों के प्रति स्वयं में निहित असीम आस्था का परिचय दिया। उन्होंने दीन-दलितों की शोषण से मुक्ति करते हुए उनके भविष्य के लिए आवश्यक सुविधाओं का निर्माण किया। राजर्षी छत्रपति शाहू महाराज ने अस्पृश्यता के कलंक को मिटाने का महत्वपूर्ण कार्य किया है। अस्पृश्य समाज के उत्थान तथा उनमें निहित जातिगत न्यूनता की भावना समाप्त करने की दृष्टि से महाराज ने अथक कष्ट उठाये। निम्नवर्ग में भंगी, महार, चमार आदि नामों के साथ अस्पृश्यता का कलंक चिपका हुआ है, उसे दूर करने के लिए राजर्षी शाहू महाराज ने इन जातियों के पहलवानों के नाम भी बदल दिए थे। दंगल के मैदान में पहलवानों को बुलाते समय वे ''महार पहलवान को 'जाट', चमार पहलवान को 'सरदार' तथा भंगी पहलवान को 'पंडित' नाम से बुलाते थे।"[८] स्पष्ट है कि शाहू महाराज में दूरदर्शिता तथा दलितों के प्रति असीम आस्था पर्याप्त मात्रा में परिलक्षित होती है। महाराज के इस नाम

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ISBN: 978-81-932622-9-0

Inclusive Development from a Gender Perspective in Small Scale Dairy Farming at Ahmednagar District, Maharashtra

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Abstract

Gender inequality and discrimination challenges the social, economic and environmental sustainability of the global - scale dairy farming sector critically in achieving inclusive development. The absence of a gender - aware perspective in dairy farming research is often justified from the premise that dairy farming are a male dominated sector. Although, millions of women are engaged in small - scale dairy farming their work has been systematically discounted and devalued. This research work review the gender literature on small - scale dairy farming to elaborate on the gender discrimination on labor division, accessibility and power relations, which hinder the sustainability and development process in marginalized communities. Ironically, women often contribute to such discriminatory processes in access and control of resources and decision making thus directly affecting on household and community wellbeing. The paper concludes that gender sensitive research can help to ensure that the conditions for achieving the Sustainable development goals are met especially in the context of expected global stress on dairy farming from climate change and development processes.

Keywords: Dairy Farming, Inequality, Inclusive Development, Gender, Household

1. Introduction

Women's empowerment plays an important role in socio-economic development in any country that involves improving decision-making, control over income, awareness about personal rights and freedom, improving position in the family and in general the confidence of rural women in their capabilities. Keller and Mbwewe (1991) stated that Empowerment is a process whereby women become able to organize themselves to increase their own self-reliance, to assert their independent right to make choices and to control resources which will assist in challenging and eliminating their own subordination. Self-reliance, choices, control over resources. Women's empowerment is all about equipping and allowing women to make life-determining decisions through the different problems in society (Bayeh, 2016). Bangladesh has been a role model in women's empowerment in the past decade, and the country is experiencing an appreciable change in society because of its efforts in this regard. The concept of women's Empowerment and efforts in this area has helped the country attain a steady progress in gender equality, which helped Bangladesh to secure the first spot in gender equality (among South Asian countries) for the second consecutive year at the Gender Gap Index (GGI) of 2017. The index, prepared by World Economic Forum (WEF), measures education, economic participation, health and political empowerment to measure gender equality of any country. Half of the population of Bangladesh is women and their economic participation has increased significantly. The UNDP has commented that "Bangladesh has made significant progress in promoting the objectives of ensuring gender equality and empowerment of women". Rural women have been deprived of their rights in the family from early childhood. Most of the women in rural areas must bear the double burden of domestic work and dairy farming.

The major activities related to dairy farming are normally performed by rural women in Bangladesh. Due to the patriarchal system of the society, their hard work and their contribution to household expenditure have been undervalued, and they do not receive proper respect for their work. Siddique (1998) stated that women receive less household resources for their food, education, health and clothing than men. Hashemi and Schuler (1993) identified a number of domains in which women have traditionally been stripped of autonomy, such as physical mobility, financial security, and freedom in social interactions. Batliwala (1994) highlighted, women's empowerment must encompass a direct challenge of institutions of power (e.g. family, media) and power structures (e.g. Legal, economic) toward the goal of gaining autonomy. Women's empowerment may also be generally defined as an ongoing process where in a woman acquires the ability to define and successfully pursue personal objectives (Kabeer, 1999). Aggression against women within the family is considered as breaking the rules or affecting their self-esteem (Kamal, 1995). Smallholder dairy production is becoming increasingly important and it contributes magnificently to the improvement of the livelihoods of rural people. Smallholder dairy production was found to be an important and have the potential to poverty alleviation, food security, improved family nutrition and income and employment generation (Uddin et al. 2012). Farming has enabled them to increase family income as well as fulfill household food needs (Batool et al., 2014). Through their participation in income generating activities like small-scale dairy farming, rural women are able to transcend traditional barriers and have the potential to escape oppression such as domestic violence that limits their empowerment. Small-scale dairy operations run by rural women are growing increasingly popular in Bangladesh due to the limited costs of rearing dairy animals on personal homesteads. Currently, small-scale dairy farming is considered one of the best ways for these rural women to utilize their limited resources and to develop skills that will contribute to their empowerment. Small-scale dairy farming systems are significantly expanding in the selected areas of Mymensingh district due to development of more awareness to increase family income, socio-economic status and thus enhance the livelihood. Thus, the expansion of small-scale dairy farming in other rural areas of Bangladesh is likely to contribute to the empowerment of more rural women. In the course of small-scale dairy farming, rural women were able to increase their confidence level through improving educational, nutritional and legal right awareness and health consciousness and decision-making power with regard to their household and personal care and experienced, and freedom of mobility, increased self-esteem and self-respect, expansion of their social circles, and ultimately enhanced empowerment through the breakdown of traditional socio-cultural norms and reduction of dependency.

2. Materials and Methods

2.1. Research design the study was descriptive in nature. According to Oso and Onen (2005), descriptive study was involved enquiring the different kinds of fact findings which helped to draw the conclusion about targeted population
by describing the data.

 ISBN: 978-81-932622-9-0

2.2. Types and sources of data Primary and secondary, both types of data were used to carry out the study. The primary data were collected from rural women who possessed the small-scale dairy farm in selected area. The secondary data were collected from the articles of different journals, books, magazines, newspapers, annual reports, website, unpublished PhD theses, research reports, and other publications related to the present study.

2.3. Population of the study

To conduct the study meaningfully adequate care was taken in selecting the households who were engaged in dairy farming activities at Digharkanda in Mymensingh District of Bangladesh. Small-scale dairy farm owners in selected area were constituted the population of the study.

2.4. Sampling unit of the study Among the population, the households who were actively engaged in dairy farming activities more than one year in the selected area of Mymensingh district, they were considered as the sample unit of the study.

2.5. Sampling technique Probability Sampling Method (PSM) also known as Random Sampling Method (RSM) was applied to carry out the study.

2.6. Sample size The women in the study area who are engaged in dairy farming activities, 50 (Fifty) households were interviewed in total from the sampling unit. The quantitative and qualitative nature of the research influenced the choice of sample size in terms of the selected rural women, based on the population profile rather than the number of people.

2.7. Data collection procedure the observation, questionnaire, and telephonic interview methods were used to collect primary data from the selected rural women. With the help of interview schedule consisting of several types of question, face to face interview with the selected woman was conducted to collect data. After extensive related literature review the interview schedule and questionnaire will finally be designed according to research expert opinion and prospective respondent's views to the extent possible. Secondary data will be amassed by desk research by using different books, journals, articles, magazines, newspapers, annual reports, website, and other publications.

2.8. Instrument design

Before the final data collection stage was started, the interview schedule and the questionnaire were carefully studied and moderated. To increase validity and reliability, a pilot survey was also conducted to pre-test the questionnaire. Before finalization of the interview schedule and questionnaire, in the study, a pilot survey was conducted with the objective of ascertaining the workability and face validity of the questions. In view of these objectives, a total of 5 selected rural women were purposively selected for the pilot survey. Some questions particularly multiple choice questions were amended by adding or discarding. The questions not so relevant for achieving objectives of the study were also excluded from the list of questions. Based on the experience of the pilot survey, the approach of asking question, contact time, the recording, processing and reporting of data were finalized with amendment. The respondents were selected for the pilot survey, however, who were not finally included in the sample of woman respondents.

2.9. Data processing and analysis

The task of processing consisted of editing, coding, classification, and tabulation of collected data so that they were amenable to analysis. At the end of each day of data collection, the collected raw data were verified to ensure that the selected rural women answered all relevant questions and that no answers were missing. The completed interview schedule was carefully scrutinized to assume that the data were accurate, consistent with other facts gathered uniformly

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entered, as complete as possible and had been well arranged to facilitate coding and tabulation. The values of the variables were coded by numerical figures and the numerical coded numbers were given input for analysis of the data. Then the data were tabulated and analyzed with the

Table 1. Distribution of indicators of women's empowerment before and during study.

Women's empowerment		Category	Before study		During study	
Dimensions	Indicators		Frequency	Percentage	Frequency	Percentage
Social empowerment	Freedom of mobility	Yes	06	12	38	76
		No	44	88	12	24
	Involvement in family affairs and community level	Poor	42	84	11	22
		Moderate	06	12	27	54
		Good	02	04	12	24
	Involvement in microcredit	Poor	32	64	08	16
		Moderate	12	24	27	54
		High	06	12	15	30
Economic empowerment	Income earning potential	Poor	40	80	04	08
		Moderate	08	02	24	42
		High	04	03	22	44
	Independence in spending money	Yes	04	08	42	84
		No	48	82	03	18
	Autonomy in financial decision	Yes	08	12	38	78
		No	41	32	12	24
Decision-Making empowerment	Take decision independently Casting vote by own initiative	Yes	06	12	31	62
		No	44	88	29	38
	Casting vote by own initiative	Yes	13	26	36	72
		No	37	74	14	22
	Involvement in major household decision	Yes	07	14	41	82
		No	43	86	08	18
Legal empowerment	Awareness about gender equity	Poor	38	76	06	12
		Moderate	11	22	32	64
		Good	01	02	12	24
	Knowledge about property and legal rights	Poor	33	66	04	08
		Moderate	16	32	31	62
		Good	01	02	15	30
Psychological empowerment	Self -respect	Poor	40	80	04	08
		Moderate	10	20	32	64
		Good	00	00	12	24
	Self-esteem	Poor	37	74	06	10
		Moderate	13	28	27	64
		Good	00	00	18	38

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for women. In patriarchal social system and upon marriage typically a woman is expected to obey all the rules mandated by her husband, is prohibited from making independent decisions, and has no right to challenge her husband's authority. During childhood, women are dependent on male family members and not educated or taught self-dependency. Islam et al. (2012) also identified that homestead poultry rearing among rural women in Bangladesh promotes empowerment by encouraging independent decision-making and increased involvement in family affairs. Women were also allowed to make decisions regarding the health and general care of their children, such as choosing to vaccinate their newborns, making nutritious food choices, and opting to seek better treatment for their sick children. It is revealed from the Table 1 that only 12 percent women took decision independently before study. Moreover, 62 percent women took decision independently during the study. It is investigated that during the study, the women exhibited increased expression of personal preference and had the freedom to make good daily food and nutritional choices for their family and had similar authority in deciding how to feed their dairy cattle to improve productivity.

4. Conclusions

The study illustrated the impact of small-scale dairy farming in rural area for the development and empowerment in rural women. In rural area of Bangladesh, the traditional role of women is to stay at home and look after children and house work according to their social standing and financial ability. The women in some selected areas of Mymensingh district in Bangladesh were empowered through small-scale dairy farming by Asian Australas. J. Food Saf. Secur. 2019, 3 (2) 94 increasing their socio-economic status and awareness about educational, health, nutritional, legal right such as early marriage, dowries and divorce, enabling women to participate in independent decision-making at the household and increased involvement in family affairs, increasing women access to and controlling of economic resources at the household and community level and also increasing their confidence level to enhance small-scale dairy farming in the society for poverty reduction. The greatest influencing factors affecting rural women's empowerment through small-scale dairy were the husband's behavior, successful reduction of the dependency of rural women, increase knowledge and skill, a breakdown of traditional socio-cultural norms and finally types of dairy breed (cross breed) raised significantly. The women's confidence level enhanced their efficiency and productivity in small-scale dairy farming which contributed to achieve ascent in their living standards and increased involvement in family affairs and community level.

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Title of the paper: Inclusive development from a gender perspective in small scale dairy farming at Ahmednagar District (M.S.)

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S.N. Shingote
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Impact Factor – 6.625 | Special Issue - 218 | January 2020 | ISSN – 2348-7143

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Heavy Metals In Drinking Water Quality Rahuri Tahsil of Ahmednagar District (M.S.)

