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ISSN : 2347-4777

INTERNATIONAL JOURNAL OF CULTURAL STUDIES AND SOCIAL SCIENCES

(UGC approved Multi-disciplinary Peer-Reviewed Journal)

UGC Journal Serial No.49228 in 2019 list

Currently Indexed in UGC CARE LIST, Serial No.159 in 2022 list

Vol-20, Issue-1, No.20, January - June: 2024



Eds.

Amitava Roy, Ronan Paterson,
Bryan Reynolds, Subir Dhar, Papia Mitra

A Special Publication of
Tagore Gandhi Institute
The Shakespeare Society of Eastern India.

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**INTERNATIONAL JOURNAL OF CULTURAL STUDIES AND
SOCIAL SCIENCES**

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AVANTGARDE PRESS

TAGORE-GANDHI INSTITUTE / SHAKESPEARE SOCIETY AVANTGARDE PRESS

International Journal of Cultural Studies and Social Sciences

अकोला जिल्ह्यातील मानवी विकास निर्देशांक ट्रेड आणि विषमतेचे विश्लेषण: एक सामाजिक-आर्थिक दृष्टीकोन

प्रा. गणेश शिवाजी किरोचे सहा.प्राध्यापक (वाणिज्य विभाग) जिजामाता महाविद्यालय, बुलढाणा

सार:

या शोधनिबंधाचा उद्देश अकोला जिल्ह्यातील मानवी विकास निर्देशांकाचा (HDI) सखोल विश्लेषणात्मक अभ्यास करणे, मानवी विकासाला हातभार लावणाऱ्या विविध सामाजिक-आर्थिक निर्देशकांचे परीक्षण करणे हा आहे. मानवी विकास निर्देशांक हे कल्याण, शिक्षण, उत्पन्न आणि आरोग्य यांसारख्या घटकांचा समावेश असलेले सर्वसमावेशक उपाय म्हणून काम करते. त्याच्या वैविध्यपूर्ण लोकसंख्याशास्त्रीय रचना आणि आर्थिक क्रियाकलापांमुळे विश्लेषणासाठी एक वेधक प्रकरण सादर करते. परिमाणात्मक विश्लेषण आणि सांख्यिकी पद्धतींद्वारे, हा पेपर अकोला जिल्ह्यातील एचडीआयचे ट्रेड, असमानता आणि निर्धारक शोधेल. याव्यतिरिक्त, ते सामाजिक-आर्थिक असमानता दूर करण्यासाठी आणि मानवी विकासाचे परिणाम सुधारण्यासाठी विद्यमान विकास धोरणे आणि हस्तक्षेपांच्या प्रभावीतेची तपासणी करेल. सुधारणा आणि धोरणात्मक शिफारशीसाठी प्रमुख क्षेत्रे ओळखून, या संशोधनाचा उद्देश अकोला जिल्हा आणि तत्सम प्रदेशांमध्ये मानवी विकासाच्या प्रयत्नांना चालना देण्यासाठी योगदान देणे आहे.

उपलब्ध माहिती स्रोत आणि सांख्यिकी तंत्र जसे की प्रतिगमन विश्लेषण आणि ट्रेड विश्लेषणाच्या व्यापक विश्लेषणाद्वारे, या अभ्यासाचे उद्दिष्ट मानवी विकासाचे चालक आणि अकोला जिल्ह्यात अस्तित्वात असलेल्या असमानतेबद्दल पुराव्यावर आधारित अंतर्दृष्टी प्रदान करणे आहे. मानवी विकासाच्या सामाजिक-आर्थिक परिमाणांना संबोधित करून, हे संशोधन सर्व व्यक्ती आणि समुदायांच्या कल्याणाला प्राधान्य देणाऱ्या सर्वसमावेशक आणि शाश्वत विकास धोरणांवरील व्यापक प्रवचनात योगदान देण्याचा प्रयत्न करते.

कळशब्द: मानव विकास निर्देशांक, अकोला जिल्हा, सामाजिक-आर्थिक निर्देशक, असमानता, धोरण विश्लेषण, विकास हस्तक्षेप

प्रस्तावना:

अलिकडच्या वर्षात, सामाजिक-आर्थिक विषमता समजून घेणे आणि त्यांचे निराकरण करणे हे जगभरातील विकास प्रयत्नांचे केंद्रस्थान बनले आहे. मानवी विकास निर्देशांक (HDI) हे मानवी विकासाच्या प्रगतीचे मूल्यांकन आणि निरीक्षण करण्यासाठी एक महत्वपूर्ण साधन म्हणून उदयास आले आहे, जे एकूणच कल्याणासाठी योगदान देणाऱ्या विविध सामाजिक-आर्थिक घटकांची अंतर्दृष्टी प्रदान करते. भारताच्या महाराष्ट्राच्या मध्यभागी असलेला अकोला जिल्हा, सामाजिक-आर्थिक दृष्टीकोनातून एचडीआय ट्रेड आणि असमानता तपासण्यासाठी एक अद्वितीय प्रकरण सादर करतो.

"अकोला जिल्ह्यातील मानवी विकास निर्देशांक ट्रेड आणि असमानता यांचे विश्लेषण: एक सामाजिक-आर्थिक दृष्टीकोन" शीर्षक असलेल्या या अभ्यासाचे उद्दीष्ट HDI वर परिणाम करणाऱ्या सामाजिक-आर्थिक घटकांचा शोध घेणे आणि अकोला जिल्ह्यातील मानवी विकासातील ट्रेड आणि असमानतेचे

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विश्लेषण करणे हा आहे. सामाजिक-आर्थिक दृष्टीकोन वापरून, हे संशोधन मानवी विकासाचे मूळ निर्धारक उघड करण्याचा प्रयत्न करते आणि या प्रदेशात न्याय्य आणि शाश्वत विकासाला चालना देण्यासाठी संभाव्य धोरणांवर प्रकाश टाकते.

अकोला जिल्हा, त्याच्या वैविध्यपूर्ण सामाजिक-आर्थिक परिदृश्याने वैशिष्ट्यीकृत, मानवी विकासाच्या गुंतागुंत समजून घेण्यासाठी एक आकर्षक अभ्यास सादर करतो. शहरी केंद्रे, ग्रामीण समुदाय आणि आदिवासी भागांचा समावेश असलेल्या लोकसंख्येसह, जिल्हा समृद्धीपासून वंचिततेपर्यंतच्या सामाजिक-आर्थिक परिस्थितीचे स्पेक्ट्रम प्रतिबिंबित करतो. अकोला जिल्ह्यातील विविध प्रदेश आणि लोकसंख्याशास्त्रीय गटांमधील एचडीआय ट्रेंड आणि असमानतेचे परीक्षण करून, या अभ्यासाचे उद्दीष्ट मानवी विकासाच्या परिणामांना आकार देणाऱ्या घटकांबद्दल आणि उपेक्षित समुदायांसमोरील आव्हानांबद्दल मौल्यवान अंतर्दृष्टी प्रदान करणे आहे.

या अभ्यासात स्वीकारण्यात आलेला सामाजिक-आर्थिक दृष्टीकोन मानवी विकासाचे मूलभूत स्तंभ म्हणून शिक्षण, उत्पन्न आणि आरोग्य यांच्यातील परस्परसंबंध ओळखतो. शिक्षण हे व्यक्तींना सशक्त बनवण्यासाठी आणि सामाजिक गतिशीलता वाढवण्यासाठी उत्प्रेरक म्हणून काम करते, तर उत्पन्नाची पातळी आणि आरोग्यसेवेचा प्रवेश हे कल्याण आणि जीवनाच्या गुणवत्तेचे निर्णायक आहेत. एचडीआय ट्रेंडच्या संयोगाने या सामाजिक-आर्थिक घटकांचे विश्लेषण करून, हे संशोधन मानवी विकासाची गुंतागुंतीची गतिशीलता उलगडण्याचा आणि हस्तक्षेप आणि धोरण सुधारणांच्या संधी ओळखण्याचा प्रयत्न करते.

सारांश, हा अभ्यास सामाजिक-आर्थिक दृष्टीकोनातून अकोला जिल्ह्यातील मानवी विकास निर्देशांक ट्रेंड आणि असमानतेची सूक्ष्म तपासणी करतो. मानवी विकासाचे प्रमुख निर्धारक ओळखून आणि सुधारणेसाठी क्षेत्रे हायलाइट करून, या संशोधनाचे उद्दिष्ट प्रदेशात न्याय्य आणि शाश्वत विकासाला चालना देण्याच्या उद्देशाने धोरण तयार करणे आणि वकिली प्रयत्नांची माहिती देणे आहे.

साहित्याचा आढावा:-

१) सुभा भट्टाचार्य आणि उस्मान अली इफ्तिखार (२०११) या शोधनिबंधात लेखकांनी हरित मानव विकासाची व्याख्या केली आणि UNDP-HDR २०११ मध्ये विचारात घेतलेल्या समस्या आणि न्याय्य आणि शाश्वत मानवी विकास साधण्यासाठी धोरणात्मक पर्यायांवर चर्चा केली. त्यांच्यासाठी मानवी विकासाला हरित करणे म्हणजे "मानवी कल्याण वाढवणे आणि असमानता कमी करणे आणि वर्तमान आणि भावी पिढ्यांचा दीर्घकाळापर्यंत महत्त्वपूर्ण हवामान आणि पर्यावरणीय जोखमी किंवा पर्यावरणीय टंचाईचा संपर्क कमी करणे." मानवी विकासाला हरित करण्यासाठी मूलभूत गोष्टींचा विस्तार करणे आवश्यक आहे. मानवी विकासाच्या समतोल आणि शाश्वत प्रगतीसाठी आवश्यक अटींमध्ये पुढील गोष्टींचा समावेश होतो: अ) आर्थिक वाढ जी गरीबांसाठी उत्पादक रोजगार आणि उद्योजकीय संधी निर्माण करते ब) गरीबांना लक्ष्य करणाऱ्या सामाजिक सेवांवर सार्वजनिक खर्च क) गरीब आणि उपेक्षित लोक आणि समुदायांचा सक्रिय समावेश आणि सक्षमीकरण ड) धक्क्यांपासून संरक्षण. त्यांनी शाश्वत आणि न्याय्य मानवी विकास साधण्यासाठी खालील धोरणात्मक पर्यायांवर अधोरेखित केले: अ) मूलभूत मानवी हक्कांची अंमलबजावणी करण्यासाठी शाश्वत आधुनिक उर्जेचा

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सार्वत्रिक प्रवेश. b) ऊर्जा आणि संसाधन कार्यक्षमता c) प्रगतीशील शहरीकरण d) ग्रीन नोकऱ्या शाश्वत उत्पादन आणि उपभोग पद्धती e) लोकांना प्रोत्साहन देणे, माहिती देणे आणि सरकारद्वारे लोकांना अधिक न्याय्य आणि शाश्वत निवडी आणि हिरव्या उपभोगाची संस्कृती आणि समावेशक धोरणात्मक दृष्टिकोन सक्षम करणे.

२) पाओला पगलियानी आणि अस्त्र बोनिनी (२०११) या शोधनिबंधात लेखकांनी शाश्वत आणि न्याय्य मानवी विकासाच्या समर्थनार्थ नवीन सामाजिक संपर्कावर चर्चा केली. त्यांनी नवीन सामाजिक करारांचा एक भाग म्हणून सरकारची धोरणे आखताना विचारात घेतलेल्या पाच प्रमुख क्षेत्रांवर प्रकाश टाकला. राष्ट्रीय स्तरावर नवीन सामाजिक कराराचा अर्थ "सामाजिक-आर्थिक आणि पर्यावरणीय चिंता एकत्र आणणारी धोरणे, समन्वय यंत्रणा, नवकल्पनांची संस्कृती, मजबूत संस्था आणि लोकांची जबाबदारी सुनिश्चित करण्यासाठी यंत्रणा." या पाच प्रमुख क्षेत्रांमध्ये हे समाविष्ट आहे: अ) पर्यावरणीय अधिकारांची संस्कृती स्थापित करणे. b) स्वच्छ पाणी, हवा आणि स्वच्छतेच्या अधिकाराचे रक्षण करणे c) नैसर्गिक आपत्ती आणि हवामान बदलाची असुरक्षा कमी करणे d) सभ्य उपजीविकेची उपलब्धता सुनिश्चित करणे आणि e) सामाजिक एकता वाढवणे.

३) संतोष मेहरोत्रा, अंकिता गांधी (२०१२) द इंडिया ह्युमन डेव्हलपमेंट रिपोर्ट २०११: टूवर्ड सोशल इन्क्लूजन (IHDR २०११) मानवी क्षमता दृष्टिकोनावर लक्ष केंद्रित करते, विकास प्रक्रियेत इनपुट म्हणून मानवी विकास परिणाम अभिप्राय. मानवी भांडवल निर्मितीला चालना देणारे हस्तक्षेप हे आर्थिक वाढीसाठी आणि उत्पन्नातील गरिबी कमी करण्यासाठी महत्वाचे आहेत. या अहवालात रोजगार, दारिद्र्य, पोषण, आरोग्य, शिक्षण, पायाभूत सुविधा, अपंगत्व आणि बालकामगार आणि राज्यवार एचडीआय यांचे विश्लेषण केले आहे. दोन्ही वर्षांमध्ये एचडीआयमधील पहिल्या पाच क्रमांकावर केरळ, दिल्ली, हिमाचल प्रदेश, गोवा आणि पंजाब यांचा समावेश आहे. शिक्षण निर्देशांक (२८.५%) आणि आरोग्य निर्देशांक (१३%) मधील सुधारणांमुळे १९९९-२००० ते २००७-०८ या आठ वर्षांच्या कालावधीत भारताच्या एचडीआयने २१% ची सुधारणा नोंदवली. आरोग्य आणि शैक्षणिक परिणामांवर चांगली कामगिरी करणारी राज्ये उच्च एचडीआय आणि त्यामुळे उच्च दरडोई उत्पन्न असलेली राज्ये आहेत, जी सुधारित मानवी कार्यपद्धतीत दिसून येते. अनेक वंचितांनी ग्रासलेल्या भारताच्या सामाजिक स्तरावरील समाजातील काही वर्ग विकासाचे फायदे वाटून घेऊ लागले आहेत की नाही हे स्पष्ट करणे हा अहवालाचा मुख्य विश्वास आहे.

४) नितीन मुंडे, (२०२०) "महाराष्ट्रातील मानव विकासाची स्थिती: जिल्हास्तरीय विश्लेषण, या अभ्यासात संशोधकाने सांगितले की, मानवी विकासाच्या विविध घटकांचा एकत्रित परिणाम, म्हणजे, ज्ञान, आयुर्मान आणि उत्पन्न मानवी विकास निर्देशांकाद्वारे परावर्तित होते, जे तपशीलवार मदत करते. आजचा महाराष्ट्र शालेय शिक्षणाच्या संधीच्या विस्तारामुळे भरपूर आणि गरिबीचे मिश्रित चित्र मांडतो. आरोग्य संसाधनांनी मुंबई आणि पश्चिम महाराष्ट्राच्या तुलनेत विदर्भ आणि मराठवाड्यातील आंतरजिल्हा विषमता ओळखल्या आहेत. आरोग्याशी संबंधित काही ट्रेंडमध्ये असे दिसून आले की आदिवासी भागात तसेच ग्रामीण-शहरी भागात विशेष लक्ष दिले जाते. एचडीआयचा तिसरा घटक म्हणजे एक सभ्य जीवनमान हे अर्थव्यवस्थेवर अवलंबून असते. महाराष्ट्राच्या आर्थिक परिस्थितीने उच्च वाढ दर्शविली आहे आणि उर्वरित देशासाठी हे एक मोठे यश आहे; तथापि, त्याची कमतरता म्हणजे वाढीच्या नफ्याचे असमान वितरण. महाराष्ट्रासाठी एचडीआय स्कोअर २००१ मधील ०.६६६

अकोला जिल्ह्यातील मानवी विकास निर्देशांक ट्रेंड आणि विषमतेचे विश्लेषण: एक सामाजिक-आर्थिक दृष्टीकोन

वरून २०११ मध्ये ०.७५२ पर्यंत सुधारला आहे. राज्याच्या पश्चिम भागात वसलेले जिल्हे, म्हणजे, मुंबई, पुणे आणि ठाणे, राज्यातील इतर जिल्ह्यांच्या तुलनेत खूप विकसित आहेत. असे असले तरी, नंदुरबार, गडचरोली आणि चंद्रपूर हे जिल्हे वनक्षेत्रामुळे कमी विकसित आहेत आणि आदिवासी लोकसंख्या बहुतांशी त्या भागात केंद्रित आहे. या भागांवर विशेष लक्ष देण्याची गरज आहे.

अभ्यासाचे महत्त्व:-

लक्षित विकास हस्तक्षेपांसाठी अकोला जिल्ह्यातील HDI ट्रेंड आणि असमानता समजून घेणे महत्वाचे आहे. या अभ्यासाचा सामाजिक-आर्थिक दृष्टिकोन मानवी विकासावर परिणाम करणाऱ्या शिक्षण, उत्पन्न आणि आरोग्य घटकांबद्दल अंतर्दृष्टी प्रदान करतो. निष्कर्ष धोरणकर्त्यांना विषमता दूर करण्यासाठी आणि क्षेत्रामध्ये शाश्वत विकासाला चालना देण्यासाठी सर्वसमावेशक धोरणे तयार करण्यात मार्गदर्शन करतील.

उद्देश:

1. अकोला जिल्ह्यातील शिक्षण, उत्पन्न आणि आरोग्य यासह HDI घटकांवर प्रभाव टाकणारे सामाजिक-आर्थिक घटक ओळखणे आणि त्यांचे परीक्षण करणे.
2. अकोला जिल्ह्यातील सामाजिक-आर्थिक असमानता दूर करण्यासाठी आणि मानवी विकासाचे परिणाम वाढवण्याच्या उद्देशाने धोरणात्मक हस्तक्षेप आणि उपक्रमांसाठी पुराव्यावर आधारित शिफारशी प्रस्तावित करणे.