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Abstract:

Water quality assessment of Rahuri tehsil in Ahmednagar district of has done in Maharashtra State, India. This paper aims to study the physical and chemical properties of water of Rahuri and its surrounding area Actually, small concentration of iron is essential to human health. Iron plays an important role in natural processes so it is a dietary requirement for most organisms. Approximately 4 g of iron present in the human body among that 70% is in red blood cells. Approximately men require 7 mg iron/day whereas women require 11 mg/day. The difference is determined by menstrual cycles. These amounts can be obtained rapidly when people feed normally. The body absorbs approximately 25% of all iron present in food.

Key Words: Physico-Chemical Parameters, Permissible Limit, Chemical Standards of Drinking Water.

Introduction:

Water is the world's most precious resource because the life of animals and plants depends on it. Most industries also require water for various applications, so the global economy depends on it as well. Springs are the places where ground water is discharged at specific locations on the earth and they vary dramatically as to the type of water they discharge.

Iron Deficiency :

Iron is a central component of hemoglobin. It binds oxygen and transports it from lungs to other body parts and then transports carbon dioxide back to the lungs, where it can be breathed out. Storage of oxygen also requires iron. Iron is involved in DNA synthesis and a part of several essential enzymes.

The low dietary intake of iron causes iron deficiency. Much of the body iron is in blood so iron losses are greatest whenever blood is lost. Bleeding from any site is results in iron loss e.g. active bleeding ulcers, menstruation and injury. Mostly women are prone to iron deficiency during their reproductive years because of repeated blood losses during menstruation.

1 Recommendations of iron required for intakes are as follows :

From 6 months to 1 year	10 mg/day.
Infants upto 6 months	6 mg/day
Children age 1 to 10	10 mg/day.
Females age 11 to 50	15 mg/day
Females over 51	10 mg/day.
Pregnant women	30 mg/day.
Lactating women	15 mg/day
Males age 11 to 18	12 mg/day.
Males age 19 to 51+	10 mg/day

Source: Indian medical health association

Study Area :

The Rahuri Tehsil in Ahmednagar district of Maharashtra has been selected for the present investigation work. The tehsil comprises of 95 villages and two urban centers spread over an area of 1, 00,898 hectares. The geographical extension of the study area is form 19°15' N to 19°34' North latitude and 74°23' E to74°50' East Longitude. The Rahuri tehsil lies in the rain shadow zone of the Western Ghats in Mula and Pravara basin.

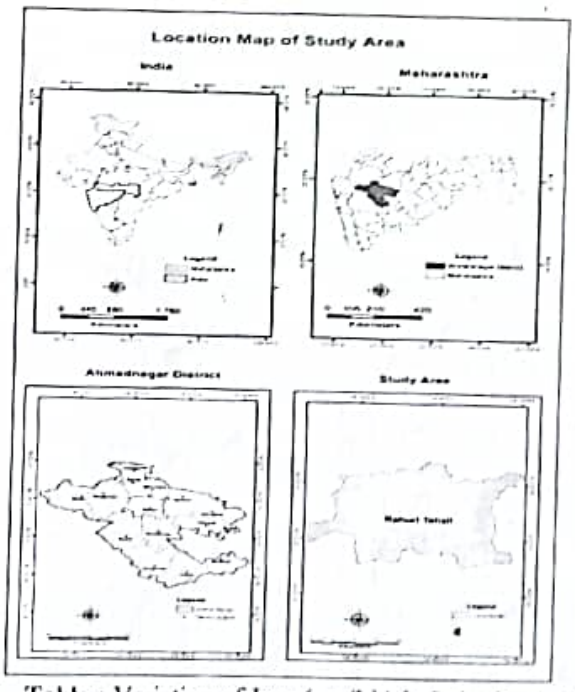


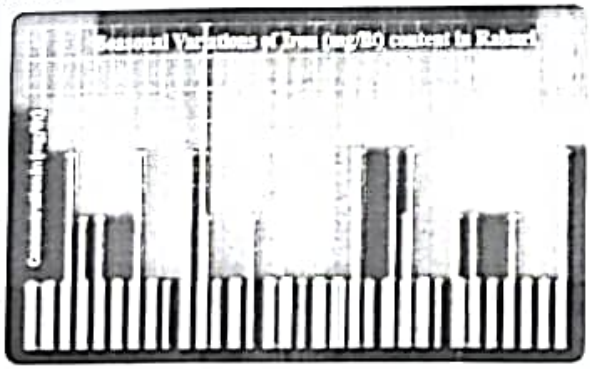
Table : Variation of Iron (mg/Lit) in Rahuri Tahsil of Ahmednagar

Sr. No.	Village Name	2013			2014		
		Apr - May	Aug - Sep	Jan - Feb	Apr - May	Aug - Sep	Jan - Feb
1	Dawangaon	0.00	0.10	0.10	0.00	0.10	0.00
2	Belapur	0.10	0.10	0.10	0.10	0.10	0.00
3	Lakh	0.00	0.10	0.10	0.00	0.30	0.00
4	Mahegaon	0.00	0.10	0.20	0.00	0.10	0.00
5	Pathre	0.00	0.10	0.20	0.00	0.10	0.00
6	Tilapur	0.00	0.10	0.10	0.00	0.10	0.00
7	Manjri	0.00	0.10	0.10	0.00	0.30	0.00
8	Manori	0.00	0.10	0.10	0.00	0.10	0.00
9	Aradgaon	0.00	0.10	0.10	0.00	0.00	0.00
10	Musalwadi	0.00	0.10	0.10	0.00	0.30	0.00
11	Takalimiya	0.00	0.10	0.50	0.00	0.20	0.00
12	Chincholi	0.10	0.10	0.10	0.10	0.00	0.00
13	Guha	0.10	0.10	0.10	0.00	0.10	0.00
14	Kangar Bk	0.00	0.10	0.20	0.00	0.00	0.00
15	Tarahabad	0.00	0.10	0.10	0.00	0.10	0.00
16	Mhaisgaon	0.10	0.10	0.10	0.10	0.10	0.00
17	Chilhalthan	0.00	0.00	0.10	0.10	0.00	0.00
18	Rahuri	0.10	0.10	0.10	0.00	0.10	0.00
19	Mula Dam	0.10	0.10	0.10	0.00	0.10	0.10
20	Avghad	0.00	0.10	0.10	0.00	0.30	0.00
21	Sade	0.10	0.10	0.10	0.10	0.00	0.00
22	Wambori	0.10	0.10	0.10	0.10	0.30	0.00
23	Gunjale	0.10	0.10	0.20	0.00	0.30	0.00
24	Bhramhni	0.10	0.10	0.10	0.10	0.10	0.00
25	Umbare	0.00	0.10	0.10	0.00	0.00	0.00
26	Rahuri Kh	0.00	0.10	0.20	0.00	0.10	0.10
27	Deolali	0.10	0.10	0.20	0.10	0.10	0.00
28	Tandulner	0.00	0.10	0.10	0.00	0.10	0.00
29	KolharKh	0.00	0.10	0.10	0.00	0.20	0.00
30	Rampur	0.00	0.10	0.10	0.00	0.10	0.00
31	Songaon	0.00	0.10	0.10	0.00	0.10	0.00
32	Nimbhere	0.00	0.10	0.10	0.00	0.30	0.00

Figure: Location Map of Study Area

Sampling Methods:

The water quality parameters estimated by the standard methods given by APHA (1998). For the present investigation groundwater samples were collected every month during the study year from June 2013 to May 2014 from 32 different sampling stations of Rahuri tehsil. The water samples collected from the Rahuri Tahsil and taken in pre-cleaned polyethylene bottle.

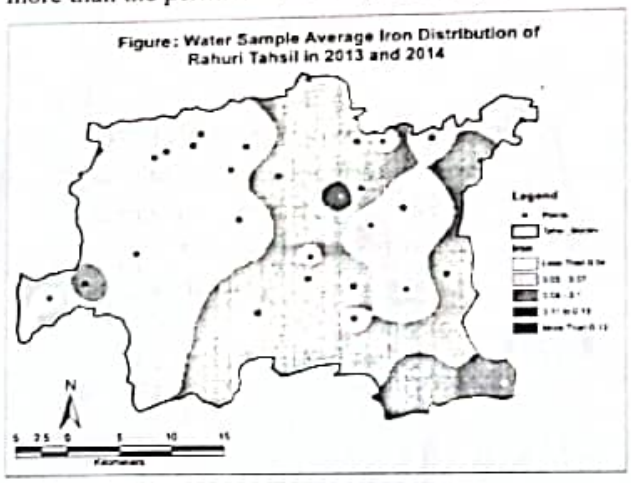


Applications :

- About 500 million tons/year of iron is produced and applied worldwide for commercial purposes because it is applicable in more areas than any other metal.
- About 300 million tons are recycled. It is widely applied in steel and other alloys.
- Iron alloys are used in containers, cars, wood impregnation, laundry machines, photography, bridges and buildings.
- Also it is used in industries, pipes, paint and plastics used in food, as pigments in glass, pharmaceutics, chemicals, fertilizers and pesticides.
- These are removed and applied as soil fillers. It is used in water purification as a coagulant e.g. iron sulphate for phosphate removal. The ^{59}Fe isotope is used in medical research and nuclear physics.

Result & Discussion :

The highest and lowest concentration was observed as minimum value 0 mg/lit and most value 0.5 mg/lit.In the present work mean iron concentration was observed more than the permissible limit (0.3 mg/L) by WHO.



Showing variation of Iron (mg/Lit) in water samples in Rahuri

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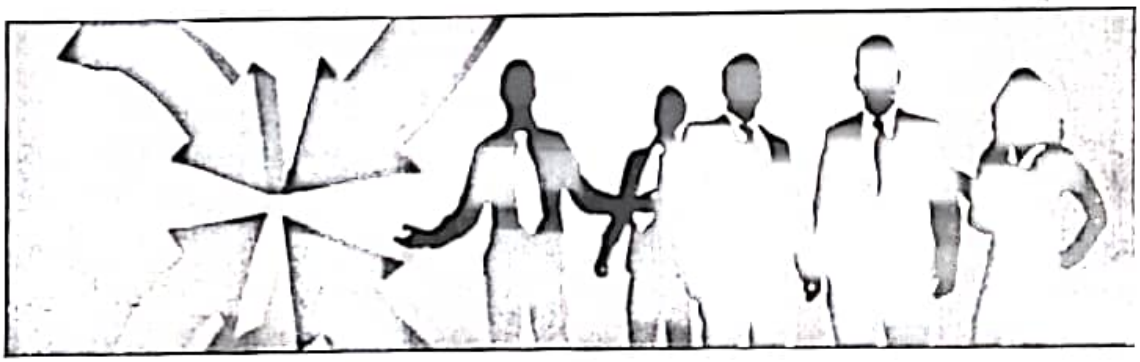

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RESEARCH JOURNEY International Multidisciplinary E-Research Journal
Impact Factor (SJIF) - 6.625 | Special Issue 226 : Entrepreneurial Development: Opportunities 2020
ISSN : 2348-7143 February - 2020

Role of Women Entrepreneurs in India

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Abstract:

In human resource development women entrepreneurship is very essential part. The women entrepreneurship development is very low in India. The progress is more visible among upper class families in urban cities entrepreneurship amongst women has been a recent concern. This paper focuses on women entrepreneur and their environment. Any understanding of Indian women of their identity will be incomplete without a walk down the corridors of Indian history. This research paper is talk about the status of women entrepreneurship in India.

Keywords : Women entrepreneurs, employment, economic growth.

Introduction :

Women entrepreneurship is the process in which women initiate a business, undertake risk, gather all resources, provide employment, face challenges and manage the business independently. There are 1/3rd of the entrepreneurs in the world are women entrepreneurs.

Women entrepreneurs definition give by the government of India,-

"A women entrepreneur is defined as an enterprise owned and controlled by women having a minimum financial interest at least 51% employment generated to women."

There has been change in role of women due to growth in education, skill, industrialization, urbanization and awareness of democratic values.

Objective of the study :

- To study constraints faced by women entrepreneurs.
- To study women entrepreneurs participation in India.
- To study successful women entrepreneurs in India. (2019)

Methodology of study :

The primary source of data collection in this research paper is the secondary data. The available information on Customer relationship management has been extensively used to complete the research paper. All the available Journals, Related books, Web, Articles, Publish and unpublished information and Papers provided necessary information to the finalize the research paper.

Categories of women entrepreneurs :

Entrepreneurial potentials of women have gradually been changing with increasing sensitivity to the economic status and role in the society. Women entrepreneur is accepts challenging role to meet her personal needs and become economically independent.

- Women in organized and organized sector.
- Women in traditional and modern industries.
- Women urban and rural areas.
- Women large scale and small scale industries.
- Single women and joint venture.

Women entrepreneurs' participation in world:

Country	Percentage
India	31.6
UK	43
Sri lanka	45
USA	45
Indonesia	40
Brazil	35

Source: http:/www.internationlentrpreneurship.com/total

Women entrepreneurs' participation in India:

Stats	No.of unit registered	No.of women entrepreneurs	percentage
Tamil Nadu	9618	2930	30.36
Utter Pradesh	7980	3180	39.84
Kerala	5487	2135	38.91
Punjab	4791	1618	33.77
Maharashtra	4339	1394	32.12
Gujarat	3872	1538	39.72
Karnataka	3822	1026	26.84
Madhya Pradesh	2967	842	28.38
Other State & UTS	14576	4185	28.71
Total	**57452**	**18848**	**32.82**

Source: Department of Economics, Faculty of social science, Banaras Hindu University.

- **Earlier there is 3 Ks for women entrepreneurs**
  Kitchen, 2.Kids, 3.Knitting
- **Then 3 Ps for women entrepreneurs**
  Power, 2.Papad, 3.Pickles
- **At now present there is 4 Es**
  1. Electricity, 2. Electronics, 3. Energy, 4. Engineering

Some constraints faced by women entrepreneurs:

1. **Socio Cultural barriers**: Woman's personal and Family obligations are some barriers for her business. Only few women are able to manage business and family, devoting enough time to perform her responsibilities.
2. **Lack of Confidence**: Women lack confidence in their competence and strength. The society and family members are reluctant to stand beside women entrepreneurial growth.
3. **Motivational Factors**: Family should support women entrepreneurs and encourage them to establish and run business successfully.
4. **Training**: women entrepreneurs must given training to operate and run a business successfully.
5. **Market Oriented Risks**: There is a stiff competition in the market and lack of mobility of women make the dependence of women entrepreneur. On mediator some women entrepreneur find difficult to make their product popular and to capture the market. Women entrepreneur are not aware of the changing market conditions.
6. **Financial Assistance**: women entrepreneur may not be aware of all the assistance provided by the institutions. So women entrepreneurs may not reach the entrepreneurs in backward and rural areas. Government and NGOs must provide assistance to women entrepreneurs.
7. **Knowledge in Business Administration**: Women must be educated and trained constantly to acquire the knowledge and skills in the all functional areas of business management. So women in to excel in decision making process and develop a excellent business network.
8. **Lack of Information**: women entrepreneurs are not aware of the incentives and subsidies available for them. Lack of knowledge may prevent them from availing the special schemes.
9. **Lack of Education**: In India around three fifths of women's are still illiterate. Due to lack of education are not aware of technology, business and market knowledge. It creates more problems for women's in the setting up and running of business enterprises
10. **Lack of persistent nature**: Women generally have sympathy for other. Women are very emotional. This nature not allows women to get cheated in business.

Reasons for growth of women entrepreneurship:

- Growth of illiteracy level.
- Industrial and economic growth.
- Financial assistance and consultancy services.
- Provide by financial institutions.
- Awareness of democratic values.
- Organizations promoting women entrepreneurship.

Women's are achieving success in almost in every field. One of them is business. There are more than 14% of businesses which are owned and manage women entrepreneur. In India there are many famous and successful women entrepreneur who are doing great work in their fields.

Following is Top 10 most successful women entrepreneur in India 2019.

1. Falgunin Nayar Founder of Nykaa
2. Neeru Sharma Co-Founder at Infibeam.
3. Radhika Ghai Aggarwal Co_founder of Shopclues
4. Risha Kar founder of Zivame.
5. Sabina Chopra Co-Founder in Yatra.
6. Sairee Chahal Founder of Sheroes.
7. Shradha Sharma Founder of Yourstory.
8. Suchi Mukherjee Founder of Limeroad.
9. Upasana Taka Founder of Zaakpay, Co-Founder in Mobikwik.
10. Wandana Luthra Founder of VLCC.

Conclusion :

Women are a very important human resource of nation and every state ought to try to utilize them as mediators of economic development and growth. They brought wealth for women's family and also Nation. Women entrepreneurs a part of the mainstream of national economy and they can contribute to the

economic progress and business environment in India. Women are excellent entrepreneurs, as they can maintain a better work life balance. Therefore there is need of continuous attempt to encourage, inspire, co-operative and motivate with women regarding their various areas to conduct business.

Suggestions :

- Family members should encourage to the women entrepreneurs.
- Training camp should be organized for women entrepreneurs.
- Successful women entrepreneurs should be projected as role models of the society to inspire and enthusiasm potential entrepreneurs.
- Organizations should arrange seminars, guest lectures and conformance to develop successful women entrepreneurs.
- Government should provide facilities for making of their products.

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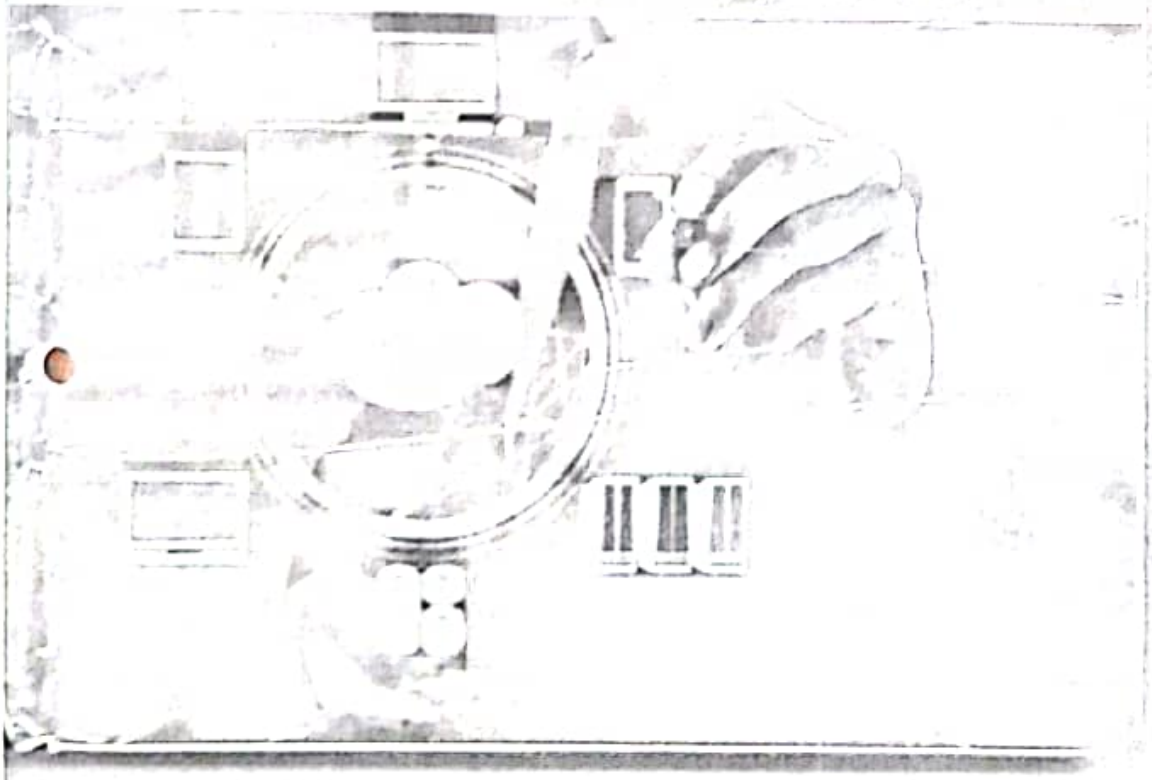

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Economic Growth and Agriculture

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Introduction:

India is known as "Land of Villages". About 48% of India's population lives in the villages. India's already large population is expected to become the world's largest in the next 20 years, while its economy will soon overtake Japan to become the world's third largest. The resulting increase in the demand for food will need to be met through higher agricultural productivity or by increasing food imports. The history of Agriculture in India dates back to Indus Valley Civilization and even before that in some places of Southern India. India ranks second worldwide in farm outputs. As of 2018, agriculture employed 50% of the Indian work force and contributed 17.8% to country's GDP. In 2015, agriculture and allied sectors like animal husbandry, forestry and fisheries accounted for 15.4% of the GDP (gross domestic product) with about 31% of the workforce in 2014. India ranks first in the world with highest net cropped area, followed by US and China. The economic contribution of agriculture to India's GDP is steadily declining with the country's broad-based economic growth. Still, agriculture is demographically the broadest economic sector and plays a significant role in the overall socio-economic fabric of India.

India exported $38 billion worth of agricultural products in 2018, making it the seventh largest agricultural exporter worldwide and the sixth largest net exporter. Most of its agriculture exports serve developing and least developed nations. Indian agricultural horticultural and processed foods are exported to more than 120 countries, primarily to the Japan, Southeast Asia, SAARC countries, the European Union and the United States.

Role of Agriculture in Economic Development:

Agriculture occupies a very important place in the economic life our country. It is the backbone of our economic system. Agriculture has been the major source of livelihood in the Indian economy. India is primarily an agricultural country. The fortunes of the economy are, even now, dependent on the course of agricultural production. The importance of agriculture in the national economy can be best explained by considering the role of agriculture under the following heads.

1. Contribution to National Income:

From the very beginning, agriculture is contributing a major portion to our national income. In 1950-51, agriculture and allied activities contributed about 59 per cent of the total national income. Although the share of agriculture has been declining gradually with the growth of other sectors but the share still remained very high as compared to that of the developed countries of the world. For example, the share of agriculture has declined to 54 per cent in 1960-61, 48 per cent in 1970-71, 40 per cent in 1980-81 and then to 18.0 per cent in 2008-09, whereas in U.K. and U.S.A. agriculture contributes only 4 per cent to the national income of these countries.

2. Source of Livelihood:

In India, over two-thirds of our working population are engaged directly on agriculture and similarly depend for their livelihood. According to an estimate, about 6 per cent of our working population is engaged in agriculture at present in comparison to that of 2 to 4 per cent in U.K. and U.S.A., 6 per cent in France and 7 per cent in Australia. Thus the employment pattern of our country is very much common to other under developed countries of the world.

3. Source of Food Supply:

Agriculture is the only major source of food supply as it is providing regular supply of food to such a large size of population of our country. It has been estimated that agricultural products meet about 60 per cent of household consumption.

4. Role of Agriculture for Industrial Development

Agriculture in India has been the major source of supply of raw materials to various important industries of our country. Cotton and jute textiles, sugar, vanaspati, edible oil plantation industries (viz. tea, coffee, rubber) and agro-based cottage industries are also regularly collecting their raw materials directly from agriculture.

About 50 per cent of income generated in the manufacturing sector comes from all these agro-base industries in India. Moreover, agriculture can provide a market for industrial products as increase in the level of agricultural income may lead to expansion of market for industrial products.

5. Commercial Importance:

Indian Agriculture is playing a very important role both in the internal and external trade of the country. Agricultural products like tea, coffee, sugar, tobacco, spices, cashew-nuts etc. are the main items of our exports and constitute about 50 per cent of our total exports. Besides manufactured jute, cotton textiles and sugar also contribute another 20 per cent of the total exports of the country. Thus nearly 70 per cent of India's exports are originated from agricultural sector. Further, agriculture is helping the country in earning precious foreign exchange to meet the required import bill of the country.

6. Source of Government Revenue:

Agriculture is one of the major sources of revenue to both the Central and State Governments of the country. The Government is getting a substantial income from rising land revenue. Some other sectors like railway, roadways are also deriving a good part of their income from the movement of agricultural goods.

7. Role of Agriculture in Economic Planning:

The prospect of planning in India also depends much on agricultural sector. A good crop always provides impetus towards a planned economic development of the country by creating a better business climate for the transport system, manufacturing industries, internal trade etc.

8. Major source of Livelihood:

The main source of livelihood is agriculture. Six out of every ten persons in India depend upon agriculture. In industrially advanced countries like U.K., U.S.A., etc, the number of people dependent on agriculture is very low as compared to India. Over the years 1921-2001, the size of labour force dependent on agriculture had more than doubled. The sector is plagued by evils such as underemployment, disguised unemployment and low productivity employment.

9. Provider of Employment:

Agriculture provides employment and work to an overwhelming majority of the Indian masses. In villages, about seventy per cent of the people earn their livelihood from cultivation and allied agro-industries. In absolute terms, agriculture provided employment to 97 million persons in 1995; the number of people working on land (cultivators and agricultural labourers) increased to 235 million.

10. Industrial development:

Agriculture provides raw materials to the industries. Cotton and Jute textile industries, sugar, vanaspathi and plantations - all these depend on agriculture. Many of our small scale and cottage industries like handloom weavings, rice husking, coir, khadi etc., depend upon agriculture for their raw materials. There are many other industries, which depend on agriculture in an indirect manner.

11. International Trade:

Indian agriculture plays an important role in the country's international trade. The main exported agricultural commodities are tea, oil cakes, fruits and vegetables, spices, tobacco, cotton, coffee, sugar, raw wool and vegetable oils. Agriculture contributes to a sizeable part of exports and it is an important segment of imports of the economy. The agricultural sector is a net earner of foreign exchange.