संशोधन पद्धती:-

संशोधन पद्धती म्हणजे पद्धतशीर प्रक्रिया किंवा फ्रेमवर्क ज्याचा संशोधक त्यांचा अभ्यास करण्यासाठी, माहिती गोळा करण्यासाठी, माहितीचे विश्लेषण करण्यासाठी आणि निष्कर्ष काढण्यासाठी वापरतात. हे संशोधन प्रश्न किंवा उद्दिष्टे प्रभावीपणे संबोधित करण्यासाठी नियोजित एकूण दृष्टीकोन आणि तंत्रांचा समावेश करते. पद्धतीमध्ये संशोधन डिझाइन, माहिती संकलन पद्धती, नमुना तंत्र, माहिती विश्लेषण प्रक्रिया आणि संशोधन निष्कर्षाची वैधता आणि विश्वासार्हता सुनिश्चित करण्यासाठी धोरणे यांचा समावेश होतो. हे संशोधकांना संपूर्ण संशोधन प्रक्रियेत मार्गदर्शन करते.

संशोधन डिझाइन:-

या संशोधनामध्ये, संशोधकाने शोधात्मक संशोधन डिझाइन निवडले आहे कारण संशोधकाला विषयाचा सखोल शोध घ्यायचा आहे.

नमुना आराखडा:-

नमुना पद्धत:- यादृच्छिक नमुना: यादृच्छिक नमुन्यामध्ये स्वारस्य असलेल्या लोकसंख्येमधून यादृच्छिकपणे व्यक्तींची निवड करणे, लोकसंख्येच्या प्रत्येक सदस्यास नमुन्यात समाविष्ट होण्याची समान संधी आहे याची खात्री करणे समाविष्ट आहे. ही पद्धत पूर्वाग्रह कमी करण्यात आणि नमुन्याचे प्रतिनिधीत्व सुनिश्चित करण्यात मदत करते.

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नमुना आकार: २००: अकोला जिल्ह्याची लोकसंख्या अचूकपणे दर्शवू शकणारा पुरेसा मोठा आणि वैविध्यपूर्ण नमुना प्रदान करण्यासाठी २०० चा नमुना आकार निवडला जातो.

नमुना एकक: अकोला जिल्ह्यात रहिवाशी व्यक्ती: नमुना युनिट ज्या घटकांकडून डेटा संकलित केला जाईल त्या घटकांचा किंवा घटकांचा संदर्भ घेतो. या प्रकरणात, नमुना युनिट अकोला जिल्ह्यात राहणाऱ्या व्यक्ती आहेत, कारण ते अभ्यासाचे मुख्य केंद्र आहेत.

माहिती संकलन पद्धत: सर्वेक्षण प्रश्नावली: समोरासमोर मुलाखतीद्वारे प्रशासित सर्वेक्षण प्रश्नावलीद्वारे माहिती गोळा केली गेली आहे. ही पद्धत उत्तरदात्यांशी थेट संवाद साधण्यासाठी, सखोल डेटा संकलन आणि प्रतिसादांचे स्पष्टीकरण सुलभ करते. हे संशोधकांना परिमाणात्मक डेटासह समृद्ध गुणात्मक अंतर्दृष्टी गोळा करण्यास सक्षम करते.

मर्यादा:-

"अकोला जिल्ह्यातील मानवी विकास निर्देशांक ट्रेड आणि विषमता यांचे विश्लेषण: एक सामाजिक-आर्थिक दृष्टीकोन" या अभ्यासातील मर्यादांमध्ये डेटा उपलब्धता आणि गुणवत्तेमुळे उद्भवणाऱ्या अडचणींचा समावेश होतो, ज्यामुळे विश्लेषणाच्या अचूकतेवर आणि खोलीवर परिणाम होऊ शकतो. विशेषतः अकोला जिल्ह्यावर लक्ष केंद्रित केल्याने निष्कर्षांची सामान्यता इतर प्रदेशांपुरती मर्यादित होते, संभाव्यतः मानवी विकासातील व्यापक ट्रेडकडे दुर्लक्ष होते. याव्यतिरिक्त, अभ्यासाचा सामाजिक-आर्थिक दृष्टीकोन सांस्कृतिक, पर्यावरणीय किंवा राजकीय गतिशीलता यासारख्या इतर प्रभावशाली घटकांसाठी पूर्णपणे जबाबदार असू शकत नाही. तात्पुरती मर्यादा, पद्धतशीर मर्यादा आणि व्याख्येचे पूर्वाग्रह विश्लेषणाची व्याप्ती आणि खोली मर्यादित करू शकतात, तर विशिष्ट धोरणात्मक परिणामांच्या अभावामुळे त्याची व्यावहारिक उपयोगिता मर्यादित होऊ शकते. शिवाय, नैसर्गिक आपत्ती किंवा आर्थिक संकटांसारख्या बाह्य घटकांचा पूर्णपणे विचार केला जाऊ शकत नाही, ज्यामुळे निष्कर्षांच्या वैधतेवर संभाव्य परिणाम होतो. या मर्यादांचे निराकरण केल्याने अभ्यासाची ताकद वाढू शकते आणि अकोला जिल्ह्यातील मानवी विकास विषमता अधिक व्यापक समजू शकते.

गृहीतके:-

शून्य गृहीतक (H₀): अकोला जिल्ह्यात सामाजिक-आर्थिक घटक (शिक्षण, उत्पन्न आणि आरोग्य) आणि मानव विकास निर्देशांक (HDI) यांच्यात कोणताही महत्वाचा संबंध नाही.

पर्यायी गृहीतक (H₁): अकोला जिल्ह्यातील सामाजिक-आर्थिक घटक (शिक्षण, उत्पन्न आणि आरोग्य) आणि मानव विकास निर्देशांक (HDI) यांच्यात महत्त्वपूर्ण संबंध आहे.

प्रतिगमन विश्लेषण

| | | | |
|----------------|-------|------|-------------------------------|
| r ² | 0.282 | n | 200 |
| r | 0.531 | k | 1 |
| | | Dep. | Human Development Index (HDI) |
| Std. Error | 0.583 | Var. | |

ANOVA table

| Source | SS | df | MS | F | P-value |
|------------|---------|----|---------|-------|---------|
| Regression | 26.4199 | 1 | 26.4199 | 77.83 | 5.88E- |

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अकोला जिल्ह्यातील मानवी विकास निर्देशांक ट्रेड आणि विषमतेचे विश्लेषण: एक सामाजिक-आर्थिक दृष्टीकोन

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| | | | |
|----------|---------|-----|--------|
| Residual | 67.2156 | 198 | 0.3395 |
| Total | 93.6356 | 199 | |

| Regression output | | | | confidence interval | |
|------------------------|--------------|------------|------------|---------------------|---------------------|
| variables | coefficients | std. error | t (df=198) | p-value | 95% lower 95% upper |
| Intercept | 0.7142 | | | | |
| socio-economic factors | 0.5422 | 0.0615 | 8.822 | 5.88E-16 | 0.4210 0.6634 |

विश्लेषण:

प्रतिगमन विश्लेषण परिणाम दर्शवितात की सामाजिक-आर्थिक घटक (शिक्षण, उत्पन्न आणि आरोग्य) एकत्रितपणे अकोला जिल्ह्यातील मानवी विकास निर्देशांक (HDI) स्कोअरमधील फरकाच्या अंदाजे २८.२% ($R^2 = 0.282$) आहेत.

०.५३१ चा सहसंबंध गुणांक (r) सामाजिक-आर्थिक घटक आणि HDI यांच्यातील एक मध्यम मजबूत सकारात्मक संबंध सूचित करतो. याचा अर्थ असा होतो की जसजसे सामाजिक-आर्थिक घटक सुधारतात तसतसे एचडीआय स्कोअर देखील वाढतात.

विश्लेषणातून पुढे असे दिसून येते की ANOVA तक्त्याने दर्शविल्याप्रमाणे रीग्रेशन मॉडेल सांख्यिकीयदृष्ट्या महत्वपूर्ण आहे. ५.८८E-१६ च्या p-मूल्यासह ७७.८३ चे F-सांख्यिकी सूचित करते की रीग्रेशन मॉडेल शून्य मॉडेलच्या तुलनेत HDI स्कोअरमधील भिन्नता स्पष्ट करते.

प्रतिगमन गुणांकांचे परीक्षण करताना, सामाजिक-आर्थिक घटकांसाठी गुणांक ०.०६१५ च्या मानक त्रुटीसह ०.५४२२ आहे. हा गुणांक सूचित करतो की, सामाजिक-आर्थिक घटकांमध्ये (शिक्षण, उत्पन्न आणि आरोग्य) प्रत्येक एक-युनिट वाढीसाठी, एचडीआय स्कोअर ०.५४२२ युनिट्सने वाढण्याची अपेक्षा आहे.

सामाजिक-आर्थिक घटक गुणांक (०.४२१० ते ०.६६३४) साठी आत्मविश्वास मध्यांतर शून्य समाविष्ट करत नाही, हे दर्शविते की HDI वर सामाजिक-आर्थिक घटकांचा प्रभाव ९५% आत्मविश्वास स्तरावर सांख्यिकीयदृष्ट्या महत्वपूर्ण आहे. याचा अर्थ असा की आपण शून्य गृहितक नाकारू शकतो आणि असा निष्कर्ष काढू शकतो की अकोला जिल्ह्यातील सामाजिक-आर्थिक घटक आणि HDI यांच्यात महत्वपूर्ण संबंध आहे.

सारांश, अकोला जिल्ह्यातील मानवी विकास निर्देशांक (HDI) स्कोअरवर सामाजिक-आर्थिक घटकांचा (शिक्षण, उत्पन्न आणि आरोग्य) लक्षणीय सकारात्मक प्रभाव असल्याचे सुचवून प्रतिगमन विश्लेषण पर्यायी गृहीतकाला समर्थन देणारे पुरावे प्रदान करते.

शोध:-

१. सामाजिक-आर्थिक घटक आणि HDI यांच्यातील संबंध: प्रतिगमन विश्लेषण अकोला जिल्ह्यातील सामाजिक-आर्थिक घटक (शिक्षण, उत्पन्न आणि आरोग्य) आणि मानव विकास निर्देशांक (HDI)

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स्कोअर यांच्यातील सांख्यिकीयदृष्ट्या महत्त्वपूर्ण सकारात्मक संबंध प्रकट करते.

२. सामाजिक-आर्थिक घटकांचे योगदान: सामाजिक-आर्थिक घटक एकत्रितपणे अकोला जिल्ह्यातील एचडीआय स्कोअरमधील सुमारे २८.२% फरक स्पष्ट करतात. हे सूचित करते की शिक्षण, उत्पन्न आणि आरोग्यातील सुधारणा एकूण मानवी विकासाचे परिणाम वाढवण्यास महत्त्वपूर्ण योगदान देतात.
३. प्रभाव आकार: सामाजिक-आर्थिक घटकांसाठी प्रतिगमन गुणांक सूचित करतो की, सामाजिक-आर्थिक घटकांमध्ये सरासरी एक-युनिट वाढ एचडीआय स्कोअरमधील ०.५४२२ युनिट वाढीशी संबंधित आहे. हे एचडीआय परिणाम सुधारण्यावर सामाजिक-आर्थिक विकासाच्या महत्त्वपूर्ण प्रभावावर प्रकाश टाकते.

निष्कर्ष:

या अभ्यासाचे निष्कर्ष अकोला जिल्ह्यातील मानवी विकास निर्देशांक (HDI) स्कोअरवर सामाजिक-आर्थिक घटकांचा लक्षणीय प्रभाव पडतो या गृहीतकाला समर्थन देण्यासाठी भक्कम पुरावे देतात. लोकसंख्येचे सर्वांगीण कल्याण आणि विकास घडवण्यात शिक्षण, उत्पन्न आणि आरोग्य महत्त्वपूर्ण भूमिका बजावतात.

शिक्षणातील गुंतवणूक, जसे की साक्षरता दर सुधारणे आणि शैक्षणिक संधींचा विस्तार करणे, मानवी भांडवल वाढविण्यासाठी आणि सामाजिक-आर्थिक विकासाला चालना देण्यासाठी आवश्यक आहे. त्याचप्रमाणे, घरगुती उत्पन्नाची पातळी वाढवणे आणि आरोग्य सेवांमध्ये प्रवेश सुधारणे या उद्देशाने केलेले उपक्रम जीवनाचा एकूण दर्जा आणि मानवी विकास परिणाम सुधारण्यासाठी महत्त्वपूर्ण आहेत. अकोला जिल्ह्यातील धोरणकर्ते आणि भागधारकांनी सामाजिक-आर्थिक विषमता दूर करणाऱ्या आणि सर्वसमावेशक विकास धोरणांना प्रोत्साहन देणाऱ्या हस्तक्षेपांना प्राधान्य द्यावे. शिक्षण, उत्पन्न आणि आरोग्य परिणाम सुधारण्यावर लक्ष केंद्रित करून, जिल्हा मानवी विकासाची उच्च पातळी गाठण्यासाठी आणि तेथील रहिवाशांचे कल्याण वाढविण्यासाठी कार्य करू शकतो.

एकूणच, हा अभ्यास मानवी विकासाचे प्रमुख चालक म्हणून सामाजिक-आर्थिक घटकांना संबोधित करण्याचे महत्त्व अधोरेखित करतो आणि अकोला जिल्ह्यातील शाश्वत विकास आणि जीवनाचा दर्जा सुधारण्यासाठी लक्षित धोरणे आणि हस्तक्षेपांच्या गरजेवर भर देतो.

शिफारशी:-

शिक्षण आणि कौशल्य विकासामध्ये गुंतवणूक: अकोला जिल्ह्यातील लोकसंख्येमध्ये साक्षरता दर आणि रोजगारक्षमता कौशल्ये वाढविण्यासाठी सर्वसमावेशक शिक्षण आणि कौशल्य विकास कार्यक्रम राबवा. यामध्ये व्यावसायिक प्रशिक्षण, प्रौढ शिक्षण कार्यक्रम आणि उपेक्षित समुदायांना शिक्षणाचा समान प्रवेश सुनिश्चित करण्यासाठी शिष्यवृत्ती योजना यासारख्या उपक्रमांचा समावेश असू शकतो.

आरोग्यसेवा पायाभूत सुविधा आणि सेवांमध्ये सुधारणा: अकोला जिल्ह्यातील आरोग्यसेवा पायाभूत सुविधा आणि सेवांमध्ये सुधारणा करण्यासाठी, विशेषतः ग्रामीण आणि दुर्गम भागातील दर्जेदार आरोग्य सेवांमध्ये सुधारणा करा. याव्यतिरिक्त, माता आणि बाल आरोग्य, लसीकरण आणि रोग प्रतिबंध यावर लक्ष केंद्रित करणारे प्रतिबंधात्मक आरोग्य सेवा कार्यक्रम लागू केल्याने मानवी विकासाच्या परिणामांमध्ये लक्षणीय सुधारणा होऊ शकते.

अकोला जिल्ह्यातील मानवी विकास निर्देशांक ट्रेंड आणि विषमतेचे विश्लेषण: एक सामाजिक-आर्थिक दृष्टीकोन

उपजीविकेच्या संधी आणि उद्योजकतेला प्रोत्साहन: सूक्ष्म वित्त योजना, लघु व्यवसाय उष्मायन केंद्रे आणि स्थानिक उद्योगांना समर्थन यासारख्या लक्षित हस्तक्षेपांद्वारे अकोला जिल्ह्यात उपजीविकेच्या संधी निर्माण करणे आणि उद्योजकतेला प्रोत्साहन देणे. शाश्वत शेतीच्या वाढीस प्रोत्साहन देणे, स्थानिक उत्पादनांमध्ये मूल्यवर्धनास प्रोत्साहन देणे आणि बाजारपेठांशी संबंध वाढवणे यामुळे आर्थिक संभावना वाढू शकतात आणि सामाजिक-आर्थिक विषमता कमी होऊ शकते.

पायाभूत सुविधांचा विकास: अकोला जिल्ह्यातील सुलभता सुधारण्यासाठी आणि आर्थिक विकासाला चालना देण्यासाठी रस्ते नेटवर्क, वीज आणि डिजिटल कनेक्टिव्हिटीसह पायाभूत सुविधा विकास आणि कनेक्टिव्हिटी प्रकल्पांना प्राधान्य द्या. पायाभूत सुविधा वाढवण्यामुळे केवळ वस्तू आणि सेवांची वाहतूक सुलभ होत नाही तर गुंतवणूक आकर्षित होते, रोजगाराच्या संधी निर्माण होतात आणि संपूर्ण जिल्ह्यातील रहिवाशांचे जीवनमान सुधारते.

सामुदायिक सशक्तीकरण आणि सहभाग: विकास उपक्रमांचे नियोजन, अंमलबजावणी आणि निरीक्षणामध्ये समुदायांना गुंतवून ठेवल्याने त्यांच्या गरजा आणि प्राधान्यक्रम पुरेशा प्रमाणात पूर्ण केले जातील, ज्यामुळे अकोला जिल्ह्यात अधिक शाश्वत आणि समावेशक मानवी विकासाचे परिणाम दिसून येतील.