12. Capital Formation and Investment:

The major part of production assets of the country is in the form of agricultural assets like land, irrigation facilities, tractors, agriculture implements, ploughs, pump sets and storages. Since agriculture contributes about 25 percent of the national income, this sector is the primary source of savings and hence capital formation for the economy.

13. Food and Fodder:

In India, agriculture meets almost the entire food requirements of the people. Agriculture also provides fodder to sustain livestock whose number runs to several crores.

14. Economic Planning:

Agriculture is the backbone of the Indian economy and prosperity of agriculture can also largely stand for the prosperity of the Indian economy. Importance of agriculture in the national economy is indicated by many facts. For example, agriculture is the main support for India's transport system, since railways and roadways secure bulk of their business from the movement of goods. Internal trade is mostly in agricultural products. Agricultural growth has direct impact on poverty eradication.

15. International Ranking:

At the global level, Indian agriculture has ranked in certain commodities. In the case of groundnuts, India stands first in the world, for rice production it ranks second and in the case of tobacco it occupies third rank in the world.

The significance of India arises also from the fact that the development in agriculture is an essential condition for the development of the national economy. According to Ragnar Nurkse, surplus population in agriculture should be removed and used in newly started industries and public works in rural areas. By doing so, agricultural productivity will be increased on the one

hand and on the other, new industrial units would be set up with the use of surplus labour. Agriculture is not only the largest and most important sector of the Indian economy, but also the most backward one. The growth of agriculture, therefore, is of vital importance for the growth of the entire economy.

Components of Agricultural Growth:

An increase in agricultural production can result from an increase in area under cultivation (horizontal expansion) and /or from an increase in the productivity (vertical expansion). Productivity has two aspects to it, viz., land productivity and labour productivity.

Productivity of Indian Agriculture:

India with its sizable agricultural sector has to face a number of problems. Low production and low productivity are at the core of agricultural problem In India. The productivity of agriculture is relatively low in India compared to other countries with comparable natural environment. There have been some improvements in recent years. But conditions in agriculture have not changed much. It will be useful to analyze the factors responsible for the backwardness of are agriculture.

1. Demographic factors
2. General factors
3. Institutional factors and
4. Technologies factors

1. Demographic factors:

The most important demographic factor responsible for low yield in agriculture is the increasing pressure of population on land. With population growth rates being what they are, an increasing addition to the labour force could be expected to be absorbed in the industrial sector of the economy. But the rate of growth in the industrial sector has been far from adequate. Consequently, the increasing population has fallen back on land for its livelihood, with the result that the population pressure has created a number of problems like fragmentation and subdivision of holdings; the supply of improved practices and services has always fallen short of requirements. It has created conditions of unemployment and disguised unemployment. All these evils, taken together have been responsible for low productivity in agriculture.

2. General Factors:

a) **Excess or surplus labour in Agriculture:** The main cause for the low agricultural labour productivity is the overcrowding in agriculture. There are many people who depend on agriculture. As population increases, the pressure on land also increases, because natural increase is not absorbed by the industrial sector.

b) **Discouraging Rural climate:** The farmers of India generally are poor, ignorant, superstitious, conservative, and illiterate and bound by outmoded customs and institutions such as the caste system and the joint family system. Superstition and belief in fact are the curses which keep the farmers fully satisfied with their primitive system of cultivation. Except for a small group of farmers, who adopted quickly modern techniques of production, vast majority of farmers are not motivated by considerations of economic progress.

c) **Inadequate non-farm services:** India agriculture has suffered because of the inadequacy of non-farm services such as provision of finance, marketing etc. All these facilities are inadequate in India. Marketing system is defective and costly. Modern warehousing is inadequate and indigenous Storing methods are defective and costly. Modern credit facilities are still poorly developed for the farmers. Farmers still depend on moneylenders for their day-to-day requirements.

3. Institutional factors:

a. **Size of holdings:** The average size of holdings in India is very low. About 80 percent of the land holdings are less than 2 acres. Not only agriculture holdings are small but they are fragmented too. In certain parts of the country plots of land have become so small that it is impossible to move even ordinary plough. Since the average agricultural holdings are too small no scientific cultivation with improved implements, seeds etc. are possible. Small size of holdings lead to great waste of time, labour and cattle power, difficulty in proper utilization of irrigation facilities, quarrels and consequent litigation among farmers, wastage of crops in the absence of fencing etc.

b. **Defective land tenure structure:** The land tenure system in India has been depressing and disincentive ridden. It has built in features to support stagnation. The main features have been the presence of intermediaries; exploitative owner-tenant relationship; small and fragmented holdings; and the heavy and ever increasing pressure of population on land.

4. Technological factors:

a) **Poor inputs and techniques:** The method and techniques of cultivation have been old and inefficient. It results in high cost and low productivity. These methods have not undergone any change for centuries. The investment in agriculture in the form of manures and fertilizers, improved seeds, irrigation, tools and implements and other types of assets has been miserably low.

b) **Inadequate irrigation facilities:** One of the basic causes for the weakness of Indian agriculture has been that most of the farmers throughout the country have to depend upon rainfall and very few of them can avail the facilities of artificial irrigation.

c) **Indebtedness of the farmers:** It is said that the farmers in India are born in debt, live in debt, die in debt and bequeath debt. The causes of their indebtedness are many such as hereditary debt, litigation, want of supplementary incomes and wasteful social expenditure.

d) **Inadequate Research:** Benefit of research and development has not reached all the farmers. Extension is confined to a few individuals and the modern pattern of farming is yet to take roots in the countryside.

e) **Remedial measures:** The above causes of low agricultural productivity also suggest their own remedies. Following remedial measures should be taken in order to solve various problems of Indian agriculture.

- Co-operative joint farming should be launched on a national scale
- Check on the population growth
- Arrangements for better manures
- Use of better seeds
- Alternative arrangements for irrigation facilities.
- Improvements in agricultural credit
- Reclamation of waste lands
- Consolidation of holdings
- Use of new implements
- Soil conservation and intensive cultivation
- Improvement in marketing system

Conclusion:

India's agricultural sector is still very important to the Indian economy, although its share of the economy has decreased over the past years. India has made significant advances in agricultural production in recent decades, including the introduction of high-yield seed varieties, increased use of fertilizers and improved water management systems.

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Natural surfactant catalyzed green method for the synthesis of bis(indolyl)methanes

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Abstract:

An eco-friendly and highly efficient green protocol for synthesis of 3,3'-bis-(indolyl)methane was conducted by the reaction of indole and aldehydes in natural surfactant medium. An aqueous extract of Acacia concinna pods have been used as natural surfactant type catalyst for the synthesis of desired compounds. The usefulness of this method has been proved with the formation of wide range of bis(indolyl)methane derivative at ambient temperature. The advantages of this protocol are good to excellent yields, short reaction time, eco-friendliness and ease of purification.

Keywords : Bis-(indolyl Methane, Green Chemistry, Acacia Concinna, Natural Surfactant.

Introduction :

Bis-indolyl methane derivatives are important heterocyclic compounds possessing wide range of pharmaceutical activities.[1] These class of compounds are promising nitrogen heterocycles that are present as natural products[2] isolated from various marine and terrestrial organisms (Figure 1).[2,3] The bis-indolyl methane analogues such as Arsindoline A and Arsindoline B having antitumor activities.[4] The wide range of biological activities are associated with bis(indolyl)methane and their derivatives including antioxidant,[5] anti-inflammatory,[6] antifungal,[7] antibacterial,[8] antibiotic,[9] anticancer[10] anti-hyperlipidemic[11] properties. Hence, there is great deal of interest in the synthesis of bis(indolyl)methane derivatives.[12] Literature survey revealed that there are numerous methods available for the synthesis of the bis(indolyl)methane derivatives from indole and aldehydes or ketones. In general, protic acids and Lewis acids are reported so far to promote the reaction.[13] Nevertheless, some drawbacks are associated with reported protocols such as requirement of large quantity of catalyst, poor yield of product and drastic conditions for catalyst preparations.[14]

An environmentally friendly reaction medium is one of the fundamental principles of green chemistry. The surface active agents like surfactants improves reactivity of reactants when reaction was conducted in water due to the formation of micelles.[15] Herein, the utility of an aqueous extract of *Acacia concinna* pods has been studied as natural surfactant type catalyst for the synthesis 3,3'-bis(Indolyl)methane and their derivatives (Scheme 1).

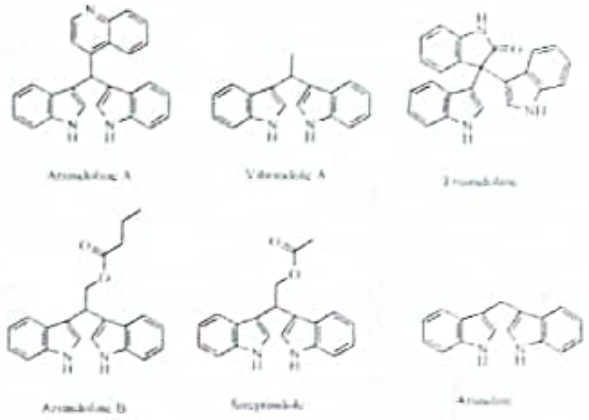


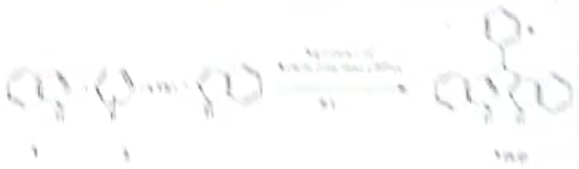
Figure. 1. Some biologically active bis(indolyl) methane analogues

Result and Discussion :

Herein, we have developed an efficient methodology for the synthesis of bis(indolyl)methane by using aqueous extract of *Acacia Concinna* as catalyst. For optimization of reaction, a reaction of two equivalent of indole (**1**) and one equivalent of benzaldehyde (**2a**) was conducted in 5% aqueous extract of *Acacia Concinna* pods at room temperature for 60 min was conducted. After 60 min., 55% of product (3a) was isolated. Encouraged by this result we have decided to check the effect of catalyst concentration for the formation of '3a'. Therefore, we have conducted the same reaction in varying concentration of surfactant extract as 10, 15, and 20%. It has been observed that reaction progress was better in 20% surfactant solution and 92% of '3a' was formed after 65 min. Hence, the 20% extract solution was

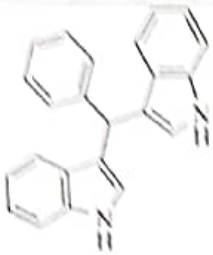
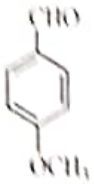
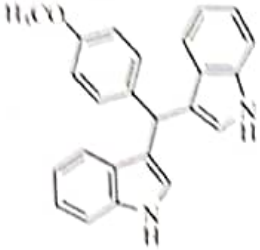
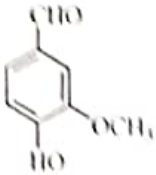
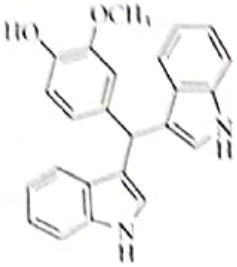
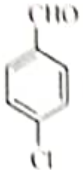
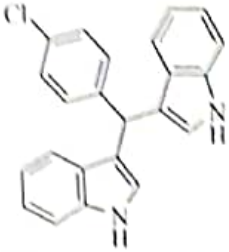
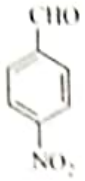
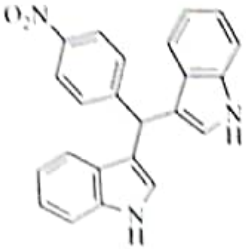
chosen as optimized catalyst concentration for further study. The present reaction found to be general for aromatic aldehyde possessing electron withdrawing and electron donating substituent (Table 1). The present methodology for the synthesis of bisindolylmethane avoiding use of hazardous solvent and drastic reaction conditions and hence obeys principles of Green Chemistry.[16]

The results obtained were represented in Table 1.



Scheme 1. Synthesis of bisindolylmethanes (3)

Table 1. Synthesis of bisindolylmethanes by the reaction of indole with aldehydes in presence of aqueous extract of *Acacia Concinna* (20%)

Entry	Aldehydes	Product	Product code	Time (min)	Yield (%)[5b]	M.P.°C	M.P.°C (Ref.)
1			3a	65	92	149-150	151-152[17]
2			3b		90	184-186	186-189[15]
3			3c		84	125-127	126-127[18]
4			3d		88	102-103	102-104[15]
5			3e		90	216-218	217-219[15]

Conclusion :

In conclusion, a greener methodology has been reported for the synthesis of bis(indolyl)methanes in good to excellent yields using indole and aldehydes via multicomponent reaction mediated by aqueous solution of *Acacia concinna* pods. The water as reaction medium, short reaction time, high purity of the products, biocompatible catalyst, mild reaction conditions and a simple workup procedure as acceptable features of the present method.

Acknowledgements :

Authors are very thankful to Principal Dr. P. M. Dighe, Padmashri Vikhe Patil College of Arts, Science and Commerce, Pravaranagar for providing every required laboratory facility and Prof. C. H. Gill, BSR Fellow, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad for constant encouragement.

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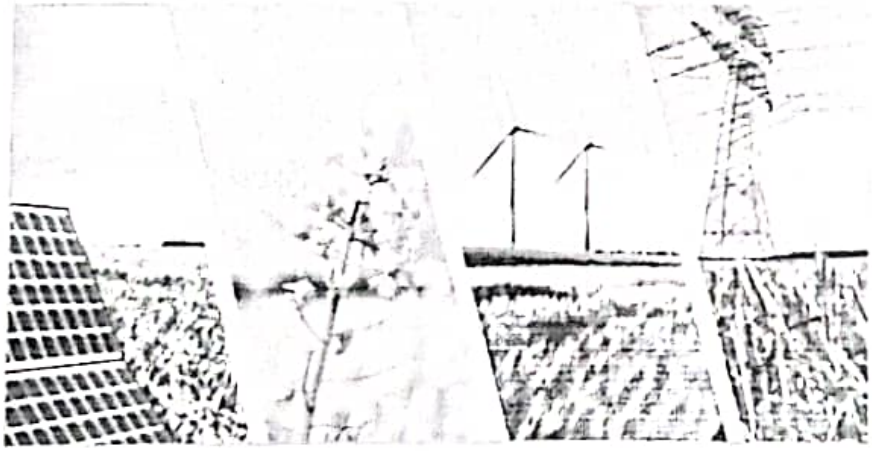

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Synthesis of Bio-Diesel from Edible & Non-edible Oils

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Abstract:

Due to rising price of fuel consumers are looking for alternatives to petroleum. Biodiesel fuel is an alternative option for those who wish to create their own energy solution. Biodiesel is a renewable diesel fuel that can be burned in any unmodified diesel engine at any concentration. Biodiesel is an alternative diesel fuel that is produced from vegetable oils & animal fats. It consists of the mono alkyl esters formed by a catalyzed reaction of the triglycerides in the oil or fat with a simple monohydric alcohol. The reaction conditions generally involve a trade-off between reaction time and temperature as reaction completeness is the most critical fuel quality parameter. In much of the process complexity originates from contaminants in the feedstock, such as water and free fatty acids, or impurities in the final product, such as methanol, free glycerol. Processes have been developed to produce biodiesel from high free fatty acid feedstock's, such as vegetable oil ,animal fats. The biodiesel is produced from vegetable oils and animal fats, there are concerns that biodiesel feedstock may compete with food supply in the long-term. The used cooking oils are used as raw material, to obtain transesterification process and recovery of high quality glycerol from biodiesel by-product (glycerol) are primary options to be considered to lower the cost of biodiesel.

In this paper, the production of biodiesel by transesterification reaction and benefits of biodiesel are also addressed.

Keywords : Bio- Diesel, Trans-Esterification, Methanolysis.

Introduction :

Biodiesel is defined as monoalkyl esters of long chain fatty acids originated from natural oils and fats of plants and animals, is a kind of alternative for fossil fuels. Biodiesel has attracted wide attention in the world due to its renewablity, biodegradablity, nontoxicity and environmentally friendly benefits. Manufacturing biodiesel from used vegetable oil is relatively easy and possesses many environmental benefits. The use of vegetable oils as frying oils produces significant amounts of used oils which may present a disposal problem. Their use for biodiesel production has the advantage of their low price.

Chemicals :

Methanol, Sodium Hydroxide (NaOH) (in pellets), Vegetable oil.

Green Procedure :

Synthesis Of Bio-Diesel From Mustard Oil :

There are different processes which can be applied to synthesize biodiesel such as direct use and blending, micro emulsion process, thermal cracking process and the most conventional way is transesterification process. This is because of the fact that this method is relatively easy, carried out at normal conditions, and gives the best conversion efficiency and quality of the converted fuel.

Transesterification Reaction :

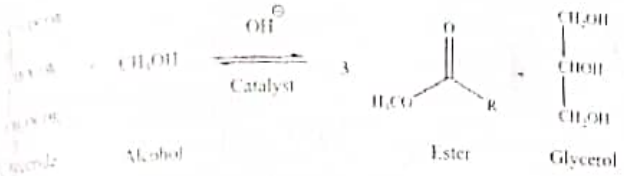
The most common way to produce biodiesel is the transesterification method .The transesterification reaction involving vegetable oil and alcohol to yield fatty acid alkyl esters (biodiesel) and glycerol. The reaction requires a catalyst, usually a strong base, such as sodium and potassium hydroxide or sodium methylate and / or sulfuric acid based transesterification processes. Acid catalysts reactions are slow to for converting triglycerides to biodiesel. Transesterification process helps reduce the viscosity of the oil. The finaly ground anhydrous NaOH was added into (99 % or higher purity).Methanol (10ml) in a 250 ml conical flask & stirred vigorously until all the NaOH was dissolved. The pured VEGETABLE OIL(**Mustard oil**) (50 ml) was warmed to about 40 degree in a 250 ml conical flask .The warmed up oil was poured into the methoxide solution with continuous stirring .

At the first mixture would become cloudy, but should soon two layers would separate. This was stirred for 15 -20 min. The contents of the flask were transformed into a 250 ml separating funnel. The mixture will separate into two different layers.

The Glycerol will fall to the bottom & the methyl ester (BIO-DIESEL) will float to the top. Allow the experiment to sit for an hour. The stopcock of the separating funnel was opened & the glycerol was allowed to drain into a small beaker.

Benefits :

1) Preparation of BIO-DIESEL economically satisfies.
2) Cost production of BIO-DIESEL reduces.
3) Environmentally eco-friendly reaction.



Cost Effective Value :

A) For Edible Oil :

Sr. No.	Name of the oils	Value in Rupees (for 50ml)	Value of DIESEL (for 50ml)
1	Ground Nut Oil	6/-	3/-
2	Soyabeen oil	5/-	3/-

B) For Non-Edible Oils

Sr. No.	Name of the Oils	Values in Rupees (for 50ml)	Value of DISEL (for 50ml)
1	Karanj Oil	35/-	3/-
2	Castor Oil	35/-	3/-
3	Mustrd Oil	10/-	3/-

Conclusion :

Solve vigorous problems of energy crises.

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RESEARCH JOURNEY International Multidisciplinary E-Research Journal
Impact Factor (SJIF) : 6.625 | Special Issue 218 Natural Resources Management and Sustainable Development

Ex Situ Conservation of Plant Diversity and Sustainable Utilization of Plant Resources in Botanic Gardens.

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[2, 3]PVP, College, Pravaranagar

Abstract:

Biodiversity is precious gift for our earth it is revealed through the variety in flora and fauna. It is important essential to conserve and make sustainable use of biodiversity. One of the important aspect is Ex situ conservation involves development of botanic gardens. Deteriorating biodiversity due to human activities, climate change has created environmental threats and is a serious concern which needs to be solved. In order to meet the growing demand of food, fodder clothing, shelter, medicine fuel, fibre etc.and also to provide ecological balance and stability biological diversity needs to be protected and conserved. Botanical gardens will surely helpful to reduce pressure on the over exploitation of plant resources. Sustainable development, utilization of plant resources is alternative and elaborate aspect of biodiversity conservation.

Need to conserve plant biodiversity :

Due to changing climate, overexploitation of plant resources, natural calamities, industrialization, urbanization, Habitat destruction species, fires,flood, diseases,[1] inbreeding depressions there is depletion of biodiversity.Existence of life depends upon biodiversity conservation. The plant diversity of life on globe is so prominent that if we use it sustainably it will go on growing new produces for future generation. On these grounds, we must understand the significance of biodiversity Conservation of plant diversity is important because vast range of plant life as it protects from harmful diseases, epidemics Even before the growth of recent medicine, ancient ayurvedic systems of medicine,[6] various types of plants were used . Biodiversity also makes exceptional contribution to aesthetic sense, interpretations and creativity. .[3] It forms an integral part of tourism in the world. As a part of recreation tourist visit several botanical gardens, parks, sanctuaries to gain knowledge, maintain health, in order to keep their mind fresh in a pollution free and ecofriendly. Ex situ conservation mainly have an vital role in the safeguard of rare, endangered plants and are a source of prime research,[5] ., Genetic source of information, creates awareness in society about this plants.

Methods to conserve plant biodiversity:

Botanists are well acquainted with knowledge, techniques to conserve the plants sustainable utilization of plants .[2] collective efforts and assistance support among government and non-government agencies, strategy makers, funding agencies, society and botanists is the need of the hour for plant conservation especially rare, endangered, endemic threatened species

For this reason, we must realize the importance of biodiversity as important resources. Plant biodiversity conservation through local people,[6]. Holy groves and temple shrine trees created, protected, and conserved. Tribal peoples are actively involved in plant biodiversity conservation and sustainable development can be seen in different practices such as gathering and management of wood, traditional beliefs, standards and practices for limited use of forest. Ecotourism is also helpful in studying natural ecosystems and helpful in conservation of RET species

The overview of plant biodiversity status of India :

Biodiversity is a short form of biological diversity. This leads to hereditary abnormalities and ultimately extinction of that specific species. The diversity of nature's abundance can be exploit if we raise native plant varieties with their wild varieties which more productive and unaffected by disease. In order to develop to better types of seeds, medicines and other industrial raw resources recent biotechnology has contributed in formation of manipulated genes

Genetic plant diversity:

Simply it is the variation of genes within species and populations is genetic variability

The species diversity:

The species variability,[6] within a community .Each and every natural and artificial ecosystem consists variety of plant species. Some biomes such as tropical rainforests are very rich in the number of

species as compared to other ecosystems such as the desert ecosystem.

The ecosystem diversity

There are a large variety of different ecosystems on the Earth. Typical ecosystems include forests, mountains, grasslands, deserts, etc. as well as aquatic ecosystems like Oceans, lakes and streams. Some of areas developed by humans such as pastures, browsing lands, urban lands etc. Any ecosystem that is overused or disiorted loses its efficiency. The number of plant species in India is estimated to be over 45,523 representing about 11.8 per cent of the world's flora. These include over 17,500 flowering plants of which 4,950 species are endemic to the country. India is also considered as one of the world's eight centers of origin of cultivated plants. India has 51 species of cereals and millets, 104 species of fruits, 27 species of spices and condiments, 55 species of vegetables and pulses, 24 species of fiber crops, 12 species of soil seeds, and wild strains of tea, coffee, tobacco and sugarcane. All over the India hundreds of crops varieties are also scattered. ,[7] Specifically in the western and eastern Himalayas, North eastern India the Western Ghats and the Malabar Coast, the Gangetic plain, Deccan Plateau eastern part which is a major center for wild rice, citrus plants which is most primitive, is found in the Tura hills in Meghalaya. Some of the habitats richest in biodiversity, such as tropical rainforests, are being destroyed because of human endeavors. The destruction of tropical rainforests due to disappearance of species that occur there and cannot grow anywhere else. At least 50 per cent of Indian forests are cut down, over 70 of its water bodies are polluted most of coastal areas are degraded. It has been observed that wild flora mainly flowering plants are threathened.Most of biorich forest areas of north eastern Himalaya ,the Western Ghats, are one of the world wide recognized national 'hot spots.

Ex-situ ('off site'):

The conservation of components of biological diversity, endangered, primitive plants outside their natural habitats [4]. In this method hereditary information of cultivated and wild plant species is conserved.Ex-situ ('off site') conservation includes seed storage, captive breeding, slow-growth storage, DNA storage, commercially valuable species, conserving pollen. The main purposes of ex-situ collections are the release and conservation of threatened hereditary material and the breeding of species for restoration in cases where a species'continued survival in its native habitat is threatened. Conservation techniques involving the relocation of a target species away from its natural habitation to a secure place, such as a zoological garden, botanical garden or seed bank.[3] Its primary objective is to support conservation, preservation by confirming the existence of threatened species and the maintenance of associated genetic diversity.

Botanical gardens as sustainable resources:

Botanical gardens have played the prominent ,[7] role in studying the response of plant species and their response to overall climatic change. Botanical gardens are suitable sites for studies pollination, seed dispersion, and other interactions between plants and animals. The Botanical garden, adapting scientific research, species conservation of species, New methods in biology, public education and , tourist amenities,and the development of sustainable utilization of plant resources. Botanical gardens have great facilities to discover plant diversity and utilization of plant resources. Botanic gardens are institutions with an integrated function of plant conservation, botanic research and public education. They also serve as life science research centers and an important platform for biodiversity conservation and sustainable utilization of plant resources.