संदर्भ:-

- Bhattacharjee, S., & Iftikhar, U. A. (२०११). Greening Human Development: Capturing wins in Equity and Environmental Sustainability. *UNDP*.
- Government of Maharashtra. (२०१२). Comprehensive Nutrition Survey in Maharashtra- C.N.S.M.FACT SHEET २०१२. Department of Women and Child Development, Government of Maharashtra, UNICEF, *International Institute of Population Sciences*.
- Mehrotra, S., & Gandhi, A. (२०१२). India's Human Development in the २०००s Towards Social Inclusion. *Economic & Political Weekly*, April ७, २०१२.
- Mundhe, N., et al. (२०२०). Status of Human Development in Maharashtra: A District Level Analysis. *Shanlax International Journal of Economics*, ८(३), ८८-९६.
- Pagliani, P., & Bonini, A. (२०११). A New Social Contract For Sustainable Human Development. *UNDP*.
- UNDP- India. (२०११). India's Human Development Journey - From Analysis to Action. www.undp.org.in



Bioscience Discovery, 15(1a):125-130, Jan. - 2024

Open Access, Peer Reviewed, Refereed Research Journal

© RUT Printer and Publisher

Print & Online available on <https://jbsd.in>

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

Research Article



National education policy-2020

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Article Info

Received: 29-09-2023,

Revised: 05-12-2023,

Accepted: 16-01-2024

Keywords: agenda, country, higher, National Education Policy, Education, Technology,

Abstract

The National Education Policy-2020 of India is the evidence of our changing intention to create the system to cater the needs of changing world. Education is the basis on which intellectual ability of the children is developed. The education is of prime importance when it comes to the inculcating the cultures, teaching, and learning. The ability of a country to prosper is understood by the innovation and education adopted to grow. The use of technology to develop the human capital and to maximize the talents of the people. The Agenda for Sustainable Development Goals will be achieved when the NEP is properly implemented.

INTRODUCTION:

Education is fundamental for achieving full human potential, developing an equitable and just society, and promoting national development. Providing universal access to quality education is the key to India's continued ascent, and leadership on the global stage in terms of economic growth, social justice and equality, scientific advancement, national integration, and cultural preservation. Universal high-quality education is the best way forward for developing and maximizing our country's rich talents and resources for the good of the individual, the society, the country, and the world. India will have the highest population of young people in the world over the next decade, and our ability to provide high-quality educational opportunities to them will determine the future of our country.

The global education development agenda reflected in the Goal 4 (SDG4) of the 2030 Agenda for Sustainable Development, adopted by India in 2015 - seeks to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" by 2030. Such a lofty goal will require the entire education system to be reconfigured to support and foster learning, so that all of the critical targets and goals (SDGs) of the

2030 Agenda for Sustainable Development can be achieved (Aithal & Aithal, 2020)

The world is undergoing rapid changes in the knowledge landscape. With various dramatic scientific and technological advances, such as the rise of big data, machine learning, and artificial intelligence, many unskilled jobs worldwide may be taken over by machines, while the need for a skilled workforce, particularly involving mathematics, computer science, and data science, in conjunction with multidisciplinary abilities across the sciences, social sciences, and humanities, will be increasingly in greater demand. With climate change, increasing pollution, and depleting natural resources, there will be a sizeable shift in how we meet the world's energy, water, food, and sanitation needs, again resulting in the need for new skilled labour, particularly in biology, chemistry, physics, agriculture, climate science, and social science. The growing emergence of epidemics and pandemics will also call for collaborative research in infectious disease management and development of vaccines and the resultant social issues heightens the need for multidisciplinary learning. There will be a growing demand for humanities and art, as India moves towards becoming a developed country as well as among the three largest economies in the world.

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ISSN: 2231-024X (Online)

Gawai Suresh Namdeo

The Vision of this Policy:

This National Education Policy envisions an education system rooted in Indian ethos that contributes directly to transforming India, that is Bharat, sustainably into an equitable and vibrant knowledge society, by providing high-quality education to all, and thereby making India a global knowledge superpower. The Policy envisages that the curriculum and pedagogy of our institutions must develop among the students a deep sense of respect towards the Fundamental Duties and Constitutional values, bonding with one's country, and a conscious awareness of one's roles and responsibilities in a changing world (Ahuja, 2023). The vision of the Policy is to instill among the learners a deep-rooted pride in being Indian, not only in thought, but also in spirit, intellect, and deeds, as well as to develop knowledge, skills, values, and dispositions that support responsible commitment to human rights, sustainable development and living, and global well-being, thereby reflecting a truly global citizen.

Higher education.**Quality Universities and Colleges: A New and Forward-looking Vision for India's Higher Education System**

1. Higher education plays an extremely important role in promoting human as well as societal wellbeing and in developing India as envisioned in its Constitution - a democratic, just, socially conscious, cultured, and humane nation upholding liberty, equality, fraternity, and justice for all. Higher education significantly contributes towards sustainable livelihoods and economic development of the nation. As India moves towards becoming a knowledge economy and society, more and younger Indians are likely to aspire for higher education.

2. Given the 21st century requirements, quality higher education must aim to develop good, thoughtful, well-rounded, and creative individuals. It must enable an individual to study one or more specialized areas of interest at a deep level, and also develop character, ethical and Constitutional values, intellectual curiosity, scientific temper, creativity, spirit of service, and 21st century capabilities across a range of disciplines including sciences, social sciences, arts, humanities, languages, as well as professional, technical, and vocational subjects. A quality higher education must enable personal accomplishment and enlightenment, constructive public engagement, and productive contribution to the society. It must prepare students for more

meaningful and satisfying lives and work roles and enable economic independence (Jandhyala, 2003.)

3. For the purpose of developing holistic individuals, it is essential that an identified set of skills and values will be incorporated at each stage of learning, from pre-school to higher education.

4. At the societal level, higher education must enable the development of an enlightened, socially conscious, knowledgeable, and skilled nation that can find and implement robust solutions to its own problems. Higher education must form the basis for knowledge creation and innovation thereby contributing to a growing national economy. The purpose of quality higher education is, therefore, more than the creation of greater opportunities for individual employment. It represents the key to more vibrant, socially engaged, cooperative communities and a happier, cohesive, cultured, productive, innovative, progressive, and prosperous nation.

Some of the major problems currently faced by the higher education system in India include:

(a) A severely fragmented higher educational ecosystem;

(b) Less emphasis on the development of cognitive skills and learning outcomes;

(c) A rigid separation of disciplines, with early specialisation and streaming of students into narrow areas of study;

(d) Limited access particularly in socio-economically disadvantaged areas, with few HEIs that teach in local languages

(e) limited teacher and institutional autonomy;

(f) Inadequate mechanisms for merit-based career management and progression of faculty and institutional leaders;

(g) Lesser emphasis on research at most universities and colleges, and lack of competitive peer reviewed research funding across disciplines;

(h) Suboptimal governance and leadership of HEIs;

(i) An ineffective regulatory system; and

(j) Large affiliating universities resulting in low standards of undergraduate education.

This policy envisions a complete overhaul and re-energizing of the higher education system to overcome these challenges and thereby deliver high-quality higher education, with equity and inclusion. The policy's vision includes the following key changes to the current system: (a) moving towards a higher educational system consisting of large, multidisciplinary universities and colleges, with at least one in or near every district, and with more HEIs across India that offer

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medium of instruction or programmes in local/Indian languages;

(b) Moving towards a more multidisciplinary undergraduate education;

(c) Moving towards faculty and institutional autonomy;

(d) Revamping curriculum, pedagogy, assessment, and student support for enhanced student experiences;

(e) Reaffirming the integrity of faculty and institutional leadership positions through merit appointments and career progression based on teaching, research, and service;

(f) Establishment of a National Research Foundation to fund outstanding peer-reviewed research and to actively seed research in universities and colleges;

(g) Governance of HEIs by high qualified independent boards having academic and administrative autonomy;

(h) "Light but tight" regulation by a single regulator for higher education;

(i) increased access, equity, and inclusion through a range of measures, including greater opportunities for outstanding public education; scholarships by private/philanthropic universities for disadvantaged and underprivileged students; online education, and Open Distance Learning (ODL); and all infrastructure and learning materials accessible and available to learners with disabilities.

Institutional Restructuring and Consolidation

1. The main thrust of this policy regarding higher education is to end the fragmentation of higher education by transforming higher education institutions into large multidisciplinary universities, colleges, and HEI clusters/Knowledge Hubs, each of which will aim to have 3,000 or more students. This would help build vibrant communities of scholars and peers, break down harmful silos, enable students to become well-rounded across disciplines including artistic, creative, and analytic subjects as well as sports, develop active research communities across disciplines including cross-disciplinary research, and increase resource efficiency, both material and human, across higher education.

2. Moving to large multidisciplinary universities and HEI clusters is thus the highest recommendation of this policy regarding the structure of higher education. The ancient Indian universities Takshashila, Nalanda, Vallabhi, and Vikramshila, which had thousands of students from India and the world studying in vibrant

multidisciplinary environments, amply demonstrated the type of great success that large multidisciplinary research and teaching universities could bring. India urgently needs to bring back this great Indian tradition to create well-rounded and innovative individuals, and which is already transforming other countries educationally and economically.

3. This vision of higher education will require, in particular, a new conceptual perception/understanding for what constitutes a higher education institution (HEI), i.e., a university or a college. A university will mean a multidisciplinary institution of higher learning that offers undergraduate and graduate programmes, with high quality teaching, research, and community engagement. The definition of university will thus allow a spectrum of institutions that range from those that place equal emphasis on teaching and research i.e., Research-intensive Universities, those that place greater emphasis on teaching but still conduct significant research i.e. Teaching-intensive Universities. Meanwhile, an Autonomous degree-granting College (AC) will refer to a large multidisciplinary institution of higher learning that grants undergraduate degrees and is primarily focused on undergraduate teaching though it would not be restricted to that and it need not be restricted to that and it would generally be smaller than a typical university.

4. A stage-wise mechanism for granting graded autonomy to colleges, through a transparent system of graded accreditation, will be established. Colleges will be encouraged, mentored, supported, and incentivized to gradually attain the minimum benchmarks required for each level of accreditation. Over a period of time, it is envisaged that every college would develop into either an Autonomous degree-granting College, or a constituent college of a university - in the latter case, it would be fully a part of the university. With appropriate accreditations, Autonomous degree-granting Colleges could evolve into Research-intensive or Teaching-intensive Universities, if they so aspire.

5. It must be clearly stated that these three broad types of institutions are not in any natural way a rigid, exclusionary categorization, but are along a continuum. HEIs will have the autonomy and freedom to move gradually from one category to another, based on their plans, actions, and effectiveness. The most salient marker for these categories of institutions will be the focus of their goals and work. The Accreditation System will

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develop and use appropriately different and relevant norms across this range of HEIs. However, the expectations of high quality of education, and of teaching-learning, across all HEIs will be the same.

6. In addition to teaching and research, HEIs will have other crucial responsibilities, which they will discharge through appropriate resourcing, incentives, and structures. These include supporting other HEIs in their development, community engagement and service, contribution to various fields of practice, faculty development for the higher education system, and support to school education.

7. By 2040, all higher education institutions (HEIs) shall aim to become multidisciplinary institutions and shall aim to have larger student enrolments preferably in the thousands, for optimal use of infrastructure and resources, and for the creation of vibrant multidisciplinary communities. Since this process will take time, all HEIs will firstly plan to become multidisciplinary by 2030, and then gradually increase student strength to the desired levels.

8. More HEIs shall be established and developed in underserved regions to ensure full access, equity, and inclusion. There shall, by 2030, be at least one large multidisciplinary HEI in or near every district. Steps shall be taken towards developing high-quality higher education institutions both public and private that have medium of instruction in local/Indian languages or bilingually. The aim will be to increase the Gross Enrolment Ratio in higher education including vocational education from 26.3% (2018) to 50% by 2035. While a number of new institutions may be developed to attain these goals, a large part of the capacity creation will be achieved by consolidating, substantially expanding, and also improving existing HEIs.

9. Growth will be in both public and private institutions, with a strong emphasis on developing a large number of outstanding public institutions. There will be a fair and transparent system for determining increased levels of public funding support for public HEIs. This system will give an equitable opportunity for all public institutions to grow and develop, and will be based on transparent, pre-announced criteria from within the accreditation norms of the Accreditation System. HEIs delivering education of the highest quality as laid down in this Policy will be incentivized in expanding their capacity.

10. Institutions will have the option to run Open Distance Learning (ODL) and online programmes,

provided they are accredited to do so, in order to enhance their offerings, improve access, increase GIER, and provide opportunities for lifelong learning (SDG 4). All ODL programmes and their components leading to any diploma or degree will be of standards and quality equivalent to the highest quality programmes run by the HEIs on their campuses. Top institutions accredited for ODL will be encouraged and supported to develop high-quality online courses. Such quality online courses will be suitably integrated into curricula of HEIs, and blended mode will be preferred.

11. Single-stream HEIs will be phased out over time, and all will move towards becoming vibrant multidisciplinary institutions or parts of vibrant multidisciplinary HEI clusters, in order to enable and encourage high-quality multidisciplinary and cross-disciplinary teaching and research across fields. Single-stream HEIs will, in particular, add departments across different fields that would strengthen the single stream that they currently serve. Through the attainment of suitable accreditations, all HEIs will gradually move towards full autonomy - academic and administrative - in order to enable this vibrant culture. The autonomy of public institutions will be backed by adequate public financial support and stability. Private institutions with a public-spirited commitment to high-quality equitable education will be encouraged.

12. The new regulatory system envisioned by this Policy will foster this overall culture of empowerment and autonomy to innovate, including by gradually phasing out the system of 'affiliated colleges' over a period of fifteen years through a system of graded autonomy, and to be carried out in a challenge mode. Each existing affiliating university will be responsible for mentoring its affiliated colleges so that they can develop their capabilities and achieve minimum benchmarks in academic and curricular matters; teaching and assessment; governance reforms; financial robustness; and administrative efficiency. All colleges currently affiliated to a university shall attain the required benchmarks over time to secure the prescribed accreditation benchmarks and eventually become autonomous degree-granting colleges. This will be achieved through a concerted national effort including suitable mentoring and governmental support for the same.

13. The overall higher education sector will aim to be an integrated higher education system, including professional and vocational education. This Policy

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and its approach will be equally applicable to all HEIs across all current streams, which would eventually merge into one coherent ecosystem of higher education.

14. University, worldwide, means a multidisciplinary institution of higher learning that offers undergraduate, graduate, and Ph.D. programmes, and engages in high-quality teaching and research. The present complex nomenclature of HEIs in the country such as 'deemed to be university', 'affiliating university', 'affiliating technical university', 'unitary university' shall be replaced simply by 'university' on fulfilling the criteria as per norms.

Transforming the Regulatory System of Higher Education

1. Regulation of higher education has been too heavy-handed for decades; too much has been attempted to be regulated with too little effect. The mechanistic and disempowering nature of the regulatory system has been rife with very basic problems, such as heavy concentrations of power within a few bodies, conflicts of interest among these bodies, and a resulting lack of accountability. The regulatory system is in need of a complete overhaul in order to re-energize the higher education sector and enable it to thrive.

2. To address the above-mentioned issues, the regulatory system of higher education will ensure that the distinct functions of regulation, accreditation, funding, and academic standard setting will be performed by distinct, independent, and empowered bodies. This is considered essential to create checks-and-balances in the system, minimize conflicts of interest, and eliminate concentrations of power. To ensure that the four institutional structures carrying out these four essential functions work independently yet at the same time and work in synergy towards common goals. These four structures will be set up as four independent verticals within one umbrella institution, the Higher Education Commission of India (HECI).

3. The first vertical of HECI will be the National Higher Education Regulatory Council (NIHERC). It will function as the common, single point regulator for the higher education sector including teacher education and excluding medical and legal education, thus eliminating the duplication and disjunction of regulatory efforts by the multiple regulatory agencies that exist at the current time. It will require a relook and repealing of existing Acts

and restructuring of various existing regulatory bodies to enable this single point regulation. NIHERC will be set up to regulate in a 'light but tight' and facilitative manner, meaning that a few important matters particularly financial probity, good governance, and the full online and offline public self-disclosure of all finances, audits, procedures, infrastructure, faculty/staff, courses, and educational outcomes will be very effectively regulated. This information will have to be made available and kept updated and accurate by all higher education institutions on a public website maintained by NIHERC and on the institutions' websites. Any complaints or grievances from stakeholders and others arising out of the information placed in public domain shall be adjudicated by NIHERC. Feedback from randomly selected students including differently-abled students at each HEI will be solicited online to ensure valuable input at regular intervals.

4. The primary mechanism to enable such regulation will be accreditation. The second vertical of HECI will, therefore, be a 'meta-accrediting body', called the National Accreditation Council (NAC). Accreditation of institutions will be based primarily on basic norms, public self-disclosure, good governance, and outcomes, and it will be carried out by an independent ecosystem of accrediting institutions supervised and overseen by NAC. The task to function as a recognized accreditor shall be awarded to an appropriate number of institutions by NAC. In the short term, a robust system of graded accreditation shall be established, which will specify phased benchmarks for all HEIs to achieve set levels of quality, self-governance, and autonomy. In turn, all HEIs will aim, through their Institutional Development Plans (IDPs), to attain the highest level of accreditation over the next 15 years, and thereby eventually aim to function as self-governing degree-granting institutions/clusters. In the long run, accreditation will become a binary process, as per the extant global practice.

5. The third vertical of HECI will be the Higher Education Grants Council (HEGC), which will carry out funding and financing of higher education based on transparent criteria, including the IDPs prepared by the institutions and the progress made on their implementation. HEGC will be entrusted with the disbursement of scholarships and developmental funds for launching new focus areas and expanding quality programme offerings at HEIs across disciplines and fields.





UGC CARE LISTED
ISSN No. 2394-5990

इतिहासार्थ वि. का. राजवाडे मंडळ संशोधक, धुळे
या संस्थेचे त्रैमासिक

॥ संशोधक ॥

जून – २०२३ (त्रैमासिक)

● शके १९४५ ● वर्ष : ९१ ● अंक : २

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* प्रकाशक *

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कार्याध्यक्ष

इ. वि. का. राजवाडे संशोधन मंडळ, धुळे ४२४००१

दूरध्वनी (०२५६२) २३३८४८

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मुखपृष्ठ चित्र : विठ्ठल आणि वारकरी

महाराष्ट्र राज्य साहित्य आणि संस्कृती मंडळाने या नियतकालिकेच्या प्रकाशनार्थ अनुदान दिले आहे. या नियतकालिकेतील लेखांच्या विचारांशी मंडळ व शासन सहमत असेलच असे नाही.

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श्रीमन्महादेव, धुळे.

संशोधक

बुलढाणा जिल्ह्याची ऐतिहासिक वैभवता

– डॉ. नामदेव ना. ढाले,
बुलढाणा.