In recent years, botanists from all around the world are increasingly facing the challenge of the crisis of rapid reducing plant diversity. Plant conservation has become one of top priorities within the botanic garden communities worldwide. In recent years there is increasing demand on the plant resources for eg food, medicines, oil, fruit, vegetables, flowers, timber, fuel, energy against our future sustainability[5] in order to cope up with social and economic progress and to develop novel plant varieties with disease resistant, drought tolerant, rapid growth, increase in yield and production .New innovations, research, and sustainable utilization of plants resources in a nation can reveal about its potential and development. New invention in botanical garden in creation of vegetable that grown in aquatic and fruit garden.Biodiseal plants resources which are known for their richness are to be cultivated and developed.Native plant resources are to be developed to get new varieties of vegetables and fruits.

Conclusion:

Plant biodiversity sustained harmonious existence of life on earth. Sustainable utilization of plant resources in our botanical garden is today's urgent need as today we are facing the crisis of rapid reduction in plant diversity. In order to meet the basic demands of

human beings conservation of plant biodiversity and its resources is urgent need. So in present research paper attempts to divert attention of Scientists, botanist, researchers, Governmental and non-governmental organisations, officials, NGOS, to play prominent role in conservation of plant biodiversity by applying new strategies for Exsitu conservation in botanical garden .

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RESEARCH JOURNEY International Multidisciplinary E-Research Journal
Impact Factor (SJIF) : 6.625 : Special Issue (A) : Green Technology for Sustainable Development (GTSD-2020)

Estimation of Oxalate Ions from Some Fruit and Vegetables using Permaganometric Method

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Abstract:

The patient with high level of oxalate has to suffer from hyperoxaluria disorder which is caused due to highest consumption of oxalate or vitamin-C in diet this is due to citrus fruits and green vegetables .This work investigates the oxalate content in fruit of raw, ripened and semi ripen guava and green vegetables like carrot, spinach, sweet potato, coriander etc. As fruits and vegetables in form of vitamins, minerals, proteins are required for growth and maintenance of cells and tissues where calcium is one of the important mineral required for development and maintenance of strong teeth, bones. If excess of mineral present in body due to hard water drinking or food then it forms insoluble oxalate thus causes hyperoxaluria. The samples were analyzed in triplicate using permaganometric method. This study provides information that medium ripened fruits must be consumed instead of raw and highly ripened, and also advice about green vegetables in daily diet.

Keywords : Oxalate, Calcium, Permaganometric.

1. Introduction :

Fruits and vegetables are important source of bioactive compounds and are beneficial to human health as it contains variety of phytochemicals along with flavonoids. These flavonoids has antioxidants ,anti-inflammatory properties. As fruits and vegetables in form of vitamins, minerals, proteins are required for growth and maintenance of cells and tissues where calcium is one of the important mineral required for development and maintenance of strong teeth, bones. Vitamin C combines with oxalates and accumulates in excess amount in body thus leads to hyperoxaluria called as hyperoxaluria usually oxalate stones [2] [3]. If excess amount of minerals present in diet and human body can be excreted through urine by forming inorganic salt calcium oxalate .there are various methods to extract oxalic acid from some of the fruits using different acids and also by first solvent extraction technique then treating with cold water and or acidified hot sodium carbonate [4] and beverages which shows large concentration of oxalic acid content such as spinach,ruhubarb,tea about kidney stones consist of calcium oxalate.

2. Material and Method :

2.1 Collection of Samples and Solution

Samples of vegetables were brought from local market. Table 1 .weigh about 1.57gm of oxalic acid for preparing standard solution of 0.125 gm and dilute to 100ml with distilled water using volumetric flask.Standardize solution by pitting 10 ml of diluted solution of oxalic acid, add dil.H_2SO_4 titrate boil at 50-60°C then titrate till faint pink end point indicated note down reading and calculate Normality of solution $KMnO_4$ [5]

2.2 Digestion of Sample :

Since all samples were obtained in solid form for extraction of soluble oxalate compounds .fruit and vegetables were washed with distilled water then allowed to dry then grounded to pulp material with help of pastel and mortar .weigh specific quantity of sample then transfer to 100ml beaker add to it 10ml diluted acid followed by boiling for about 10 minutes .the filtrate is collected and residue washed with small volume of distilled water ,homogenized diluted to specific volume out of which small volume was titrated using $KMnO_4$ solution of 0.025N concentration and total oxalate in given sample was determined . Follow similar process for all samples listed in table 1.

2.3 Estimation of Oxalate using Permaganometric Method :

Now from diluted sample pipette out small volume of diluted sample solution in conical flask. Heat flask at 50-60°C and titrate with potassium paramagnet that is already filled in previously cleaned burette .solution is constantly shaken and titrated until appearance of permanent faint pink color this indicate endpoint. Similarly follow procedure for two more readings .from titer values calculate strength and amount of oxalate in 100gm sample.

3. Result and Discussion :

Data is included in table 1 tells about higher amount of soluble oxalate found in different stages of fruit as well as in some vegetable.

Result Table 1

Sr. No.	Name of Sample	Quantity taken in gm	Amount of oxalate present in given sample(gm)	Amount of oxalate in 100 gm. sample
1.	Raw guava	2	0.1782	0.891
2.	semi ripened guava	2	0.01892	0.946
3.	ripened guava	2	0.02079	1.035
4.	Green tomato	2	0.0061	0.3
5.	ripened tomato	2	0.0091	0.455
6.	Spinach	5	0.093	1.804
7.	Coriander	5	0.0677	3.3
8.	Fenugreek	5	0.07436	1.4872
9.	Dill	5	0.0739	1.478
10.	Beet	5	0.0016	0.3388
11.	Potato	5	0.0061	0.122
12.	Carrot	5	0.0028	0.056
13.	sweet potato	5	0.0172	0.345

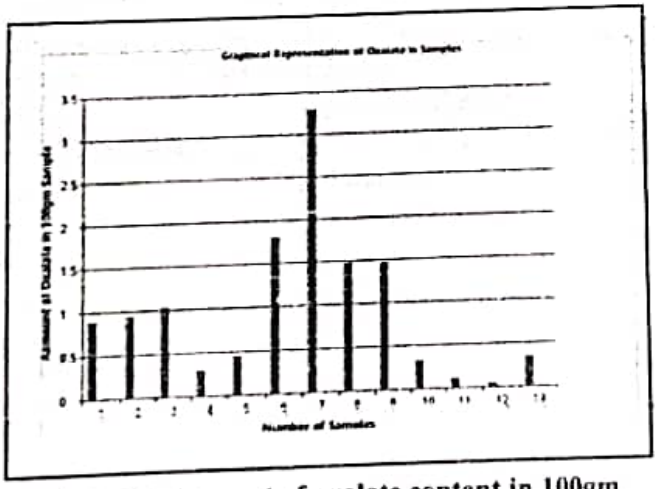

Figure 1 : Amount of oxalate content in 100gm of various samples.

From the project work it is conclude that coriander contain 3.3gm oxalate in 100gm sample which is highest in all vegetable samples, spinach contains 1.804gm of oxalate and fenugreek and dill contains 1.487gm/100gm and1.478gm/100gm oxalate respectively these all samples contain high percentage oxalate. Green tomato and red tomato contains 0.3gm/100gm and 0.4gm/100gm oxalate whereas carrot, potato, sweet potato, green tomato contains low amount of oxalate. In ripened guava oxalate and semi ripened guava oxalate content is also high but raw guava contains low amount of oxalate compare to ripen and semi ripened guava. Therefore raw guava is most preferential in diet thus vegetables and fruits containing low amount are good for daily consumption in our diet.

4. Conclusion :

45 milligrams oxalate can be excreted per day from human urine. High amount of oxalate affect the kidney of human being and causes diseases like kidney stone hyperoxaluria can cause by eating too many oxalate rich foods to control oxalate that leads kidney stone certain precautions are taken like. Eat less amount of high oxalate containing vegetables and fruits .Increase the amount of calcium in diet because calcium is the most potent modifier of the oxalate absorption. Increase of excess calcium in diet increases the risk of calcium oxalate stone formation thus the vitamin ,proteins supplementation in diet is necessary Thus we conclude that eating low oxalate fruits and vegetables like Potato, Sweet Potato, and Carrot and raw guava are preferential according to above study in daily diet.

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A Review : Nanofluids Applications in Green Technology

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Abstract:

Solar energy systems have attracted a lot of attention in the last five decades. Heat transfer enhancement (performance) of the solar thermal systems is one of the significant issues in energy usage, energy saving and compact designs. Since the nanofluids are used to improve the heat transfer characteristics and thermal properties compared with conventional fluids, replacing the working fluid with nanofluids is effective method to enhance the efficiency and performance of the solar thermal systems. The aim of this review paper is the investigation of the nanofluids' applications in solar thermal systems. The shortage of fossil fuels and environmental considerations motivated the researchers to use alternative energy sources such as solar energy. Therefore, it is essential to enhance the efficiency and performance of the solar thermal systems. Nearly all of the former works conducted on the applications of nanofluids in solar energy is regarding their applications in collectors and solar water heaters.In addition effects of nanofluids on the performance, efficiency, economic and environmental considerations of mentioned systems are reviewed.

Keywords : Nanofluids, Solar Energy, Heat Transfer, Enhancement, Efficiency, Thermal Energy.

1. Introduction :

Energy as one of the essential requirement of human and industries play an important role in the economic development of any country. The limitation of fossil fuels and the negative impacts of their usage on the environment and climate changes have caused a considerable attention to use renewable energy sources as an appropriate and attractive alternative energy for fossil energy sources. Solar energy is considered as one of the best nature sources of renewable energy in the resent years. One of the significant issues is heat transfer enhancement and performance of the solar thermal systems. Most of solar systems like solar collectors deal with fluids like water and use it for heat exchanger, i.e. solar water heating. Whatever thermal conductivity of applied fluid in mentioned systems be higher, heat exchange rates will be increased. In addition to, for thermal storage systems using fluids with higher specific heat capacity increases the performance of the storage system. Using ultra fine solid particles suspended in conventional fluids is a effective and novel strategy to improve their thermal conductivity and heat capacity. The mixture of liquid (base fluid) and nano-sized particles (1–100 nm) is called a nanofluid. Choi [1] was the first one who used nanofluid term and developed heat transfer of nanofluids in 1995 [2]. In recent years, many experimental studies [4-9] have shown that nanofluids have the significantly better heat transfer characteristics than the conventional fluids. Several reviews have summarized the thermo physical properties of nanofluids [10-13] and the effects of nanofluids on the enhancement of heat transfer [14, 15]. Using of solar energy has attracted a lot of attention in recent years. But most of solar energy converting systems suffer from low efficiency, hence transfer enhancement and performance of the solar thermal systems is a significant issue. Nanotechnology and Nanofluids can have a remarkable role in enhancing of the efficiency in solar systems. The present study provides a comprehensive review of recent researches on the application of nanofluids in solar thermal engineering systems such as collectors, water heaters and thermal storage systems. In addition, an investigation on economical and environmental aspects of solar energy has been presented. This review can be a useful comprehensive reference to find and determine the effectiveness of nanofluids in solar applications and conduct readers to future work and novel ideas in mentioned field.

The benefits of using nanofluids in Solar energy Systems are summarized as follows :

The nanoparticles have a very small particle size with a very large surface area, which result in a significant increase in the heat capacity of the nanofluid as well as the absorption of the solar energy.

The optical characteristics of nanofluids are better than that of the base fluid (higher absorption and extinction coefficients). They show high absorption and

low emittance in both solar spectrum range and in infrared spectrum range, respectively.

The thermal conductivity of the nanofluids is significantly high compared to the base fluid due to the presence of nanoparticles.

The good stability of nanofluids under wide range of temperature gradients combined with high absorption coefficient make nano- fluids as an excellent absorbing medium.

Use of nanofluids avoids the sedimentation, clogging, fouling of pipes and pumps due to its extremely small size compared with micro or millimeter sized particles, which is a useful property in many solar applications.

Nanofluids reduce the required heat transfer area of the thermal devices and as a result reduce the total cost of the solar energy Systems.

Nanofluids, in general, have high density and high convective heat transfer coefficient (HTC) with a low specific heat of nanoparticles which result in increasing the efficiency of the thermal devices.

2. Nanofluids applications in solar energy :

This section explains applications of nanofluids in various SESs based on recent literatures. First, the recent modifications of different types of solar collectors (SCs), using nanofluids are discussed. The types of SCs considered in this study are flat-plate (FPSCs), evacuated tube (ETSCs). Then the applications of nanofluids in solar thermoelectric devices (STED), solar water heaters (SWH), evaporative cooling for greenhouses, and water desalination are also discussed.

Solar Thermal Collectors and Solar water heating :

Solar thermal collectors and solar water heaters are the most popular solar thermal devices. A SWH incoming solar radiation energy into heat through transforming absorbed solar radiation to fluid like air, water, or oil, in order to warming fluid (specially water) or space conditioning equipment or to a thermal energy storage tank. SWHs can be considered in general group based on type of used fluid and their construction (water, non-freezing liquid, air) and whether they are covered or uncovered [15]. A general division categorizes solar collectors in tow types, non-concentrating and concentrating collectors [16]. The first group is usually used to achieve low and medium temperature such as space heating and cooling, water heating, and desalination. While concentrating solar collectors are designed for high temperature applications such as electricity generation. Tyagi et al [17] theoretically investigated the feasibility of using a non concentrating direct absorption solar collector (DAC) and compared its performance with that of a typical flat-plate collector. They used nanofluid of mixture of water and aluminum nanoparticles as the absorbing medium. A schematic of the direct absorption collector, under studied by them is show in Fig. 1.