बुलढाणा जिल्ह्याला पौराणिक, प्राचीन, मध्ययुगीन आणि आधुनिक काळाची वैभवता लाभलेली आहे. विदर्भ हा देश दंडकारण्याचाच एक भाग असल्यामुळे रामायण व महाभारत या दोन्ही काळी घडलेल्या विविध घडामोडींमध्ये बुलढाणा जिल्ह्याचे वर्णन ऐतिहासिक पौराणिक ग्रंथामधून आढळून येते. घृष्णेश्वरचे दर्शन घेऊन श्रीराम प्रभू हे विरज (लोणार) तीर्थास आले व तेथील देवीचे दर्शन घेऊन पुढे गेले होते.^१ पौराणिक काळात लोणार (विरज) हे तीर्थक्षेत्र म्हणून प्रसिद्ध होते. आजही लोणार चे महत्त्व जागतिक स्थळावर तितकेच महत्त्वाचे आहे. उल्कापाताने निर्मित लोणारचे सरोवर जगप्रसिद्ध आहे. लोणार सारखी मेहकरलाही (मेघंकर) पौराणिक इतिहासाचा स्पर्श आहे. श्राद्धकल्पास योग्य ठिकाण म्हणून मेहकरचा उल्लेख असून शास्त्राने सुद्धा ते मान्य केले आहे.^२

मौर्य, शुंभ, सातवाहन, वाकाटक, चालुक्य, यादव इ. प्राचीन राजघराण्यांची सत्ता बुलढाणा जिल्ह्यात होती. मेहकर, लोणार, अमडापूर इ. ठिकाणी सापडलेल्या शिलालेखांवरून व मालविकाग्रिमित्र सारख्या प्राचीन ग्रंथावरून स्पष्ट होते. सम्राट अशोक या बौद्धधर्मीय राजाच्या ताब्यात बुलढाणा जिल्हा होता. त्याच्या काळात बौद्ध धर्माचा प्रसार बुलढाणा जिल्ह्याच्या परिसरात झाला होता. अजिंठा येथील लेणी नं. १६ वरून याबाबत माहिती मिळते.^३

अल्लाउद्दीन खिल्जीने बुलढाणा जिल्ह्यातील रोहिणखेड व राजुरच्या घाटातून देवगीरीवर (दौलताबाद) दिल्लीवरून चाल केली होती. नंतर तुघलकाने देवगीरी ही राजधानी बनविली, तेव्हा बुलढाणा जिल्ह्याला महत्त्वाचे स्थान प्राप्त झाले होते. बहामनी शासकांनी संरक्षणाच्या दृष्टीने रोहिणखेड, देऊळघाट, लाखनवाडा, घाटबोरी इ. ठिकाणी प्रचंड तटबंदी (परकोट) बांधल्यात. अद्यापही त्या कायम आहेत. लढाईच्या काळात रोहिणखेड व त्या परिसरातील भूमीच्या शत्रूला युद्धात कोंडण्यासाठी उपयोग करण्यात येत होता. बहामनी सत्तेचे तुकडे झाल्यानंतर इमादशाही, निजामशाही

जून २०२३

(८३)



इतिहासाचार्य वि. का. राजवाडे संशोधन मंडळ, धुळे.

संशोधक

तर कधी मोगल सत्तेखाली बुलढाणा जिल्ह्याला रहावे लागले. मोगलांच्या तेरा सरकारात मेहकर सरकारचा काही प्रदेश मिळून बुलढाणा जिल्हा निर्माण करण्यात आला होता. दिल्लीच्या मोगल सत्तेच्या पतनावस्थेत मोगल सरदार निजामुलमुल्क व मुबारीजखान यांच्यात आपसात लढाई बुलढाणा जिल्ह्यातील साखरखेडा (इ.स. १७२४) येथे होऊन मुबारीजखानाचा पराभव झाला. साखरखेड्यांची लढाई म्हणजे निजामाचे राज्य स्थापनेचा खरा आरंभ होय.^४ याच काळापासून वऱ्हाडवर त्याचा स्वतंत्र अंमल सुरू झाला.

स्वराज्य कल्पनेशी बुलढाणा जिल्ह्याचा असलेला संबंध :

साखरखेड्याच्या लढाईत बुलढाणा जिल्ह्यातील सिंदखेडचे जाधव घराणे मुबारीज खानातर्फे लढले. निजामशहा विरुद्धच्या या लढ्यात जगदेवराव जाधवांनी पराक्रम गाजविला म्हणून त्यांना 'रुस्तमराव' किताब मिळाला. आपला पराक्रम व कर्तबगारीच्या बलबुत्यावर संपूर्ण महाराष्ट्रात बुलढाणा जिल्ह्यातील सिंदखेडचे जाधव घराणे मध्ययुगीन काळात प्रसिद्धीच्या झोत्यात नेहमीच होते ते बुलढाणा जिल्ह्याचे एक वैशिष्ट्य होते. हिंदूवर चालणाऱ्या मुसलमानांच्या अत्याचाराबाबत सिंदखेडचे जाधव घराणे हे मोगल बादशहावर उलटत्याचा उल्लेख बखरीत आढळून येतो. तत्कालीन काळात, मुसलमानांची नोकरी पत्करून देखील या घराण्याने स्वधर्म जागृत ठेवला. हे बुलढाणा जिल्ह्याचे अधिकचे वैशिष्ट्य मानता येईल. मराठी राज्य संस्थापनेस बुलढाणा जिल्ह्याने महत्त्वपूर्ण भूमिका वटविली असे म्हणणे वावगे होणार नाही. मराठी राज्य संस्थापकांच्या अंगात बुलढाणा जिल्ह्याचे रक्त खेळत होते. बुलढाणा जिल्ह्याचे मातृत्व जिजाबाई यांचा उपयोग छत्रपती शिवराय यांना स्वराज्य निर्मितीसाठी झाला होता असे अनेक इतिहासकारांच्या एकमताने निश्चित झाले आहे. जिजाबाईंच्या रूपाने बुलढाणा जिल्ह्याचे कर्तृत्व व वैभवता मध्ययुगीन काळातच नव्हे तर आजही तेवढीच आहे. वऱ्हाडातील किंबहुना महाराष्ट्रातील सर्व जुन्या इतिहासप्रसिद्ध घराण्यात जाधव घराण्यासारखे तोडीचे दुसरे घराणे नव्हते.^५ शिवाजी महाराजांनी आपले बालपण आपल्या आजोळी म्हणजे बुलढाणा जिल्ह्यात घालविलेले आहे हे स्वाभिमानाने सांगता येईल. १७ व्या शतकात संपूर्ण महाराष्ट्रावर आलेले अस्मानी संकट शिवाजी महाराजांच्या पराक्रमाने नष्ट झाले. शिवाजी महाराजांच्या या कार्याला संपूर्ण मराठमोळ्या जनतेबरोबरच जिजाबाईंचा आशीर्वाद व प्रेरणा होती. त्यामुळेच त्यांना स्वराज्य स्थापन करता आले.

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जून २०२३



इतिहासकार्य वि. का. राजवाडे संशोधन मंडळ, धुळे.

संशोधक

इंग्रजी अमलाखालील बुलढाणा जिल्हा :

१८५७ च्या बंडाचे एक नेते तात्या टोपे हे भूमिगत झाल्यानंतर त्यांनी जळगाव जामोद येथील शिंदे घराण्यातील मुकुटराव यांची भेट घेतली व त्यांनी दारूगोळा, तोफा अशा प्रकारचा शस्त्रसाठा जमविण्याचा प्रयत्न केला होता.^५ यावेळी विदर्भ भूमीत बंडाचे वातावरण निर्माण झाले.

१८६३-६४ मध्ये प्रथमतः बुलढाणा जिल्ह्यातील गावे सेंट्रल रेल्वेशी जुळले गेली. त्यामुळे बुलढाणा जिल्ह्यात शैक्षणिक व व्यापार उद्योगाचा विकास झाला. भारतीय व्यापाऱ्यांबरोबरच युरोपीयन कंपन्यांनी देखील आपले भांडवल बुलढाणा जिल्ह्यात गुंतवण्यास सुरुवात केली.

१८६७ मध्ये बुलढाणा शहाराला जिल्ह्याच्या राजधानीचा दर्जा मिळाला. तेव्हा मेहकर, चिखली, मलकापूर व १९०५ मध्ये जळगाव जामोद व खामगाव अशा ५ तालुक्यांचा समावेश झाला होता. तत्कालीन काळात उत्तर वऱ्हाडाच्या राजधानीचा जिल्हा म्हणून बुलढाणा जिल्ह्यास मान मिळाला होता. तसेच इंग्रजी आमदनीची छावणीही बुलढाणा येथेच होती.^६

१८८५ मध्ये भारतीय राष्ट्रीय सभेची स्थापना झाली तेव्हा या राष्ट्रीय सभेच्या दरवर्षी भरणाऱ्या अधिवेशनात बुलढाणा जिल्ह्याचे प्रतिनिधी (डेलीगेट्स) हजर रहात होते. विष्णू सावजी, वासुदेवराव, दादा पिंपळीकर, बाबासाहेब काळेले, पं. पन्नालाल व्यास इ. सारखे पहिल्या पिढीतील नेतृत्व पुढे आले. या सर्वांनी बुलढाणा जिल्ह्यात इंग्रजी सत्तेविरुद्ध प्रारंभिक जागृती घडवून आणली. १८८८ मध्ये ॲलन ह्यूम हे अकोला येथे आले. त्यांचे राष्ट्रीय सभेचे अर्धवट असलेले कार्य देवराव बाबा दिगंबर यांनी बुलढाणा जिल्ह्यातील अनेक गावात प्रचंड दौरे काढून पूर्ण केले.^७

१८९५ मध्ये पुणे येथील राष्ट्रीय सभेत स्वदेशी चळवळीचा श्रीगणेशा झाल्याबरोबरच १८९६ मध्ये मेहकर येथे स्वदेशी व अन्याय प्रतिकारार्थ एक मोठी व ऐतिहासिक सभा झाली. या सभेत स्वदेशी कपडे घालण्याची सामुदायिक शपथ घेण्यात आली होती.^८ १८९७ मध्ये अमरावती येथील राष्ट्रीय सभेच्या अधिवेशनाला बुलढाणा जिल्ह्यातील जनतेने तनमनधनाने मदत केली होती.^९ १९०७ च्या सुरत अधिवेशनात बुलढाणा जिल्ह्यातील अनेक नेते हजर होते. एवढेच नव्हे तर या अधिवेशनात झालेल्या झटापटीत टिळकांचे रक्षण करणारे पं. पन्नालाल व्यास^{१०} हे बुलढाणा जिल्ह्यातीलच एक दमदार नेतृत्व होते.

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जून २०२३



इतिहासाचार्य वि. का. राजवाडे संशोधन मंडळ, धुळे.

संशोधक

१९०८ मध्ये टिळकांनी स्वदेशी प्रचारार्थ जे दौरे काढले त्या दौऱ्यात बुलढाणा जिल्ह्याचा समावेश होता. खामगाव, शेगाव, मलकापूर येथे टिळकांचा मुक्काम होता.^{१२} यावेळी मलकापूरचे विष्णू सावजी वकील यांनी टिळकांची सरबराई केली तेव्हा इंग्रजांनी त्यांना जाब विचारला. तेव्हा सावजी वकीलांनी मानांकित इंग्रजी पदवीचा त्याग केला होता. टिळकांनी सुरू केलेल्या स्वदेशी चळवळीचा प्रचार प. पन्नालाल व्यास यांनी व्याख्यानांद्वारे केला म्हणून त्यांच्यावर सरकारने खटला भरला.^{१३}

राजकीय चळवळीबरोबरच बुलढाणा जिल्ह्यात सामाजिक चळवळीचा जोरही दिसत होता. शेतकऱ्यांची व गरीब जनतेची होत असलेल्या पिळवणुकीविरुद्ध बलढाणा जिल्ह्यात विविध ठिकाणी सभा झाल्या होत्या. १९१७ मध्ये कोल्हापूर संस्थानचे प्रमुख राजे शाहू महाराज हे स्वतः खामगाव येथे आले. त्यांनी समाजाच्या आणि देशाच्या उन्नतीसाठी सर्व समाजाला एकत्रित येण्याचे आवाहन केले.^{१४}

१९१८ मध्ये पुन्हा टिळकांनी बुलढाणा जिल्ह्यात स्वराज्याचा झंझावाती दौरा केला. या दौऱ्याने बुलढाणा जिल्ह्यातील स्वातंत्र्याची चळवळ अधिक गतीमान झाली. पुढे रौलेट अ‍ॅक्ट व जालियनवाला बाग हत्याकांडाचे पडसाद जिल्ह्यात उमटले. अमृतसरवरून बुलढाणा जिल्ह्यातील नेत्यांनी जालियनवाला बागेतील रक्ताने लाल झालेली माती आणली आणि ती अंगारा म्हणून जाहीर सभांमधून वाटली.^{१५}

टिळक युगाच्या अस्तानंतर म. गांधींनी सुरू केलेल्या प्रत्येक चळवळीच्या टप्प्यात बुलढाणा जिल्ह्याने हिरीरीने भाग घेतला. खिलाफत चळवळीच्या माध्यमातून बुलढाणा जिल्ह्यात हिंदू-मुस्लिम ऐक्य प्रस्थापित झाले. स्वातंत्र्याच्या चळवळीत गुलाम यासीरखान यासारख्या मुस्लिम पुढाऱ्यांनी भाग घेतला. खिलाफत चळवळीला आर्थिक मदत केली. म. गांधींच्या आवाजाला हाक देऊन गुलाम यासीरखान यांनी सरकारने दिलेल्या ऑनररी मॅजिस्ट्रेट पदवीचा त्याग केला.^{१६} बुलढाणा जिल्ह्यातील मुस्लिम जनतेने अशाप्रकारे स्वातंत्र्यचळवळीच्या कार्यात मोलाचे योगदान दिले आहे.

असहकार चळवळीचा जोर मोठ्या प्रमाणात बुलढाणा जिल्ह्यात दिसून आला. अनेकांनी सरकारला दिलेल्या पदवीचा त्याग केला. १९२१ मध्ये खामगाव येथे स्वातंत्र्याची व सामाजिकतेची प्रेरणा देणाऱ्या राष्ट्रीय शाळेचा जन्म झाला.^{१७} स्त्रियांनी देखील असहकार चळवळीत पुरुषांच्या खांद्याला खांदा लावून चळवळीचा जोर कायम ठेवला. अनेकांना या काळात अटक झाली. याच काळात बुलढाणा जिल्ह्यात ऐतिहासिक जिल्हा अधिवेशन भरले. या अधिवेशनातून स्वदेशी कार्यक्रम हाती घेण्यात आला.

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जून २०२३



इतिहासाचार्य वि. का. राजवाडे संशोधन मंडळ, धुळे.

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१९२१-१९३० या काळात झालेल्या झेंडा सत्याग्रह, सायमन कमिशन विरुद्धची चळवळ, बारडोली सत्याग्रह इ. अनेक चळवळीत बुलढाणा जिल्हा अग्रेसर होता. पंढरीनाथ पाटील, केशवराव देशमुख, आनंदस्वामी, जगदेवराव भालेराव पाटील यासारखे दमदार नेतृत्व पुढे आले. बुलढाणा जिल्ह्यात याकाळात पंढरीनाथ पाटीलांनी ब्राह्मणेतर पक्षाचे बळ वाढविले. १९२६ मध्ये देऊळगाव राजा येथे विदर्भ हिंदू परिषदेचे अधिवेशन भरले. या अधिवेशनातून संपूर्ण वऱ्हाडात जागृतीची व एकसंध कार्य करण्याची दृष्टी सर्वसामान्यांमध्ये दिसून आली. १९२७ मध्ये म. गांधी प्रथमच बुलढाणा जिल्ह्यात आले. त्यांच्या या खादीच्या संदेशाला जिल्ह्यात सर्वत्र वाव मिळाला. म. गांधी बुलढाणा जिल्ह्यात आल्यामुळे जनतेला व सुरू असलेल्या चळवळीला एक पर्वणीच मिळाली.^{१८}

१९३०-३२ मध्ये म. गांधींनी जो सविनय कायदेभंग सुरू केला त्या कायदेभंगात बुलढाणा जिल्ह्यातील सर्वसामान्यांनी सक्रीय भाग घेतला. १९३१ मध्ये सिद्धेश्वर पंत गणेश गोरे वकील यांनी पिकेटिंग कार्यात बलिदान दिले. त्यांच्या हौतात्म्याने संपूर्ण वऱ्हाड शोक सागरात बुडाला होता. खेड्यापाड्यापासून तर अगदी दुर्गम भागातील विविध आदिवासी जमातींनी हा लढा जोमाने चालविला. जंगल सत्याग्रह, मीठ सत्याग्रह, जप्त वाड्मय वाचन सत्याग्रह, दारू गुत्ते व परदेशी कापड पिकेटिंग इ. सर्व सत्याग्रहात बुलढाणा जिल्ह्यातील ब्राह्मण, पाटील, बहुसंख्येने बहुजन समाजातील विविध जमातींचे लोक, युवक, प्रौढ, शहरी-ग्रामीण, पांढरपेशी, मध्यमवर्गीय, श्रमजीवी, मारवाडी, गुजराती, व्यापारी इ. जमातीच्या लोकांनी आपआपल्या संख्याप्रमाणात चळवळीत भाग घेतला हे उपलब्ध पुराव्यावरून सिद्ध होते.^{१९} याकाळात बुलढाणा जिल्ह्यातील शेतकऱ्यांनी चालविलेले करबंदी आंदोलन महत्त्वपूर्ण ठरले. बुलढाणा जिल्ह्यातील शेतकऱ्यांनी सरकारविरुद्ध याकाळात उघड बंड केले याची नोंद खुद्द ब्रिटीश अधिकाऱ्यांनी आपल्या गुप्त अहवालात नमूद केलेली दिसून येते. या संपूर्ण लढ्यात बुलढाणा जिल्ह्यातील ३५०-४०० सत्याग्रहींना ब्रिटीश कायद्याची शिक्षा भोगावी लागली.

बुलढाणा जिल्ह्यातील कणखर नेतृत्वापैकी या. मा. काळे, रा. अ. कानिटकर, डॉ. म.ना. पारसनिस, पं. कानडे शास्त्री, पंढरीनाथ पाटील, जगदेवराव पाटील, इत्यादींनी तर सामाजिक व राजकीय पटलावर नावलौकिक मिळविला. या.मा. काळे, पंढरीनाथ पाटीलांनी ब्रिटीश संसदेत अनेक सामाजिक प्रश्नांची उकल करून जनतेला न्याय मिळवून दिला. रा. अ. कानिटकर यांनी तर विदर्भ-वऱ्हाडाचे नेतृत्व करून

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लंडन येथे झालेल्या दुसऱ्या गोलमेज परिषदेत महत्त्वपूर्ण भूमिका बटविली. त्यांनी निजामाच्या जबड्यात असलेल्या वऱ्हाडाची सुटका केली.^{२०}

१९३३ च्या कलकत्ता काँग्रेसनंतर संपूर्ण देशात ज्या विधायक कार्यक्रमाला सुरुवात झाली त्या विधायक कार्याला बुलढाणा जिल्ह्यातील जनतेने मोठ्या प्रमाणात प्रतिसाद दिला. १९३३ मध्ये म. गांधीचा इतर प्रांताप्रमाणेच बुलढाणा जिल्ह्यातही हरिजन दौरा झाला. या हरिजन दौऱ्यात संपूर्ण बुलढाणा जिल्ह्यातील जनतेने तनमनधनाने मदत केली.^{२१} खामगावच्या टिळक राष्ट्रीय शाळेतील संस्थानिक, कर्मचारी व विद्यार्थ्यांनी गावोगावी जाऊन हरिजन कार्याचा व राष्ट्रीय शिक्षणाचा प्रसार केला. ग्रामसंघटनेबरोबरच ग्रामसेवक केंद्र, ग्रामसंरक्षक दल, सेवाश्रम याद्वारे संपूर्ण बुलढाणा जिल्ह्यात विधायक कार्याला गती देण्यात आली. बी.ना. उदासी, पंढरीनाथ पाटील, वि.गो.कोरडे गुरुजी, पंधे गुरुजी, पंढरीनाथ अंबुलकर गुरुजी, लक्ष्मण भटकर, केशवराव देशमुख, चंपालालजी मेवाडे, आनंदस्वामी, जनदेवराव पाटील, दादासाहेब सोमण इत्यादींनी विधायक कार्याचा सर्वत्र प्रचार व प्रसार घडवून आणला. खामगांव येथील “अंजुमन मुफीदल इस्लाम” या संस्थेने म. गांधींना हरिजन फंड व मानपत्र देऊन देशाच्या स्वातंत्र्याच्या चळवळीत आम्ही मुस्लिम बांधव सहभागी असल्याचा जीवंत दाखला दिला.^{२२} पिंपळगांव राजा येथील एकाच घराण्यातील तीन पिढ्या देशाच्या स्वातंत्र्यासाठी अविरत व निस्वार्थपणे कार्यरत होत्या.

म. गांधींनी पुकारलेल्या १९४० व १९४२ च्या दोन्ही आंदोलनात बुलढाणा जिल्ह्यातील सर्वसामान्यांनी सक्रीय सहभाग दर्शविला. १९४२ च्या चलेजाव चळवळीच्या काळात सरकारने मोठ्या प्रमाणात धरपकड केली. तरीही असामान्य दृढ निश्चयाने, अभूतपूर्व उत्साहाने जनसामान्य जनतेने स्वातंत्र्याचा अंतिम लढा जोमाने चालविला होता. मिरवणुकीद्वारा ग्रामपंचायत, पोलिस स्टेशन, सरकारी शाळा-कचेऱ्या इत्यादींवर राष्ट्रीय झेंडा फडकाविण्याचे धारिष्ट बुलढाणा जिल्ह्यातील सर्वसामान्य जनतेने याकाळात केले. बुलेटिन्स काढणे, विध्वंसक कार्यही घडून आले. ७९ जनांनी भूमिगत राहून संपूर्ण बुलढाणा जिल्ह्यात क्रांतीकार्य केले. १९४२ च्या काळात सरकारी रेकॉर्डनुसार १२० सत्याग्रहींना विविध कलमाखाली सजा झाली.^{२३} महिलांनीही या चळवळीत पुरुषांच्या खांद्याला खांदा लावून लढा दिला.

बुलढाणा जिल्ह्यात क्रांतीकारी चळवळही फोफावली होती. देशातील प्रमुख क्रांतिकारकांशी बुलढाणा जिल्ह्यातील तरुण जवळीक साधून होते. क्रांतिकारी संघटनेच्या

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ज्या प्रमुख गुप्त बैठकी झाल्या त्या बैठकीपैकी मलकापूर येथे झालेल्या बैठकीत, शिपाईगिरीचे वारे उत्पन्न करण्याचा व समाज बांधवांना संघटीत करण्याचा ऐतिहासिक निर्धार करण्यात आला. चाफेकर बंधूंच्या क्रांतिकारी समूहाशी संबंधित असलेले प्रसिद्ध क्रांतिकारक दामूअण्णा भिडे, राजगुरू इ. चे वास्तव्य बुलढाणा जिल्ह्यात होते. जगदेवराव पाटील, नरहर पाटील, देवमण झाडोकार, आनंदस्वामी, आर.एस.खत्री, पांडुरंग जोशी व बुलढाणा जिल्ह्यातील क्रांतिकारक क्रांतिकारी चळवळीशी संबंधित होती. स्वातंत्र्यचळवळीसाठी लागणारा पैसा दिला, शस्त्रसाठा जमविण्यासाठी 'वन्हाडाची क्रांतीसेना' कार्यरत होती. या क्रांतिकारी संघटनेने अनेक ठिकाणी दरोडे टाकले. या दरोड्यातून मिळणाऱ्या पैशातून शस्त्रसाठ्यासाठी उपयोग करण्यात आला.^{२४} सरकारने या संघटनेतील क्रांतिकारकांची धरपकड केली. या लढ्याला राजकीय दरोड्याचे स्वरूप आले. 'बुलढाणा राजकीय दरोड्याचा खटला' म्हणून हे दरोडाप्रकरण नावरूपाने प्रसिद्ध झाले.

स्वातंत्र्य चळवळीच्या काळात बुलढाणा जिल्ह्याची भूमी ही अनेक राष्ट्रीय पुढाऱ्यांच्या स्पर्शाने पुनीत झालेली आहे. कोल्हापूरचे शाहू छत्रपती महाराज, लो. टिळक, म. गांधी, राजेंद्रप्रसाद, सरदार वल्लभभाई पटेल, क्रांतीकारक एम.एन.राय, क्रांतीकारक दामूअण्णा भिडे, राजगुरू, सुभाषचंद्र बोस, शहनवाज खान, अब्दुल गफार खान (सरहद्द गांधी), जमनालाल बजाज, सेनापती बापट इ. अनेक नेत्यांनी बुलढाणा जिल्हा जागवलेला आहे.^{२५} यामुळे बुलढाणा जिल्ह्यातील स्वातंत्र्य चळवळीला गती मिळाली. तत्कालीन काळात बुलढाणा जिल्ह्यात युगांतर, राष्ट्रसेवक, हरिजनसेवक इ. वृत्तपत्रांशिवाय काही दर्जेदार बुलेटीन्स निघत होते. या वृत्तपत्र व बुलेटीन्स यांनीही स्वातंत्र्याची चळवळ गतीमान केली.

बुलढाणा जिल्ह्यातील बाबासाहेब काळेले, वासुदेवदादा पिंपळीकर, राजश्री शिवरामसा तुकासा, केशव वासुदेव सोमण, विष्णू सावजी, पं. पन्नालाल व्यास, गुलाम यासीरखान इ. नेते स्वातंत्र्य चळवळीच्या पहिल्या टप्प्यात तर डॉ. म. ना. पारसनीस, दादा साहेब सोमण, पंढरीनाथ पाटील, बाबुराव गद्रे, राजेश्वर व्यंकटेश देशमुख, नवाब सलामउल्ला खान, नामदार खान, पं. कानडेशास्त्री, लक्ष्मणराव देशमुख, केशव सावजी, वीर जगदेवराव पाटील, रा. अ. कानिटकर, या. मा. काळे, लक्ष्मणराव भटकर, अच्युतराव देशपांडे, पंधे गुरूजी, भीकमसिंह क्षत्रिय, बी. ना. उदासी, दिनकर बाबा देशपांडे, वि. गो. कोरडे गुरूजी, पंढरीनाथ अंबुलकर, गुरूजी, केशवराव

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संशोधक

देशमुख, आनंदस्वामी, पुरुषोत्तम झुनझुनवाला, देवमण झाडोकार, नरहर पाटील इ. गांधी युगातील नेत्यांनी संपूर्ण बुलढाण्यात राजकीय व सामाजिक जागृती घडवून आणली. बुलढाणा जिल्ह्यातील स्वातंत्र्य चळवळीत बहुसंख्येने बहुजन समाजातील लोक, युवक, प्रौढ, शहरी-ग्रामीण, पांढरपेशी, मागासवर्गीय, श्रमजीवी, मारवाडी, गुजराती इ. जमातीच्या लोकांनी आपआपल्या संख्याप्रमाणात चळवळीत भाग घेतला होता. ३५०-४०० सत्याग्रहींनी तुरुंगवास भोगला तर काहींनी भूमिगत राहून स्वातंत्र्य चळवळीत सहभाग दर्शविला.^{२५} काहींची नावे उजेडात किंवा प्रकाशित होऊ शकली नाहीत. वीर जगदेवराव, सिद्धेश्वर गोरे वकील, पुंडलिक, मराठा इत्यादी तरुणांनी स्वातंत्र्य चळवळीत हौतात्म्य पत्करले. जिजीबाई देशपांडे, रुक्मिणीबाई कोरडे, जानकीबाई कानिटकर, पार्वतीबाई पत्की, पार्वतीबाई पारसनीस, सत्यभामाबाई पुराणिक, गंगाबाई आगरवाले, सावित्रीबाई ठोसर, भागीरथीबाई सोमण, उमाबाई देशमुख, मयुराबाई शालीकराम, विमलबाई गुप्ते, सावित्रीबाई ठोसर, गंगुबाई महाजन, सुंदराबाई सोनारे इ. बुलढाणा जिल्ह्यातील महिलांनी पुरुषांच्या खांद्याला खांदा लावून स्वातंत्र्य चळवळीत महत्त्वपूर्ण कार्य केले. काही महिलांनी देशाच्या स्वातंत्र्यासाठी जेल सुद्धा भोगला. १९२१ मध्ये स्थापन झालेल्या खामगाव येथील टिळक राष्ट्रीय शाळेचा स्वातंत्र्य चळवळीत महत्त्वपूर्ण वाटा आहे. शाळेचे संस्थाचालक, विद्यार्थी, शिक्षक, माजी विद्यार्थी यांनी स्वातंत्र्य लढ्याच्या धगधगत्या अग्रिकुंडात स्वतःला झोकून दिले.^{२६}

बुलढाणा जिल्ह्याची ऐतिहासिकता वैभवशाली आहे. राजमाता जिजाबाईंच्या जन्माने पुनीत झालेल्या बुलढाणा जिल्ह्याचे महत्त्व सार्वत्रिकरित्या उजळून निघाले आहे. स्वराज्य कल्पनेची प्रेरणा देणाऱ्या राष्ट्रमाता जिजाबाई व स्वराज्य संस्थापक शिवाजी महाराज यांचा सहवास बुलढाणा जिल्ह्याला लाभलेला आहे. शिवाजी महाराजांच्या स्वराज्याच्या निर्मितीत बुलढाणा जिल्ह्यातील जाधव घराण्यात जन्मलेल्या जिजाबाईंचा सिंहाचा वाटा आहे.

बुलढाणा जिल्ह्याला ऐतिहासिकता फार महत्वाचे स्थान आहे. या जिल्ह्यातील भौगोलिक परिस्थिती ही शारीरिकदृष्ट्या मानवणारी असल्यामुळे येथे जन्मलेल्या व्यक्तीच्या अंगी अन्यायाविरुद्ध दोन हात करण्याची बलदंड ताकद उपजतच तयार होते. पौराणिक, प्राचीन, मध्ययुगीन कालखंडातील अनेक पराक्रमी सत्ताधीश घराण्यांची सत्ता बुलढाणा जिल्ह्यावर होती. त्या घराण्यांचा बुलढाणा जिल्ह्यातील जनतेच्या

इतिहासकार्य वि. का. राजवाडे संशोधन मंडळ, धुळे.

संशोधक

राजकीय, धार्मिक, सामाजिक, आर्थिक, सांस्कृतिक घडामोडींवर परिणाम झाल्याशिवाय राहिला नाही.

संदर्भ :

- १) काळे या.मा., **वऱ्हाडचा इतिहास**, बुलढाणा, १९२४, पृ. ५४.
- २) कोलारकर डॉ. श. गो., पुरंदरे गो.मा., **विदर्भाचा इतिहास**, नागपूर, १९९७, पृ. २९१.
- ३) काळे या.मा., **उपरोक्त क्र. १**.
- ४) **तत्रैव**, पृ. १५०.
- ५) **तत्रैव**, पृ. १५८.
- ६) **तत्रैव**, पृ. ३०९.
- ७) **तत्रैव**, पृ. २४०.
- ८) Secret Diaries of Late Devrao Baba Digambar, Pleader, Akola (1881-1889), Ph-II, R-II, 16/2, National Archives, New Delhi.
- ९) Extract From the '**Vaidharbha**' (Weekly News Paper), Dated : 17-2-1986, R-II, 23/2, National Archives, New Delhi.
- १०) उदासी बि.ना., दैनिक मुद्रिका, **वऱ्हाड स्वातंत्र्य संग्राम विशेषांक**, दैनिक मुद्रिका प्रकाशन, सुदर्शन प्रेस, अकोला, १९८६, पृ. ३८.
- ११) वक्काणी डॉ. नि.आ., **आधुनिक विदर्भाचा इतिहास**, श्री. मंगेश प्रकाशन, नागपूर, १९८५, पृ. ९७.
- १२) उदासी बि.ना., **उपरोक्त, क्र. १०**, पृ. ४५-४६.
- १३) उदासी बि.ना. **लेखमाला-विदर्भातील मागील ५० वर्षांच्या घडामोडी**, दै. मातृभूमी, अंक १२६, २४ नोव्हेंबर १९६८, अकोला.
- १४) जगताप जयवंत बाबुराव, गेली पंचवीस अधिवेशने, मराठा शिक्षण परिषद, उत्तरार्ध, पुणे, १९४१, पृ. १२६ ते १२८.
- १५) देशपांडे अ.के., **बुलढाणा जिल्ह्यातील स्वातंत्र्यलढा**, ऑगस्ट क्रांती, सुवर्ण महोत्सव समिती, मुंबई, १९७२, पृ. १३.
- १६) स्वा. सैनिक पुरुषोत्तम झुनझुनवाला, **अप्रकाशित स्वलिखित डायरीतील नोंदी**, खामगाव.

जून २०२२

(९१)

Impact Factor-8.632 (SJIF)

ISSN-2278-9308

B.Aadhar

Single Blind Peer-Reviewed & Refereed Indexed

Multidisciplinary International Research Journal

February - 2024

(CDLVII) 459

Perspectives of Ambedkarism



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B.Aadhar' International Peer-Reviewed Indexed Research Journal
 Impact Factor -(SJIF) –8.632, Issue NO, (CDLVII) 459 -B

ISSN :
2278-9308
February
2024

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B.Aadhar' International Peer-Reviewed Indexed Research Journal

Impact Factor -(SJIF) –8.632, Issue NO, (CDLVII) 459 -B

ISSN :
2278-9308
February
2024**आंबेडकरवादचे सामाजिक-धार्मिक आणि शैक्षणिक दृष्टीकोन****प्रा.डॉ.नामदेव ढाले**

इतिहास विभाग प्रमुख - जिजामाता महाविद्यालय, बुलढाणा.

उमेश राऊत

संशोधक विद्यार्थी- संशोधन केंद्र जिजामाता महाविद्यालय, बुलढाणा

प्रस्तावना : आंबेडकरवाद हा डॉ. बाबासाहेब आंबेडकर यांच्या विचारांवर किंवा सिद्धांतांवर आधारित एक भारतीय तत्त्वज्ञान किंवा विचारप्रणाली आहे. आंबेडकरवाद हे एक राजकीय, सामाजिक, धार्मिक तसेच राष्ट्रवादी तत्त्वज्ञान आहे. आंबेडकरवादाचे सर्वात प्रमुख तत्त्व 'समानता' होय. ही विचारप्रणाली क्रांतिकारी, मानवतावादी व विज्ञानवादी असून भारत देशासह जगभरातील अनेक लोकांवर त्याचा प्रभाव आहे, ज्यात शोषित-पीडित लोक, शेतकरी, श्रमिक, महिलाधिकारी, राजकारणी, सामाजिक कार्यकर्ते, दलित व बौद्ध चळवळीतील कार्यकर्ते यांचा समावेश होतो. आंबेडकरवाद ही एक मानवाच्या मन, विचार आणि वृत्तीमधील परिवर्तनाची जननी असल्याचे मानले जाते. आंबेडकरवादाला अनुसरणाऱ्यांना 'आंबेडकरवादी' किंवा 'आंबेडकरी' म्हणतात.

शोधपत्राची उद्दिष्टे :

- i) आंबेडकरवाद संकल्पनेचा अर्थ व स्वरूपाचे विश्लेषण करणे.
- ii) आंबेडकरवादानुसार सामाजिक दृष्टिकोनाचा अभ्यास करणे.
- iii) आंबेडकरवादानुसार धार्मिक दृष्टिकोनाचा अभ्यास करणे.
- iv) आंबेडकरवादानुसार शैक्षणिक दृष्टिकोनाचा अभ्यास करणे.