Figure1. Schematic of the nanofluid-based direct absorption solar collector.

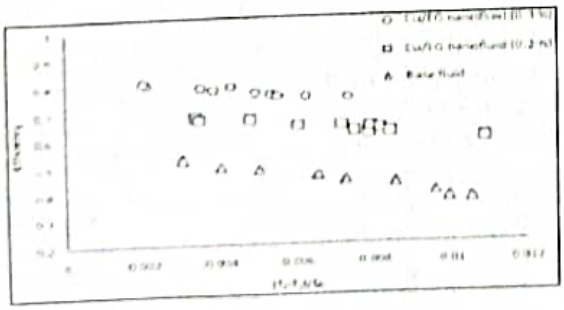
The efficiency of the collector is evaluated by the following equation

$$\eta = \text{useful energy} / \text{available energy} = mC_p(T_{out} - T_{in}) / AG_T$$

Where m is the mass flow rate of the fluid flowing through the solar collector, A is the top cover area of the solar collector, and G_T is the solar flux incident on the solar collector. In performed analysis by [18] . They illustrated the variation of collector efficiency as a function of the particle volume fraction (%). Their results showed that the presence of nanoparticles increases the absorption of incident radiation by more than nine times over that of pure water, hence efficiency increases (significantly for low values of volume fraction of nanoparticles). Lenert [19] and Lenert and Wang [21] presented a combined modeling and experimental study to optimize the efficiency of liquid-based solar receivers seeded with carbon-coated absorbing nanoparticles. Also they experimentally investigated a cylindrical nanofluid volumetric receiver, and showed good agreement with the model for varying optical thicknesses of the nanofluid. Based on their model, the efficiency of nanofluid volumetric receivers increases with increasing solar concentration and nanofluid height. Otanicar et al [22] investigated solar collectors based on nanofluids made from a variety of nanoparticles (carbon nanotubes, graphite, and silver), experimentally and numerically. They demonstrated efficiency improvements of up to 5% in solar thermal collectors by utilizing nanofluids as the absorption mechanism. In addition their experimental data were

compared with a numerical model of a solar collector with direct absorption nanofluids. The comparative results showed an initial rapid increase in efficiency with volume fraction, followed by a leveling off in efficiency as volume fraction continues to increase. The radiation absorption characteristics of a Ni nanoparticle suspension were investigated by spectroscopic transmission measurement by Kameya and Hanamura [23]. They demonstrated that the absorption coefficient of the nanoparticle suspension is much higher than that of the base liquid for visible to near-infrared wavelengths. The results of their investigations on the prediction process of the thermal radiation properties of nanoparticle suspensions could be used in developing direct absorption solar collectors. Taylor et al. [24] studied a nanofluid-based concentrating solar thermal system (dish collector system). Theirs results showed a enhancement in efficiency of up to 10%. Furthermore, their analysis showed that graphite nanofluids with volume fractions on the order of 0.001% or less are suitable for 10–100 MWe power plants. Sani et al. [25] reported the optical characterization of a new fluid consisting of single- wall carbon nano horns and ethylene glycol for solar energy applications. They found that nano horn spectral features are far more favorable than those of amorphous carbon for the specific application. Their result showed that carbon nano horn-based nanofluids can be useful for increasing the efficiency and compactness of thermal solar devices, reducing both environmental impact and costs. The extinction coefficient of water based aluminum nanofluid was investigated and evaluated by varying nanoparticle size and volume fraction by Saidur et a. [26]. They showed that the particle size has minimal influence on the optical properties of nanofluid. On the other hand, the extinction coefficient was linearly proportionate to volume fraction. Mercatelli and coworkers [27, 28] investigated the scattering and spectrally resolved absorption properties of nanofluids consisting in aqueous and glycol suspensions of single-wall carbon nano horns in view of their use as sunlight absorber fluids in a solar device. They observed nanoparticle-induced differences in optical properties appeared promising, leading to a considerably higher sunlight absorption with respect to the pure base fluids. Scattered light was found to be not more than about 5% with respect to the total attenuation of light. Both these effects, together with the possible chemical functionalization of carbon nano horns, made this new kind of nanofluids very interesting for increasing the overall efficiency of the sunlight exploiting device. Said et al. [29], carried out experimental investigations for obtaining the thermo physical properties of 60:40 (by mass) ethylene glycol/water mixture and water based alumina nanofluids and effect of density and viscosity on the pumping power for flat plate solar collector. Nanofluids of 0.05–0.1%v/v concentrations were prepared and characterized. They found that water based alumina nanofluids (AL_2O_3) were more preferable against sedimentation and aggregation than ethylene glycol/water (EG/water) mixture based nanofluids. The measured thermal conductivities of both types of the nanofluids increased almost linearly with concentration. In contrast to thermal conductivity, viscosity measurements showed that the viscosity of the Al_2O_3–water nanofluids exponentially decreases with increasing temperature. The effect of pH variation of MWCNT-H_2O nanofluid on the efficiency of a flat-plate solar collector was investigated experimentally by Yousefi et al. [30]. Their results showed that by increasing or decreasing the pH values with respect to the pH of iso-electric point, the positive effect of nanofluid on the efficiency of solar collector is increased. In another study by Yousefi et al. [31], the effect of Al_2O_3–water nanofluid, as working fluid, on the efficiency of a flat-plate solar collector was investigated experimentally. In contrast with previous study in this filed, their results showed that, in comparison with water as absorption medium using the nanofluids as working fluid increase the efficiency. For 0.2 %wt the increased efficiency was 28.3%. From the results it was concluded that the surfactant causes an enhancement in heat transfer. Colangelo et al. [32] presented the experimental results and the potential performance of the investigation on flat solar thermal collectors using nanofluids as innovative heat transfer fluids for solar energy applications. After different nanofluids were tested on the panel prototype, water–Al_2O_3 was chosen as heat transfer fluid. A thermal conductivity enhancement up to 6.7% at a concentration of 3 %vol was observed, while the convective heat transfer coefficient increased up to 25%. Paul et al. [33] performed an experimental assessment on Nanoparticle Enhanced Ionic Liquids (NEILs), by measuring thermo physical property and evaluating forced convection performance. Their experimental results showed clear advantages of the NEILs over the base Ionic liquids (ILs) both in heat storage capacity and heat transfer performance. Up to 6% enhancement in thermal conductivity, 23% enhancement in heat capacity, and

20% enhancement in convective heat transfer performance has been observed for the 1% (Weight%) aluminum oxide (Al_2O_3) enhanced ILs compared to the base ILs. The effect of CuO–water nanofluid, as the working fluid, on the performance and the efficiency of a flat-plate solar collector was investigated experimentally by Moghadam et al. [34] The volume fraction of nanoparticles was set to 0.4% and the mean particle dimension is kept constant at 40 nm. The working fluid mass flow rate was varied from 1 to 3 kg/min. Their experimental results revealed that utilizing the nanofluid increases the collector efficiency in comparison to water as an absorbing medium as the flow rate of 1 kg/min increases the collector efficiency about 21.8%. Karami et al. [35] investigated application of aqueous suspension based on alkaline functionalized carbon nanotubes as an absorber fluid in a sunlight harvesting device. In their investigations, the extinction coefficient of aqueous suspensions of functionalized carbon nanotubes showed remarkable improvement compared to the base fluid even at low particle loadings. They also demonstrated thermal conductivity improvements of up to 32% by adding only 150 ppm functionalized carbon nanotubes to water as the absorbing medium. Saeid et al. [36] studied TiO_2–water nanofluid as a working fluid for enhancing the performance of a flat plate solar collector. In their experimental, the volume fraction of the nanoparticles was 0.1% and 0.3% respectively, while the mass flow rates of the nanofluid varied from 0.5 to 1.5 kg/min, respectively. Their results revealed energy efficiency increased by 76.6% for 0.1% volume fraction and 0.5 kg/min flow rate, whereas the highest energy efficiency achieved was 16.9% for 0.1% volume fraction and 0.5 kg/min flow rate. In addition, their results showed that the pressure drop and pumping power of TiO_2 nanofluid was very close to the base fluid for the studied volume fractions.



Flat-plate solar collector :

Yousefietal. [36] Experimentally studied the effects of using Al_2O_3 nanofluid instead of water as a working fluid on the efficiency of a FPSC shown in fig. They evaluated the efficiency of the collector under different operating conditions, i.e. nanoparticles mass fraction, nano- fluid mass flow rate, and the presence of surfactant. The efficiency in- creased by 28.3% using Al_2O_3 nanofluid with the 0.2% weight fraction compared with the efficiency of water-based collector. Moreover, the SC efficiency increased by 15.63% using surfactant. The same authors [37] reported an increase in the solar collector efficiency when multiwall carbon nanotubes dispersed in water with 0.4% weight fraction is used, however using the same nanofluid with 0.2% weight fraction resulted in a decrease in the efficiency under the same operating conditions. Then, they reported that [38] increasing the difference between the pH of multi-walled carbon nano tube/water nanofluid and pH of isoelectric point results in a considerable enhancement in the collector efficiency. Colangelo et al. [39] investigated the effects of using Al_2O_3/ water nanofluid as a working fluid on the efficiency of a FPSC. They observed an increase in the convective HTC by 25% when 3% volume fraction of Al_2O_3 was used, this may result from the enhancement of the thermal conductivity of the nanofluid which increased by 6.7% compared with that of water. Additionally, they observed an increase in the sedimentation of the nanoparticles in the SC components as the volume fraction of nanoparticles increases. Chajietal. [40] Fabricated and tested a small FPSC to investigate the effects of TiO_2 nanoparticles dispersed in water with different concentrations (i.e. 0wt%, 0.1wt%, 0.2wt% and 0.3wt %) on the solar collector thermal performance. Using TiO_2/water nanofluid as a working fluid increased the SC efficiency between 2.6% and 7% relative to base fluid. Heetal. [41] Investigated the effects of different sizes and concentrations of copper nanoparticles dispersed in water on the efficiency of a FPSC. Moreover, they investigated the heat gain of the FPSC, water temperature, the coefficient of frictional resistance of the nanofluid. The SC efficiency was enhanced by 23.83% using Cu/water nanofluid with 25 nm particle sizes and 0.1% weight fraction. Moreover, as the nanoparticles size is decreased the nanofluid thermal conductivity in- creased and as a result SC efficiency increased. Another investigation regarding using Cu/water nanofluid as a working fluid in the FPSCs was Zamzamian et al. [42] investigated the effect of

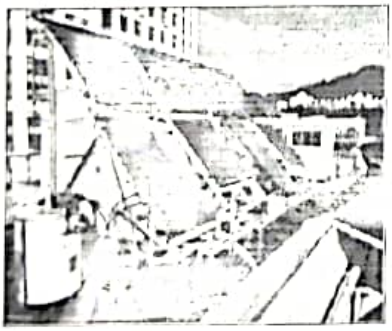
should be conducted to assess the feasibility of using nanofluids in solar heaters as it is mainly used in domestic purposes which require simple and cost effective techniques

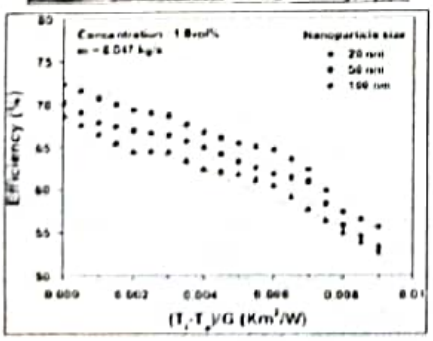
Water desalination :

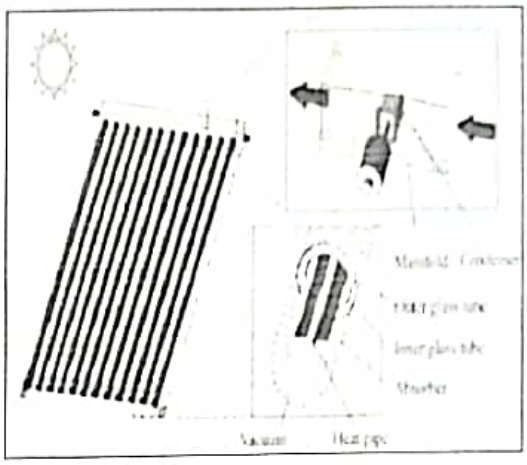
The demand on potable water is increasing due to rapid increase in population as well as freshwater resources pollution especially in and regions Fortunately, the solar radiation in these regions is available with high intensity. Therefore, many researchers investigated the use of solar energy to obtain potable water from brackish or salty water.

Evacuated Tube Collectors :

Evacuated Tube solar Collectors (ETSC) have many advantages over the conventional FPSC Many comparison studies have been carried out to compare between the thermal performances of both types [63-67] The ETSCs have considerably lower cost and heat losses as well as higher efficiencies compared to the conventional FPSCs [63-68] Moreover, ETSCs have expedient installation and easy transportability and they are suitable for unfavorable weather as condensation and moisture. In applications like building heating, air conditioning, desalination of seawater, and industrial heating which re- quire higher temperature, ETSC is a better choice compared with FPSC. Moreover, ETSCs show a better performance in operating other higher temperature applications such as gas heater, solar pre-heaters and solar tanks.







The main part in the ETSC is the parallel evacuated glass tube (fig) It consists of an outer transparent tube and an inner tube coated with absorptive coating to maximize absorption of the incoming solar radiation. A vacuum is employed between the concentric inner and outer tubes to only allow solar radiation to transfer but not the heat. A heat pipe with high thermal conductivity material, e.g. copper pipe, welded to the absorber plate is then placed inside the inner tube Tong et al. [69] designed and constructed an enclosed-type evacuated U-tube SC to assess its performance when multi-walled carbon nano tube/water nanofluid was used as a working fluid The obtained results showed an increase by about 4% in the collector efficiency when the nanofluid was used instead of water Sabiha et al. [70] performed an experimental study to assess the thermal performance of an ETSC using single walled carbon nanotubes suspended in water as a working fluid They compared its performance at different nanotubes concentrations (0.05, 0.1, and 0.2 vol %.) of that of ETSC working with water at the same operating conditions and flow rates ranged from 0.008 to 0.025 kg/s The collector efficiency was increased as volume fractions of nanoparticles as well as flow rate was increased The energy efficiency of the ETSC changed from 48.57% at 0.05 vol% of nanofluid and 0.008 kg/s mass flow rate to 93.43% at 0.2 vol% of nanofluid and 0.025 kg/s mass flow rate Moreover, ETSC efficiency using 0.2 vol% nanofluid on cloudy days is higher than that with water even at employed the later on sunny days Liu et al [71,72] investigated the feasibility of using CuO/water nanofluid to enhance the efficiency of an ETSC integrated with a compound parabolic concentrator (CPC) They reported an enhancement in the mean collector efficiency by 12.4%

when CuO/water nanofluid was used. Moreover, the concentration of CuO nanoparticles has a significant influence on the thermal performance and the optimal heat transfer enhancement achieved using a mass concentration of 1.2%.

3. Conclusion and future work :

Though there are some reviews on the application of nanofluids in various engineering applications, this paper reviews the recent trends of the applications of nanofluids in solar energy systems such as solar collectors, solar cells, and water desalination. From our review study, the following concluding remarks can be inferred. Nanofluids can be used to enhance the performance of different solar energy systems. The thermal conductivity and the absorptive of the nanofluids are the most important factors that affect the thermal performance of solar energy systems, while increasing the nanoparticles volume fraction does not always result in better performance. The effect of nanoparticles size on the performance of solar collectors is still antagonist, so more experimental and theoretical investigations are needed to figure out the particles size effect. More theoretical investigations are required to understand the mechanisms of the heat transfer enhancement using nanofluids in different solar based systems. The superior thermo-physical properties of nanofluids result in a significant enhancement in the heat transfer process, which in turn result in reducing the size of the solar devices. The high production cost of nanofluids and its stability are main factors that hinder its use in commercial and industrial applications. Many economical and environmental benefits could be achieved using nanofluids in different solar systems. Further theoretical and experimental researches are needed for understanding the effects of using nanofluids in different solar systems. The interaction between the different nanofluids parameters and properties, such as particles size, volume fraction, particles shape, thermal conductivity, absorptive, etc., must be investigated. Moreover, further research is needed for enhancing the nanofluids stability and avoiding its agglomeration without affecting the thermo- physical properties. Herein, we will suggest some research directions that may lead to maximize the utilization of nanofluids in solar energy applications.

Limited sources and negative impacts of fossil fuels have caused that the governments and scientists look for alternative energy sources that doesn't have mentioned problem. Solar energy is one of the best options but its technology still suffers from low efficiency and high cost. Nanotechnology can be used in solar systems to their improve performance and efficiency. This paper presents a review of the recent developments and the applications of nanofluids in solar thermal engineering systems. This review reveals some important points. First, importance of type of used nanofluid in solar thermal system considering application of the system. For a solar collector, the target is increasing of thermal conductivity and coefficient of heat transfer convection of nanofluid, while for thermal energy storage the target is enhancement of specific heat capacity. Second, depends on some parameters such as working temperature and mass flow rate, solar thermal system has maximum efficiency or best performance in an optimal volume fraction of used nanofluid. Because it was observed form literature (the experimental and numerical studies) that nanofluid with higher volume fraction always is not the best option. Moreover (the third point), it was found that by increasing a low value of volume fraction of nanoparticels in base fluid, remarkable increasing of efficiency is observed, and by more increasing in valume fraction, no significant effect is observed in efficiency value. Hence, considering relatively high cost of nanoparticles, it is not logical to increase value of valume fraction in viewpoint of economic. Fourth, the effect of particle size on the solar collector efficiency could be significant. Fifth, from the economic and environmental viewpoint, the reviewed studies revealed that using nanofluids in solar collectors leads to a reduction in CO_2 production and annual electricity and fuel savings. Sixth, utilizing nanofluid in solar systems is a new strategy and has a shrt history less than two decades. Hence, this field is in firest steps and has enormous potential to work and research in the future. Seventh, It's recommended to work on other applications of

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GANDHIAN PRINCIPLES THE 21ST CENTURY

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Abstract :

Gandhian philosophy is such an all-encompassing and comprehensive one that it would not be justified to categorize under any particular category whether it is premodern, modem or postmodern. The discussion follows shall try to throw lights on this assumption. Let us start our critical evaluation by keeping both these philosophies, i.e., postmodernist and Gandhism, parallel to each other. The first facet of the postmodern philosophy is localism. As we all know, postmodernists are away from any conception of meta-narrative or grand-narrative. They reject the idea that there are essential, universal concepts such as class, history or mode of production in the world. Instead, they argue that truth, knowledge and understanding are located within particular contexts. Completeness and consistency in a system of phenomenon and of its representations is impossible.

Introduction:

2nd October 2019 is a great day for India, as the country celebrates 150th birth anniversary of the father of nation Mohan Das Karamchand Gandhi. Not only that, but the world celebrates the auspicious day as international day for non-violence to pay respect and acceptance to the true spirit of non- violence promoted by Gandhiji throughout his life.

Gandhianism starts with the famous line – ' Simple living and high thinking'.

This it is also suggestive of the fact that thoughts of an individual have a great role in shaping his/ her life. That's why gandhianism appears to be simple to everyone but in real sense practicing it in day to day life is difficult. For instance, remaining truthful, tolerant, non-violent and respecting others in difficult circumstances of life require a great degree commitment.

Non-violence of Gandhiji which was the great weapon used by him during the freedom movement of India against British Raj. Normally, people say that non-violence is the weapon of weak but in reality non-violence and tolerance require a great level of courage and patience. In world that is moving through the phases of war marred by violence and naked dance of death of common people due to the menace of terrorism there is a significant requirement of Gandhian idea of Non- violence more and more today than the past days.

Gandhian Philosophy in the 21st Century:

M.K. Gandhi was a saint and moral revolutionary. He has exercised the most powerful influence on modern world. While Gandhi lived most of the people thought that his ideas are relevance only to win freedom for India. But there is a great relevancy of Gandhian Philosophy in the contemporary world also. Gandhi is one of those philosophers who believed in self-sacrifice. His philosophy is no comprehensive that it has left no aspect of human life untouched. In his philosophy there is very clear indication of his love for individual and national freedom. He had a many sided personality with clear vision and definite approach to problems which faced India. Gandhi is believed to have greater relevance in the present world of modern science & technology that produced geographical neighbourhood but become highly individualistic co-operation has been replaced by competition and consumeralism. Gandhi very exhaustively dealt not only with political or economical but also with

social problems of Indian society. It is very difficult to discuss all the theories of Gandhi to examine its relevancy.

Gandhi's Non-violence in 21st century:

When once asked if non-violent resistance was a form of "direct action", Gandhi replied: "It is the only form." He said it was the "greatest force...more positive than electricity, and more powerful than even ether." Gandhi believed non-violence could be put into practice at every level of human experience. Nonviolence for him was not just a political tactic but spirituality and a way of life. We are living today in an era where social, cultural and political spheres are void of spirituality. But Gandhi's non-violence still offers us an ideal that may uphold. Gandhi remains the prophetic voice of the 21st century and his non-violence urges us to continue struggling on behalf of what we view as right and just. At a time when mankind is confronted with clashes of national interest, religious fundamentalisms and ethnic and racial prejudices, non-violence can be a well-trusted means of laying the groundwork of a new cosmopolitics. Though many continue to believe that non-violence is an ineffective instrument against dictatorships and genocide, in the last several decades many democratic initiatives, which were premised on non-violent militancy and an affirmation of human rights and helped build global civil society on solid ethical foundations, could be associated with a kind of neo-Gandhian quest for peace and justice. It is revealing that in a world where there are calamities such as terrorism, poverty, illiteracy and fanaticism, history can still be made out of choices. The choice of non-violence is ours. We live in a world of "overlapping destinies" where the fates of cultures are heavily intertwined. It is no longer a world of closed communities where tyrannical orders or religious traditions represented the sole layers of historical legitimacy. Never in the history of the human race has non-violence been so crucial. Only the most barbaric and despotic regimes, however, have attempted to prevent their subjects to think and to practise non-violence.

Non-violence has recently evolved from a simple tactic of resistance to a cosmopolitical aim based on international application of the principles of democracy. Over the past three decades, global terrorism, violation of human rights and environmental degradation have caused repercussions highlighting the concern for global politics of non-violence. These can best be dealt with at the global level. Global politics of non-violence, thus, is the task not only of governments but also of civil society, and inter-governmental, non-governmental and transnational organizations. Most importantly, the international community has the moral obligation and duty to intervene in countries if they slide into lawlessness and can't protect citizens from violations of human rights. Only a non-violent society can work its way up to creating the institutions ripe for development and lead to inter-cultural and inter-religious harmony. In a century where terror conditions the life and mentality of at least two-thirds of humanity and violence influences our everyday culture, we can't continue with the policy of the ostrich—having given up inquiring "whose responsibility it is?"

It would be a folly to expect non-violence to become effective and durable, while the majority still thinks politics in terms of the use of violence. It is true, as Karl Jaspers affirms: "In morality moral conviction is decisive, in politics it is success." But it is also true there is no long- term success in politics in the absence of morality. Thus, the political is dependent on the "over-political", which remains independent from politics. If politics does not remain dependent on the "over-political", it may end in ruin.

That is to say, political events bring moral responsibilities, and in turn ethical views place their imprint on political decisions. Politics without ethics is pure exercise of power. It is only in relation with ethics that politics can be elevated as a public virtue. Terrible crimes have been committed by political practice that tried to teach and impose moral behaviour. Spiritualizing politics, as Gandhi understood, is not about moralizing it, but an effort to redefine it in terms of civic responsibility in an explicit public sphere. Politics is the morally conscientious and socially responsible exercise of civic roles. Non-violence is the key to this. Violence is normally seen as a means to an end.

When we examine where we are today, given the politics and technology of violence, we can only conclude that we live in a world with no wisdom. The time has come for humanity to renew its commitment, politically, economically, and culturally to the wisdom of non-violence.

Gandhi said, "There is no hope for the aching world except through the narrow and straight path of non-violence." If we want to reap the harvest of dialogical coexistence in the future, we will have to sow seeds of non-violence. Sixty years after Gandhi's death, we face a choice.

Finding and Conclusions:

To conclude, Gandhian philosophy is not only simultaneously political, moral and religious, it is also traditional and modern simple and complex. Gandhiji and Gandhianism are always more than what we know. Gandhiji's political contributions offered us Independence but his ideologies enlighten India as well as the world even today after so many years. Perhaps this was known to Nobel prize winner Rabindranath Tagore in those days and he had rightly called Gandhiji as Mahatma. Every individual, thus, should follow the key Gandhian ideologies in their day to day life for a happy, prosperous, healthy, harmonious and sustainable future.

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SHIVAJI UNIVERSITY KOLHAPUR

DEPARTMENT OF POLITICAL SCIENCE
(Golden Jubilee Year 2019-20)

SHIVAJI UNIVERSITY POLITICAL SCIENCE ASSOCIATION
Jointly Organized Two Days National Seminar
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Certificate

This is to certify that Shri./Smt./Prof./Dr. Pandurang Shivaji Auti of Arts, science & commerce college, Kolhar, Tal- Rahata has Chaired the Session/Present as a Resources Person/Participated/Presented a research paper entitled Gandhian principles the 21st Century in the National Seminar at Department of Political Science, Shivaji University, Kolhapur during 10th and 11th January, 2020.

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