आंबेडकरवाद: अर्थ व स्वरूप -

आंबेडकरवाद ही एक मानवाच्या मन, विचार आणि वृत्तीमधील परिवर्तनाची जननी असल्याचे मानले जाते. आंबेडकरवादाला अनुसरणाऱ्यांना 'आंबेडकरवादी' किंवा 'आंबेडकरी' म्हणतात. समता, स्वातंत्र्य, बंधुभाव, न्याय, धर्म, लोकशाही, महिलाधिकार, अहिंसा, सत्य, मानवता, विज्ञानवाद, संविधान ही आंबेडकरवादाची तत्त्वे आहेत. आंबेडकरवाद तत्त्वज्ञान हे आधुनिक आहे परिवर्तनशील आहे.

आंबेडकरवादाचा उगम :

६ डिसेंबर १९५६ रोजी डॉ. बाबासाहेब आंबेडकरांचे महापरिनिर्वाण झाले. या घटनेमुळे अस्पृश्यताविरोधी जातीअंताच्या लढ्याच्या एका पर्वाची समाप्ती झाली. बाबासाहेबांच्या वैचारिक अधिष्ठानात अंतर्भूत असलेल्या 'समग्र सामाजिक क्रांती'च्या वाटचालीचा एक टप्पा पूर्ण झाला.

आंबेडकरवाद व सामाजिक दृष्टीकोन:

बाबासाहेबांनी आपल्या ह्यातभर कटुता पत्करून अस्पृश्यतेविरुद्ध लढा दिला. या लढ्याने फुलंप्रणीत जातीलढ्याला गती मिळाली. नवे परिमाण मिळाले.

डॉ. आंबेडकरांच्या जीवित कार्याचा वरवर विचार केला तर असे दिसते, की त्यांनी केवळ अस्पृश्यतेच्या प्रश्नालाच प्राधान्य दिले; पण या प्रश्नावर लढताना त्यांनी न्यायाच्या तत्त्वाचे भान सोडले नव्हते. त्यामुळेच या लढ्यामागील त्यांची वैचारिक भूमिका व्यापक प्रश्नांचे संदर्भ घेऊन येते. त्यांनी अस्पृश्यतेविरुद्ध आणि अस्पृश्यांचे लढे उभे केले. पण त्या पाठीमागे अस्पृश्यता हा प्रस्थापितांचा सर्वाधिक किडलेला, सर्वाधिक अन्यायपूर्ण घटक आहे, अशी भूमिका दिसते.



प्रस्थापिताचे उच्चाटन करून त्या जागी श्रेयगर्भ समाज-व्यवस्था आणणे, असा बाबासाहेबांच्या जीवितकार्याचा गाभा सांगता येईल.

१) समाजवाद व उदारमतवादाची सांगड :- व्यक्तिवाद आणि समूहकल्याण यांच्यातील तणावांची डॉ. आंबेडकरांना स्पष्ट जाणीव होती. समकालीन समाजवादी विचार आणि चळवळीबद्दल ते जागरूक तर होतेच पण त्या विचारांचा प्रभावही डॉ. आंबेडकरांवर पडला होता. तथापि, उदारमतवाद आणि समाजवाद यांच्यातून एकाचीच निवड करणे त्यांना फारसे पसंत नसावे. त्याऐवजी उदारमतवादी राजकीय प्रेरणा आणि समाजवादाची परिवर्तनाची दृष्टी यांची सांगड घालण्याचा त्यांचा प्रयत्न होता.

२) स्वातंत्र्य-समता-बंधुभाव:- हिंदू समाजातील जातीव्यवस्था हा त्यांना समता आणि स्वातंत्र्य यांच्या प्रस्थापनेतला मुख्य अडथळा वाटत होता. स्वातंत्र्य आणि समता यांच्यापेक्षाही डॉ. आंबेडकरांना बंधुभावाचे तत्त्व जास्त महत्वाचे वाटते. स्वातंत्र्य आणि समता या तत्त्वांवरील हल्ले थोपवण्याचे काम बंधुभावनाच करेल असा त्यांचा विश्वास होता. आपल्या सभोवतालच्या मानवमात्रांबद्दलचे प्रेम हीच स्वातंत्र्य समतेविरुद्धच्या हल्ल्याविरुद्धची खरी हमी आहे; बंधुभावामुळे समाजात संवाद, सहकार्य आणि सहजीवन यांना वाव मिळतो. भारताची घटना स्वातंत्र्य, समता आणि बंधुत्व या त्रिसूत्रीवर आधारित आहे. म्हणजेच एका अर्थाने बुद्धाच्या शिकवणीवर आधारित आहे.

३) जातिव्यवस्थेचे उच्चाटन:

डॉ. बाबासाहेब आंबेडकर यांच्या व्यापक कार्यामुळे भारतीय समाजात सुमारे ५००० वर्षांपासून प्रचलित असलेल्या हिंदू धर्मातील जातिव्यवस्थेस खिंडार पडले; तिचे उच्चाटन होण्यास चालना मिळाली. विषमतेवर आधारलेल्या जातिव्यवस्थेच्या जागी समतेवर आधारलेली लोकशाही व्यवस्था प्रस्थापित होण्यास चालना मिळाली

आंबेडकरवाद व धार्मिक दृष्टीकोन:

१) धार्मिक रीतीरिवाजापेक्षा या दैनंदिन जीवनपद्धतीला महत्व :

बाबासाहेबांनी धर्मांतरावेळी दिलेल्या २२ प्रतिज्ञा म्हणजे हिंदू धर्माच्या त्यागाची आणि बौद्ध धर्माच्या स्वीकाराची समांतर प्रक्रिया होती. भारताची घटना स्वातंत्र्य, समता आणि बंधुत्व या त्रिसूत्रीवर आधारित आहे. म्हणजेच एका अर्थाने बुद्धाच्या शिकवणीवर आधारित आहे. बुद्धाची शिकवण हा धर्म नसून ती एक आदर्शवत अशी जीवनपद्धती आहे. किंबहुना भारताच्या घटनेलाही तेच अपेक्षित आहे. कपडे बदलले आणि देव बदलला, रीतीरिवाज बदलले म्हणून धर्म बदलत नसतो. त्याने धर्म बदलल्याचं मानसिक समाधान मिळू शकतं.

आंबेडकरवाद व शैक्षणिक दृष्टीकोन: -

१) उच्च शिक्षणाविषयी मत :

आंबेडकरवादी विचारधारेनुसार सर्व सामाजिक दुखण्यावर उच्चशिक्षण हेच एकमेव औषध आहे. बाबासाहेबांनी शिक्षणाचा पायाभूत विचार करताना ज्यांना शिक्षणाचे महत्त्व कळत नाही त्यांच्यासाठी सक्तीचा कायदा असावा असे म्हटले. शिवाय शिक्षण सरसकट सर्वांसाठी मोफत न करता जे फी देऊ शकतात त्यांच्याकडून ती घ्यावी म्हणजे सक्तीच्या शिक्षणाचा खर्च भागविण्यास मदत होईल, असेही त्यांचे मत होते.

२) मागासवर्गीयांच्या शिक्षणासंदर्भात मत :

मागासवर्गीयांच्या शिक्षणासंदर्भात बाबासाहेबांनी जे चिंतन केले तेही तितकेच मूलगामी स्वरूपाचे आहे. ज्ञानाअभावी व्यक्ती आणि समाजाचे नुकसान जसे होते, तसेच एखादी व्यक्ती वा समूहाला शिक्षण नाकारणे म्हणजे माणूस म्हणून त्याचे अस्तित्व नाकारून त्याच्या क्षमता मारून टाकणे होय; अशी बाबासाहेबांची शिक्षणविषयक धारणा होती. बाबासाहेब हे विद्वतेचे, ज्ञानाचे भोक्ते होते. त्यांनी म्हणूनच असे सांगून ठेवले की- 'शिक्षक हा शालेय असो, महाविद्यालयीन असो की विद्यापीठीय असो त्याचे कर्तृत्व उत्तुंग आणि विद्यार्थ्यांना अनुकरणीय वाटले पाहिजे.

B.Aadhar' International Peer-Reviewed Indexed Research Journal



Impact Factor -(SJIF) –8.632, Issue NO, (CDLVII) 459 -B

ISSN :
2278-9308
February
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३) आंबेडकरवाद व शैक्षणिक उन्नतीचा मंत्र :

२९ जुलै, १९४२ मध्ये शिका, संघटित व्हा, संघर्ष करा, आत्मविश्वास बाळगा, कधीही हार मानू नका, ही आपल्या जीवनाची पाच तत्वे आहेत. असे डॉ. बाबासाहेब आंबेडकर नागपूर येथे म्हणाले होते. शिक्षण हा समाजाचा आत्मा आहे. मुलांना आणि मुलींना ही ज्ञानगंगा उपलब्ध करून देणं हे एखाद्या विषयावर आपण मोर्चा काढण्यापेक्षाही जास्त महत्वाचं आहे असं डॉ. बाबासाहेब आंबेडकर म्हणायचे. भारतरत्न डॉ. बाबासाहेब आंबेडकर उच्च विद्याविभूषित होते. शिक्षण हे बाधीणीचं दूध आहे असं ते नेहमी म्हणायचे. शिक्षणासारखा दुसरा सर्वोत्तम गुरू नाही या मतावर बाबासाहेब ठाम होते. एखाद्या समाजाची प्रगती साध्य करायची असेल तर शिक्षणाशिवाय तरणोपाय नाही असं ते म्हणायचे.

निष्कर्ष :

- १) सामाजिक समता प्रस्थापित करण्यात आंबेडकरवाद विचारसरणीचा वाटा आहे.
 - २) आंबेडकरवादानुसार समाजामध्ये शिक्षण हे परिवर्तनाचे महत्वपूर्ण साधन आहे.
 - ३) आंबेडकरवादा नुसार परंपरागत धार्मिक रितीरिवाजापेक्षा दैनंदिन जीवनपद्धती महत्वपूर्ण आहे.
- थोडक्यात असे म्हणता येईल की सामाजिक, धार्मिक आणि शैक्षणिक प्रगती साध्य करण्याकरीता आंबेडकरवाद विचारसरणी सदैव प्रयत्नशील आहे. समाज परिवर्तनाचे साधन म्हणून आंबेडकरवाद विकसित झालेला आहे.

संदर्भ साधने :-

- १) डॉ. पी. विठ्ठल, डॉ. नागोराव कुंभार, सर्वदर्शी डॉ. बाबासाहेब आंबेडकर, डायमंड पब्लिकेशन्स, पुणे,
- २) गोरे मयुरी, भीमाच्या लेखन्या आंबेडकरी तत्वज्ञान
- ३) कमवे मिलिंद आंबेडकरवादा पुढील नवी आव्हाने, सनय प्रकाशन
- ४) कमवे रावसाहेब, आंबेडकरवाद : तत्व आणि व्यवहार, मुगावा प्रकाशन, २००४

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 2278-9308
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Significance of the Dr. Babasaheb Ambedkar's Role in National Integration Prof. Dr. Namdeo W. Dhale

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Abstract: The significance of Dr. B.R. Ambedkar's role in national integration in India is multilayered and profound. His contributions have had a lasting influence on shaping the socio-political landscape of the country, fostering inclusivity, and endorsing the idea of a united and harmonious nation. Dr. B.R. Ambedkar was a great nationalist of India, outstanding, social thinker, political reformer, philosopher, writer with progressive thoughts. Also had a multifaceted personality. He was a great educationist, a research scholar, an economist, a political scientist, a philosopher and a humanitarian. Dr. Ambedkar's work shaped the blueprint of modern India. Dr. Ambedkar believed in peaceful methods of social transformation. Although he was hated by orthodox Hindus and labeled as a destroyer of Hinduism, he played an important role in reviving Hinduism, challenging everything that was unjust in it. In fact, he brought about a renaissance of Hinduism by making Hindus rethink some of the fundamental principles of their religion.

Key Word: Drafting Committee, Social Justice, Untouchability, Women's Rights, Reservation, Etc.

Introduction: Dr. Ambedkar was awarded the "Bharat Ratna" in 1990, for his outstanding contribution to the "National integration of modern India". He believed that the abolition of castes was an important step in making India a true nation. He was credited with laying the foundations of freedom and democracy in India and believed that the Indian government could take welfare measures to benefit the weaker sections of society. Dr. Ambedkar included many articles in the constitution to ensure individual human dignity, human rights, equal opportunities and above all social justice.

Objective of Research paper:

- 1) To critically examine and analyze the contributions of Dr. Ambedkar toward fostering national unity and social cohesion in India.
- 2) To explore the multifaceted dimensions of Dr. Ambedkar's role, his initiatives, and their impact on the process of integrating diverse communities into a unified nation.
- 3) is to contribute to a comprehensive understanding of how Dr. Ambedkar's ideas and actions have shaped the narrative of national integration in India.

Dr. Ambedkar's Contribution to National Integration:

Here are key aspects highlighting the significance of Dr. Ambedkar's role in national integration:

Chairing the Drafting Committee:

Dr. B.R. Ambedkar was appointed as the Chairman of the Drafting Committee of the Constituent Assembly in 1947. He played a vital role in guiding the committee through the complex process of formulating the Indian Constitution. Dr. Ambedkar served as the Chairman of the Drafting Committee of the Constituent Assembly and played a crucial role in drafting the Indian Constitution. During his stay at Bombay, Babasaheb's talent came to the notice of the British rulers. He was appointed as Member of Viceroy's Council, a position that he held during 1942 – 46. The dawn of freedom was on the horizon and the Constituent Assembly was set up to draw the constitution of India.¹

The Constitution reflects principles of justice, equality, and fraternity, and it provides a legal framework that unifies the diverse population of India under a mutual set of values and rights.

Chief Architect of the Constitution:

Dr. Ambedkar was the principal architect of the Indian Constitution, which was adopted in 1950. The Constitution provided a comprehensive and inclusive framework that sought to unify a diverse nation with various ethnicities, languages, religions, and social backgrounds. It guaranteed fundamental rights and ensured safeguards for marginalized communities, contributing to the idea of a unified and just nation.

B.Aadhar' International Peer-Reviewed Indexed Research Journal

Impact Factor -(SJIF) –8.632, Issue NO, (CDLVII) 459 -A

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2278-9308
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His knowledge of jurisprudence and various constitutions of different countries was very beneficial in outlining the Constitution in two years, eleven months, and eighteen days.²

Dr. Ambedkar, being a distinguished jurist and legal scholar, brought his expertise to the drafting process. His background in law and constitutional principles greatly influenced the structure and content of the Constitution. Dr. Ambedkar drew inspiration from various international documents and legal systems to incorporate universal values of justice, liberty, equality, and fraternity into the Indian Constitution. The Columbia University at its special convocation on June 5, 1952 conferred the LL.D. degree (HonorisCausa) on Dr. Ambedkar in recognition of his drafting the Constitution of India. The citation reads as: "The degree is being conferred in recognition of the work done by him in connection with the drafting of India's Constitution". The University hailed him as "one of India's leading citizens, a great social reformer and valiant upholder of human rights".³

Social Justice and Inclusion:

The traditional caste system deeply entrenched in Indian society contributed to social hierarchies and discrimination. Social divisions were based on birth, with people categorized into specific castes, each assigned particular occupations and social statuses. Dr. Ambedkar's relentless advocacy for social justice and the rights of marginalized communities, particularly Dalits, played a crucial role in fostering a sense of inclusion. His efforts to abolish untouchability, promote equal rights, and advocate for affirmative action in the form of reservations aimed at addressing historical injustices and promoting a more integrated society. Concepts of social justice aimed at eliminating the effects of hierarchical inequality, especially inherited inequality, are applied only to a particular people or nation. "What is justice?" is perhaps the most important question of social and political ethics ever since. On the other hand, since social justice is a multifaceted concept, it has been viewed with differences by scholars of law, philosophy, and political science. The term social justice is inclusive. Social justice is a set of rights, Ambedkar's vision: social justice balancing the wheel between top and bottom. It is of great social value to provide a stable society and secure the unity of the country.⁴

Dr. Ambedkar's relentless advocacy for social justice and the rights of marginalized communities, particularly Dalits, played a crucial role in fostering a sense of inclusion. His efforts to abolish untouchability, promote equal rights, and advocate for affirmative action in the form of reservations aimed at addressing historical injustices and promoting a more integrated society. Dr. Ambedkar was a staunch advocate for social justice and the eradication of caste-based discrimination. His efforts to include provisions such as affirmative action (reservation) for historically marginalized communities in the Constitution aimed at addressing social inequalities and fostering inclusivity. Dr. Ambedkar's work extended beyond legal and political realms to include social reforms. He campaigned against social evils like child marriage, advocated for women's rights, and worked towards a more egalitarian social structure, contributing to a more integrated and harmonious society.

Abolition of Untouchability:

Dr. Ambedkar, born into a Dalit (formerly known as untouchable) family, dedicated much of his life to the abolition of untouchability and the upliftment of the Dalit community. His efforts in drafting and implementing laws and policies aimed at eradicating untouchability contributed to the integration of Dalits into mainstream society. Dr. Ambedkar actively worked towards the constitutional abolition of untouchability. Article 17 of the Constitution explicitly outlaws untouchability in any form. Dr. Ambedkar was a vocal critic of untouchability, a social practice that relegated certain communities to the margins of society. He led campaigns and movements advocating for the complete abolition of untouchability, emphasizing the need for social and moral transformation.

Protection of Minority Rights :Dr. Ambedkar emphasized the protection of minority rights, ensuring that all citizens, irrespective of their religious or linguistic affiliations, were safeguarded under the Constitution.

Balancing Federalism: Dr. Ambedkar played a key role in balancing the federal structure of the Indian Constitution, establishing a delicate equilibrium between the powers of the central and state governments.

Women's Rights :Dr. Ambedkar advocated for the rights of women and their inclusion in various spheres of life. He played a key role in introducing legal reforms to improve the status of women, including the Hindu Code Bill that sought to address issues such as inheritance and marriage rights. He supported for women's rights and gender equality, reflected in constitutional provisions such as Article 15(3), which allows for special provisions for women and children.⁵

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Dr. Ambedkar, while Law Minister, drafted the Hindu Code Bill for Women, which not only sought to establish equality between men and women in all legal matters but also established women's property rights, adoption rights and divorce rights, equal inheritance rights for men and women. Also, various marriage practices in vogue were cancelled. The Hindu Code Bill failed to pass the Parliament and was later enacted in parts as 4 separate Bills, namely - Hindu Marriage Act, 1955; Hindu Adoption and Maintenance Act, 1956; Hindu Succession Act, 1956; and the Hindu Minority and Guardianship Act, 1956.*

Emphasis on Education:

Dr. Ambedkar recognized the importance of education as a means to empower individuals and communities. He emphasized the need for education to uplift the socially and economically disadvantaged, contributing to a more informed and aware citizenry. Education is a powerful tool for promoting national integration by fostering understanding and empathy across diverse communities. Dr. Ambedkar emphasized the importance of education as a means of empowerment. His efforts led to the establishment of educational institutions and scholarships for Dalits, enabling them to access opportunities for social and economic progress. Education played a pivotal role in breaking down barriers and fostering national integration.

Dr. Ambedkar recognized the transformative power of education in breaking down social barriers. Establishing educational institutions and advocating for educational opportunities for Dalits and other marginalized groups helped empower these communities and bridge educational gaps.

Reservation Policies:

Dr. Ambedkar advocated for affirmative action through reservation policies in education, employment, and political representation for historically marginalized communities. These policies were designed to address historical injustices and promote the inclusion of Dalits and other disadvantaged groups in various spheres of society. Reservation policies provided opportunities for marginalized communities in education, employment, and political representation, contributing to their integration into mainstream society. In 1928, before the Simon Commission, Dr. Ambedkar advocated granting universal voting rights and seat quotas to untouchables rather than individual voting rights.⁷

Political Representation:

Dr. Ambedkar believed in the importance of political empowerment for marginalized communities. He actively participated in politics and was instrumental in ensuring adequate political representation for Dalits. His role in framing provisions for reserved seats in legislatures aimed at giving a voice to those historically marginalized. Dr. Ambedkar recognized the need for political representation for the depressed classes (Scheduled Castes) to ensure their voices were heard in the political sphere. He actively engaged in politics to secure political rights and representation for marginalized communities. Dr. Ambedkar's vision included political empowerment, and reservation policies were extended to political representation. Reserved seats in legislative bodies and local governance institutions were introduced to ensure the participation of marginalized communities in the democratic process. Dr. Ambedkar's efforts to secure political representation for Dalits and other marginalized communities ensured their voices were heard in the democratic process.

Vision for a United India:

Dr. Ambedkar envisioned a united India where social, economic, and political rights were accessible to all citizens, regardless of their caste or background. His ideas on fraternity and social cohesion were integral to his vision for a pluralistic and harmonious nation.

International Influence:

Dr. Ambedkar's thoughts and contributions extended beyond India, influencing global discussions on social justice, human rights, and democracy. His ideas on the principles of equality and dignity have resonated with movements advocating for justice and rights globally. His contributions to the inclosing of the Indian Constitution and his philosophy continue to inspire movements for justice and equality worldwide.

Symbol of Unity:

Dr. Ambedkar's life and work serve as a symbol of unity, advocating for the inclusion of all sections of society in the nation-building process. His commitment to social justice and human rights continues to inspire movements for equality and integration.

B.Aadhar' International Peer-Reviewed Indexed Research Journal

Impact Factor -(SJIF) –8.632, Issue NO, (CDLVII) 459 -A

ISSN :
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His Ph.D thesis was inspired to set up for the Finance Commission of India and his works helped a lot in framing guidelines for the RBI Act, 1934. He was one of the founders of Employment Exchanges in our country. He played a vital role in establishment of the National Power Grid System, Central Water Irrigation, Navigation Commission, Damodar Valley Project, Hirakud Dam Project and Sone River Project.⁸

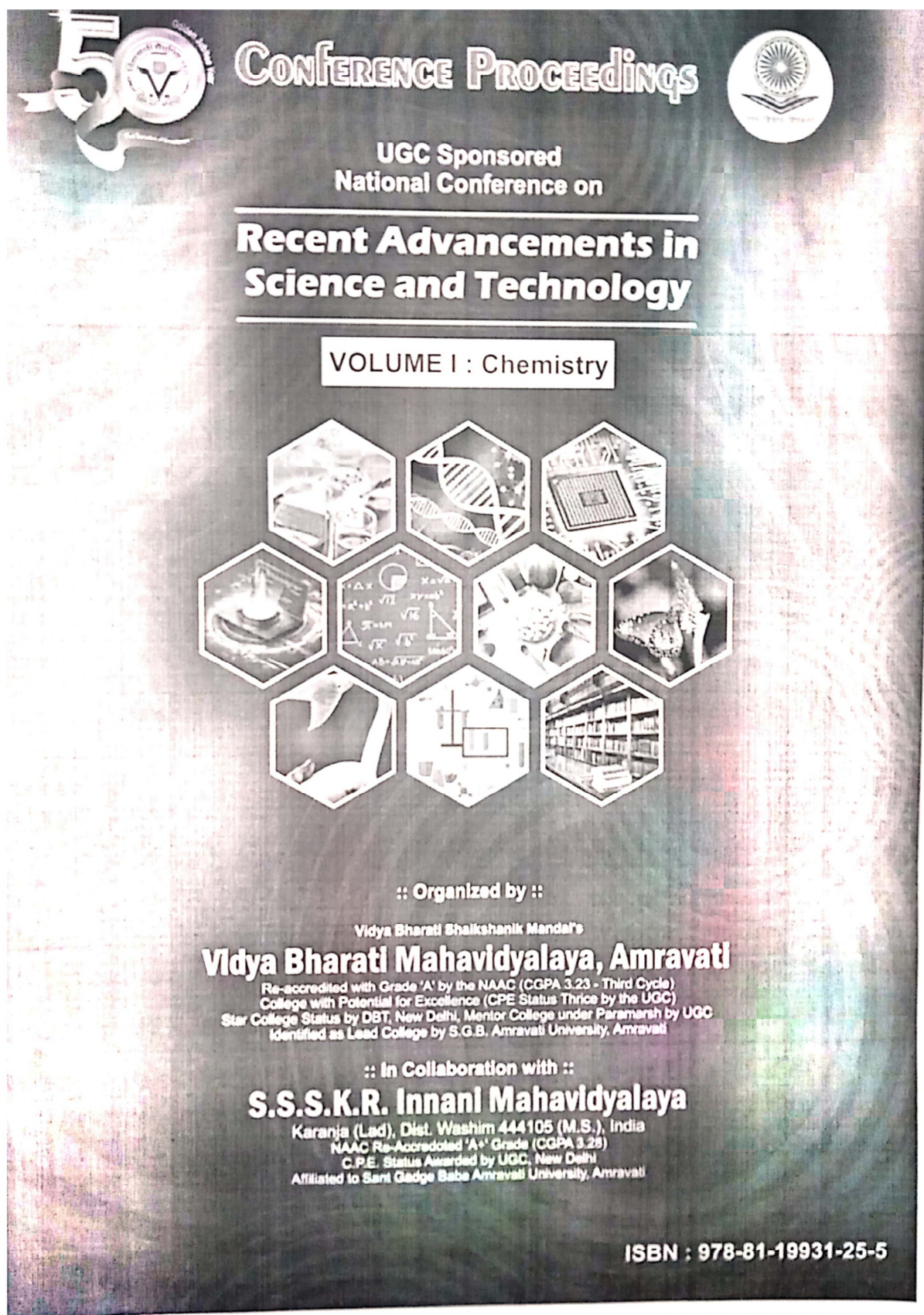
Nationalism for Ambedkar is 'the desire for a separate national existence for those bound by this tie of kinship.' It is a will to live as a nation in the full sense of the term not only socially but also politically. Nationalism as an ideology and a movement succeeds the nation as the corporate feeling. It is a praise-worthy desire for those bound by this tie of kinship. Ambedkar is categorically on this point: 'there cannot be nationalism without the feeling of nationality in existence'.⁹

Conclusion:

Dr. B.R. Ambedkar's role in drafting the Indian Constitution was pivotal in shaping a document that not only provided a legal framework for governance but also embedded principles fostering national integration, social justice, and inclusivity. His vision and contributions continue to shape the ideals of the Indian Republic. Dr. Ambedkar's principles remain relevant in contemporary India, providing a framework for addressing ongoing challenges related to caste-based discrimination and social inequalities. His legacy is reflected in the ongoing efforts to uphold constitutional values and build an inclusive nation. In summary, Dr. B.R. Ambedkar's role in national integration is significant not only for the specific measures he implemented but also for the broader principles of justice, equality, and fraternity that he embedded in the constitutional and social fabric of India. His contributions have played a crucial role in fostering a more inclusive and united nation, guided by the principles of social justice and human dignity. Dr. Ambedkar played a key role in balancing the federal structure of the Indian Constitution, recognizing the diversity of states while maintaining national unity. His philosophy continues to inspire movements for equality and justice beyond India's borders.

References:

- 1) Singh Balmiki, 'Dr. B. R. Ambedkar's Philosophy of Constitutionalism as an Instrument of JUSTICE, social, economic and political' March 28, 2019, Indian Institute of Public Administration New Delhi, Pp. 14.
- 2) Laxmikanth, M. (2016). Indian polity. McGraw-Hill Education.
- 3) Sharan Ram, DR. B.R. AMBEDKAR ROLE IN MAKING OF THE INDIAN CONSTITUTION, International Journal of Advanced Research in Management and Social Sciences, ISSN: 2278-6236, Vol. 5 | No. 12 | December 2016, pp. 156.
- 4) Nandan Deepesh, (Edited by SirswalDesh), Dr. B.R. Ambedkar: The Maker of Modern India, Centre for Positive Philosophy and Interdisciplinary Studies (CPPIS), Milestone Education Society (Regd.), Pehowa (Kurukshetra), ISBN: 978-81-922377-8-7, Pp. 21.
- 5) Sharan Ram, DR. B.R. AMBEDKAR ROLE IN MAKING OF THE INDIAN CONSTITUTION, International Journal of Advanced Research in Management and Social Sciences, ISSN: 2278-6236, Vol. 5 | No. 12 | December 2016, pp. 160.
- 6) Nagar Ravi, Babasaheb Ambedkar: A Dalit leader or a national leader: A critical analysis, International Journal of Political Science and Governance 2021; 3(1): E-ISSN: 2664-603X, pp. 52.
- 7) Jaffrelot C., Dr. Ambedkar's Strategies against Untouchability and the Caste System. In Working Paper Series, Indian Institute of Dalit Studies, New Delhi 2009;3(04) pp. 03.
- 8) Khade S. K., Contribution of Dr. B. R. Ambedkar to Nation Building: A Review, International Multidisciplinary E- Conference On Contribution of Various Aspects in Nation Building in Association with International Journal of Scientific Research in Science and Technology, Volume 9 - Issue 5 - Published: September 13, 2021, pp. 807.
- 9) Ray Ishita and Ray Sarbapriya, An Insight into B.R Ambedkar's Idea of Nationalism in the Context of India's Freedom Movement, Developing Country Studies, ISSN 2224-607X (Paper) ISSN 2225-0565 (Online) Vol 1, No.1, 2011, Pp. 29.



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VOLUME I : Chemistry

Chief Editor

Dr. Pradnya S. Yenkar

Principal, Vidya Bharati Mahavidyalaya, Amravati

ISBN : 978-81-19931-25-5

Date : 10th Feb., 2024

Publisher :

Sai Jyoti Publication

Itwari, Nagpur

E-mail : sjp10ng@gmail.com

Type Setting & Printing

LASER POINT,

Gadge Nagar, Amravati

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Study of Physico-chemical Parameter of Soil Analysis in Buldhana district

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Abstract:

The soil is a mixture of solid, water and gases and also a mixture of minerals, organic matter, gases, liquid and other macro or microorganisms and it performs four important functions. The basic of the status of soil we decide requirement of fertilizer to increase the fertility of the soil. This work examines the principal physical and chemical attributes that can serve as indicators of a change in soil quality under particular agro-climatic condition. You will find that different soil can vary greatly in their composition. Proposed indicator including soil depth to a root restricting layer, water holding capacity, organic matter, N, P, K, Cl, electrical conductivity, moisture content. We also confirmed the justification for selecting these key attributes, their measurement, critical limit for monitoring change in solid productivity and soil quality and crop growth in that soil.

Keywords: Physico chemical Parameter pH.

INTRODUCTION

Soil is a complex collection of Organic and Inorganic matter. Soil is called the layer of the Earth and involve lithosphere, hydrosphere, atmosphere & biosphere. pedolith, used to prefer to the soil, content translates ground stone. it consists of a solid phase of minerals, organic matter, and porous phase that holds the soil moisture with water. respectively, soils are often treated as system of solids, liquids, and gases. Soils are Consist of mineral and organic particles of various sizes. The particles are associated in a matrix with results in about 50% porous; it is filling up with water and air. This will prepare a three-phase system of solids, liquids, and gases, all uses of soils are greatly affected by physical properties. Plants need certain nutrient elements to complete their life cycle. No element can substitute for the same. 16 elements are essential for the growth of most vascular plants. Carbon, hydrogen, and oxygen are combined in photosynthesis reactions and are obtained from air and water. These three elements compose 90 % of the dry matter of plants. The remaining is obtained largely from the soil and is referred to as the macronutrients.¹⁻³

FACTORS AND PROCESSES

This is accomplished by disintegration & decomposition. It is related with the action of Soil Factors. 2.1 Factors The soils develop as a result of the action of soil forming factors $S = f(P, Cl, O, R, P, T)$. Further, Jenny (1941) formulated the following equation Where, Cl – environmental climate O – Organisms and vegetation (biosphere) R – Relief or topography P – Parent material T- Tim

METHODOLOGY

Area of Study Keshav Shivani village is situated on the nearby Samrudhi mahamarg Dusarbid. There is more forestry area around the village. It is about 80k.m. away from Buldana in Sindhkhedraja Tehsil dist. Buldana. Buldana is one of the five Districts of Amravati division of Vidharbh region of Maharashtra near satpuda mount. Mostly Agriculture crop is found in Keshav Shivani village is as follows Jawar, chili, wheat, soybean but now a day's mostly soyabin crops, out of these cotton is one of the most important crop in Keshavshivani village. Various type of soil is present in Dasala 1. Lime soil 2. Black cotton soil 3. Red soil etc. The collected soil samples analysis kit platform available in Laboratory department of Chemistry,

ISBN : 978-81-19931-25-5

Natic

| Sr.No | Name of Farmer | Sample Collected |
|-------|---------------------|------------------|
| 1 | Bandu Shivaji Ghuge | Farm |
| 2 | Swapnil Raju Gutthe | Farm |
| 3 | Raju Martand Gutthe | Farm |
| 4 | Dilip M. Mahadik | Farm |
| 5 | BajiroU.Wagh | Farm |

EXPERIMENTAL PROCEDURE

Total Nitrogen Reagents: 1. Digestion mixture: Mixture of Potassium sulphate K_2SO_4 and Copper sulphate $CuSO_4 \cdot 5H_2O$. with Selenium. Mixed with proportion of 10: 1: 0.5 respectively. 2. H_2SO_4 conc. 3. NaOH solution (40%). 4. H_3BO_3 solution (4%). 5. 0.01 N HCl. 6. Indicator Procedure: Weigh 5 g soil into digestion flask add 5 g digestion mixture and 20 ml Conc. H_2SO_4 put the flask on digestion board with electric heaters. Heat gradually; low at 10-30 minutes, then raise heating degree. After the end of fuming, the digestion is continued for 1 hour after the solution had cleared with white colour of digestion mixture. Transfer the sample to 250 ml volumetric flask; complete the volume with dist. Water. Distillation: Put 20 ml H_3BO_3 in Erlenmeyer flask and 4 drops of the indicator. Put the flask so that the lower tip of the glass receiver tube is below the boric acid surface. Start running the cooling water in condenser boils the water in the boilers. Put 25 ml of the sample in the funnel with dist. Water. Released ammonia is trapped in boric acid. Titration: Ammonia is titrated with HCl or H_2SO_4 . At end point the green colour just disappears. Calculation N % in soil = $(\frac{V \times N}{V_s}) \times 3.4$ Soil Organic Matter

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and weighed weighing dish with lid (a labelled aluminium dish) fit lid, cool in a desiccators for at least 30 minutes and reweigh. All Weighing should be recorded to 3 decimal places. Calculation: % moisture = $\frac{W - D}{D} \times 100$ Chloride: - Reagents A. Potassium Chromate, Silver Nitrate Solution (AgNO₃) 0.01N NaCl, 0.01 N Procedure: Pipette 5-10 ml soil saturation extract into a wide-mouth porcelain Crucible or a 150-ml Erlenmeyer flask. Add 4 drops potassium chromate solution. Titrate against silver nitrate solution until a permanent reddish-brown color appears. Always run two blanks containing all reagents but no soil, and treat them in exactly the same way as for the samples. Subtract the blank titration reading from the readings for all samples. Calculation $(V - B) \times N \times R \times 1000 \text{ Cl (meq/L)} = \text{Wt 3.7}$ Water Holding Capacity Procedure: Weight accurately 20 gm of soil sample on the balance transfer this soil on the Whitman's filter paper and kept this soil in funnel then on the measuring cylinder pour 40 ml of water into the soil sample Keep this experiment stay for one night Then observe how much of water is come down from soil sample in measuring cylinder accurately weight the wet soil with filter paper and subtract weight of filter paper from wet soil Then calculate the water holding capacity by the using below formula $\text{WHC} = \text{weight of wet soil} - \text{weight of taken soil}^4$

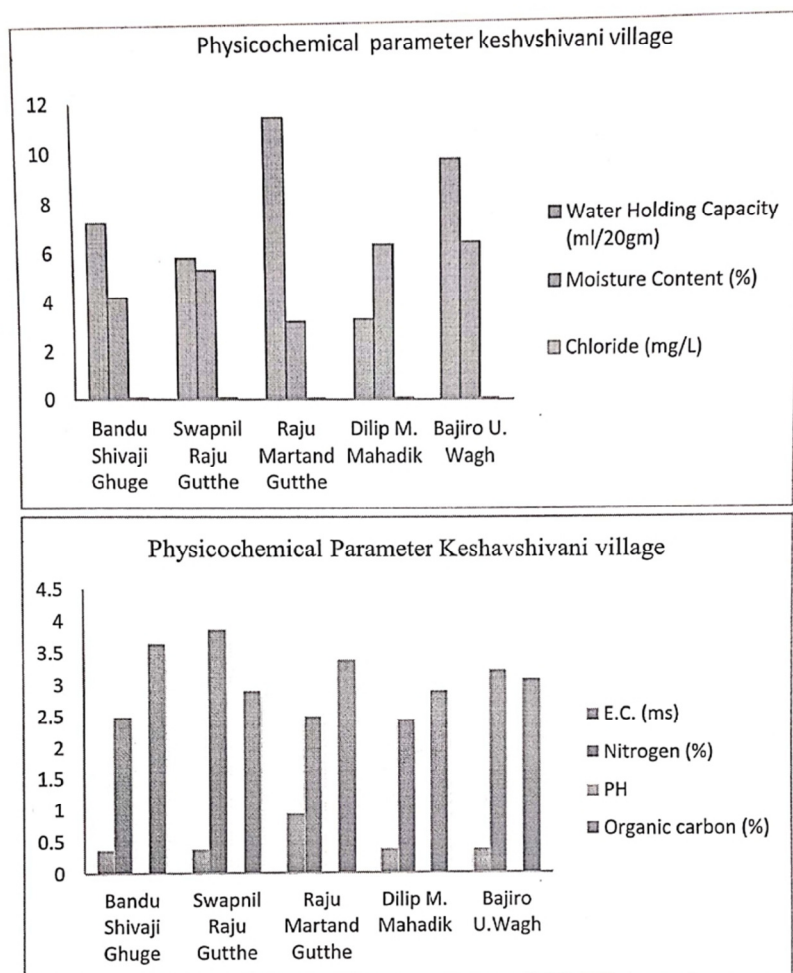
RESULT AND DISCUSSION

Temperature of Soil sample was found to be 28.9 to 34.7 °C. Colour of Soil sample found to be Black, Lime and red and amount of pH present in the Soil sample was found to be in between range of 6.2 to 8.32. The amount of chloride ion present in the Soil sample was found to be in between 0.047 to 0.093 mg/L

Fig-1.1 Physicochemical Parameter of five different location of keshashivani Village.

| Sr. No. | Name of Parameter | | | |
|---------|---------------------|----------------------------------|----------------------|-----------------|
| | Name of Farmer | Water Holding Capacity (ml/20gm) | Moisture Content (%) | Chloride (mg/L) |
| 1 | Bandu Shivaji Ghuge | 7.2 | 4.2 | 0.064 |
| 2 | Swapnil Raju Gutthe | 5.8 | 5.3 | 0.068 |
| 3 | Raju Martand Gutthe | 11.4 | 3.2 | 0.042 |
| 4 | Dilip M. Mahadik | 3.3 | 6.3 | 0.058 |
| 5 | Bajiro U. Wagh | 9.7 | 6.4 | 0.057 |

| Sr. No. | Name of Parameter | | | | |
|---------|---------------------|-----------|--------------|---------------|--------------------|
| | Name of Farmer | E.C. (ms) | Nitrogen (%) | PH | Organic carbon (%) |
| 1 | Bandu Shivaji Ghuge | 0.361 | 2.48 | 7.30 at 24° C | 3.64 |
| 2 | Swapnil Raju Gutthe | 0.374 | 3.88 | 7.43 at 24° C | 2.9 |
| 3 | Raju Martand Gutthe | 0.938 | 2.49 | 8.20 at 24° C | 3.40 |
| 4 | Dilip M. Mahadik | 0.376 | 2.44 | 7.50 at 24° C | 2.90 |
| 5 | Bajiro U. Wagh | 0.384 | 3.22 | 8.10 at 24° C | 3.1 |



CONCLUSION- The study of soil is mostly based on the following parameter of soil which is as follows A) Texture B) Fertility C) Colour D) Moisture E) Water holding capacity Soil analysis of Keshavshivani village found that soil of Keshavshivani village is blackish in nature which posses good water holding property & moisture as well as organic carbon beyond that found soil of Keshavshivani village has necessary nitrogen on the basis of above data we can assume that the soil of Keshavshivani village has good fertility for the following crops Soyabean, Wheat, Blackgram, Greengram, Cotton.

References:-

1. Physico and chemical Parameters. Newest International Referred journals, 2017, Vol:3 Page : 36-40. ISSN: 2349-3372
2. Arushi Makkar, Analysis Of Soil Samples From Various Areas of Punjab. International Journal of Research in Engineering, Science and Management, 2018, Volume-1, Issue-11, 496-498.
3. Jackson ML. Soil Chemical Analysis. Prentice-Hall of India, Private Ltd. New Delhi, 1973, 327-350.
4. Das, S.K., Avasthe, R.K., Singh, M., Dutta, S.K., Roy, A., 2018. Zinc in plant-soil system and management strategy. Agrica 7 (1), 1-6.
5. Wagh P. B., Deshpande A. D., Ingle S. R. IJARSCT vol (12)4, 2021.



Synthesis and Application of Sorbitol Based polymers and their cleaning capacity

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Abstract:

For several thousands of years natural polymers have been indispensable for mankind to serve as food, to provide shelter and clothing and to serve as a source of energy. During the development of the human society the use of natural polymers become more sophisticated illustrated by the development of various technologies such as papermaking, textile manufacturing and wood processing. In mid nineteenth century the chemical modification of natural materials gave rise to the first commercial thermoplastic materials like cellulose acetate and nitrate and vulcanized natural rubber. But now days these synthetic polymers are present in almost every aspect in our life. In this race, synthetic natural products based polymers and their applied products are being increasingly explored because of their potential applications. The present work is aimed at developing a polymeric surfactant based on sorbitol, maleic anhydride and phthalic anhydride. As the polymeric surfactant is based on sorbitol and sugar it will have certainly biodegradability characteristics. And it is used in the detergent powder formulation a partial substitute for LABS.

Key words: Polymer, surfactants, detergents

Synthesis of Sorbitol based polymer

The synthesis of desired polymers¹ has been carried out in a round bottom glass flask of 1 liter capacity. A condenser is attached to it. Exactly weighed quantities of various ingredients were introduced into the flask. There after the heating was commenced slowly and steadily to attain the temperature of 120-130°C in about 90 minutes in an electric heating mantle with temperature controlling regulator. Heating was continued for three hours and then the total reactor mass was cooled to 80°C. The prepared polymer samples were then stored in tightly corked bottles. These polymer samples were systematically analysed for their acid value, viscosity, H.L.B. and pH by standard laboratory methods.

Preparation of powder detergent

Composition of various ingredients used in the preparation of detergent powder are shown in the formulation table. The said ingredients in the powdered form are weighed and mixed thoroughly in a tray. Then the liquid ingredients like acid slurry, sodium lauryl ether sulphate (S.L.E.S), and polymer were added. This mass then homogenized thoroughly in a homogenizer pot and then homogeneous mass thus obtained was packed in plastic pouches.

The surface tension of powder detergents solution was measured using stalagmometer (for 1%, 0.5% and 0.25% concentrations). Foam was measured by using mechanical agitation in a closed glass cylinder of 1L capacity.

Analysis and testing of powder detergent

Stain preparation

The soil medium having following composition by weight, Carbon black (28.4%), coconut oil (35.8%), Lauric acid (17.9%), Mineral oil (17.9%) was prepared. The mixture of carbon black and lauric acid along with mineral oil was taken in a pastel mortar. Coconut oil was then added slowly to form a thick paste. All the components were ground in the pastel mortar for 1-2 hours till a finely grounded mixture was obtained. The fine grinding is indicated by smooth feel of the paste medium. Soil solution was prepared by adding 2 g of above soil

medium paste in 500ml of carbon tetrachloride for staining cloth sample. The solution after preparation was kept in packed bottles.

Tea stain solution

This was prepared with following composition. Tea (TajMahal) (2.2%), sugar (8.0 %), milk and water. Water was warmed to 35 to 40°C and tea powder and sugar were added to it. The contents were further warmed till the solution starts boiling and at this stage milk was added and heating was continued at boiling temperature of the mixture for further 5 minutes. The prepared tea was passed through a tea filter and was used as tea medium for staining the clothes.

Preparation of Coffee medium

This was prepared with composition of coffee (1%), sugar (8.1%), milk (51.9%), water(39%), 25g of milk and water were taken in a beaker and the contents were warmed initially to a temperature of 35- 45°C before adding the coffee powder and sugar. The heating was continued and the mixture was allowed to boil for about 5 minutes. The prepared coffee was passed through a coffee filter and was used as coffee medium for staining the clothes.

Method of application of Soil:

The cloth pieces of size 24×32 cm² were prepared. 50 ml of soil solution was taken in a beaker and the cloth sample was dipped in it for 5 minute. Thereafter the cloth piece was kept outside for drying in open atmosphere for 2 hours. After drying the cloth was cut into small size of 6×8 cm samples which were then used for washing.

Method of application of Tea and Coffee and oil stains

The stains of tea and coffee mediums were applied at the centre of cloth samples of 6×8 cm² size by using pipette. The stain applied was distinctly visible. The cloth sample was then kept in an oven at 55-60°C for about 15 min and used for testing.

Method of Washing

The solutions of different concentration of detergent powder (1%, 0.5% and 0.25%) were prepared. Heat these solutions to temperature of 60°C. Dip soiled cloth sample in it for 5 minutes and give to and for 10 hand washes. Allow it to dry and visualized the effect on stain.

Results and Discussion

Table-1 gives composition of various polymers designed specifically for use in detergents. The main common feature of all polymers¹ is the use of 90 % eco-friendly chemicals that can be derived from vegetable sources like glycerol and Sorbitol¹⁰. In all compositions a small proportions of acids like maleic, phthalic and citric acid have been added. It is biodegradable hence eco-friendly. Thus does not cause harm to environment. It is water soluble. Hence it can decay easily.

Table- 1

Composition of Sorbitol based polymers

| Sr. no | Polymer (ingredients in weight %) | P1 |
|--------|-----------------------------------|------|
| 1 | Sorbitol | 47.5 |
| 2 | Maleic anhydride | 5 |
| 3 | Phthalic anhydride | 5 |
| 4 | Maize starch | 32.5 |
| 5 | Oxalic acid | 5 |
| 6 | Citric acid | 5 |
| 7 | Sodium Bisulphate | 1.5 |
| 8 | Sodium Bisulphite | 0.5 |

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Table-2
Physicochemical analysis of polymers

| Sr. No. | Polymer | P1 |
|---------|----------------------|------------------|
| 1 | Colour | Pale Yellow |
| 2 | Solubility | Soluble in Water |
| 3 | Consistency | Thick |
| 4 | pH | 1 |
| 5 | Density | 1.3721 |
| 6 | Surface tension | 47.736 |
| 7 | Viscosity | 1.252 |
| 8 | Acid value | 11.22 |
| 10 | Saponification value | 137.25 |
| 11 | Ester value | 126.03 |

The physicochemical analysis of polymers is given in table-2.

The % solids indicate that all samples have 92-93.27% solids in final polymer samples. The pH of polymers (1% solution) is 3.8-4.29. The acid values of polymers show that all sample have some free acid groups. Prepared samples also have excellent viscosity of 185-200 seconds.

The composition of powder detergents based on polymer P1 is given in table-3

All samples have an alkaline pH and give excellent foaming characteristics, Surface tension and stain removing properties for stains of soil, tea, coffee. These samples are not only comparable but at times better than available commercial detergent.

The physiochemical analysis like foam, surface tension of powder detergent is given in table-4.

Compositions of powder detergents

Table -3

| Name of components (in %) | PD1 | PD2 | PD3 |
|-----------------------------------|-----|------|-----|
| Polymer | 10 | 2.5 | 5 |
| Sodium carbonate | 30 | 35 | 35 |
| Sodium lauryl ethyl sulphate | 5 | 5 | 5 |
| STPP | 3 | 3 | 3 |
| Oxalic acid (paste with sorbitol) | 1 | 1 | 1 |
| Tenopol(paste with sorbitol) | 0.5 | 0.5 | 0.5 |
| Sodium sulphate | 15 | 18.5 | 15 |
| Salt | 5 | 5 | 5 |
| Dolomite | 30 | 30 | 30 |

Physicochemical analysis of powder detergent

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Table no- 4

The physiochemical analysis like foam, surface tension of powder detergent is given in table

| Sr. No. | Detergent | PD1 | PD2 | PD3 |
|---------|-----------------|------------------|------------------|------------------|
| 1 | Solubility | Soluble in water | Soluble in water | Soluble in water |
| 2 | Ph | 10 | 9 | 9 |
| 3 | Surface tension | 22.5288 | 24.065 | 23.343 |
| 4 | Viscosity | 0.9568 | 1.0014 | 0.9626 |
| 5 | Foam value | 0.6cm | 1cm | 1.2cm |

Conclusion: Carbohydrate polymer of desired viscosity, flow, molecular weight can be prepared by using combination of sorbitol, sugar and starch. Acids such as phthalic and maleic anhydrides can be incorporated in to the composition hydrochloric acid is giving excellent results as a catalyst. The heating schedule is of 4 hrs at 120°C.

1. The preliminary analysis indicates that polymer should be used for powder detergent compositions based on colour, viscosity, surface tension reduction and soil removing characteristics.
2. Powder detergent composition containing 10-15% of novel polymer without using conventional petroleum based actives can be used in powder detergent formulation without significant change in performance characteristics of detergent.
3. Our sample based on SLES and 10-15% novel polymer gives foaming, surface tension and detergency almost equivalent sometimes better than commercial sample.
4. The experimental compositions should be tried on pilot plant scale and market on commercial scale. This will certainly promotes "green environment".
5. The product can be marked as free from petroleum, eco-friendly which will certainly attract global market.
6. The whitener is very important additive as it gives whiteness to the clothes.
7. Conventionally sodium chloride and dolomite are used inversely in small quantities. We have practically proved that their higher property does not affect physicochemical properties and detergency.

References

1. Swift G. The use of Polymers as Detergent Additives, *Journal of American Chemical Society*, 1998, vol.2, 324-328.
2. Goddard E.D., Complexation of Nonionic Polymer and Surfactant in Dilute Aqueous Solution, *Langmuir*, 1994, vol. 10 (10), 3512-3528.
3. Carrier, *synthesis of a polymer and its use for soil removal*, 1998, vol. 87(2), 6-21.
4. Shulmon and Kirk, *Eur. Pat. Appl.* 26 Apr. 2000, EP995, 791(C1.C11D3/37), 26Apr.2000, C.A. 132,295.
5. Gabriel, G., Abstracts of the 89th AOCs Annual Meeting and Exp", *Journal of Surfactant and Detergents*, 1998, vol. 1(3), 470-471.
6. Nagrajan, M.K., Multi-functional Polyacrylate Polymers in Detergents, *Journal of American Chemical Society*, May 1985, vol. 62(5), 949 - 955.
7. Chen, K.M. and Tsal, C.C., *Journal of American Chemical Society*, 2002, vol. 65 (8), 1346- 1349.
8. Stamm and Charles L, U.S. 6, 057, 281 (C1.C11D7/26) 2 May 2000.C.A .132, 310055 k.
9. Gogte, B.B.; Agarwal, R.S., *Journal of Soaps Det. Toilet. Rev.*, 2003, vol. 34, 19-22.
10. Gogte, B.B. "Sorbitol based Polymeric Surfactant for Detergent Powder", *Soaps Detergents and Toiletries*, April 2003, 25-28.
11. Gogte, B.B.; Bhagwat, A.M., *Soaps Det. Toilet. Rev.*, 2004, vol. 36, 20-25.
12. Gogte, B.B.; Patil, P.V.; Karadbhaje, V.Y., *J.Chem. Engg. World*, 2005, vol. 40, 71-75.
13. Gogte, B.B.; Dontulwar, J.R., *Asian Journal of Chemistry*, 2004, vol. 16 (3), 1385 -1390.
14. Kharkate, S.K.; Karadbhaje, V.Y.; Gogte, B.B., Some Resin based Eco friendly Liquid Detergents," *Journal of Scientific and Industrial Research*, October 2005, Vol.64, 752 -755.
15. Gogte B. B.; Gode, S.A., Study of Carbohydrate Polymer Synthesis and Utilize in the Preparation of Powder Detergent and Liquid Detergent", *Journal of Scientific and Industrial Research*, 2001, Vol.23, 1190-1195.





International Interdisciplinary Virtual Conference on
 'Recent Advancements in Computer Science, Management and Information Technology'
 International Journal of Scientific Research in Computer Science,
 Engineering and Information Technology | ISSN : 2456-3307 (www.ijsrcseit.com)

Variations in Sensing Response of Cladding Modified Fiber Optic Intrinsic Biosensor with The Interaction Between Gox and Glucose

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ABSTRACT

In the present investigation, a cladding modified fiber optic intrinsic sensor using biomolecules has been developed. In this original cladding is removed mechanically and modified it with the polymer-polyaniline, which is suitable to incorporate and bind the biomolecules in its porous structure. The biomolecules used are enzymes-glucose oxidase (GOx) and used to detect the analyte-glucose. The sensitivity of developed sensor has been studied by measuring intensity or power versus time. During the interaction between GOx and glucose; there are variations in sensing response of sensor. A type of uniform pattern or platues has been observed. It shows an ON and OFF i.e. starts and ends of reaction between GOx and glucose.

Keywords: Sensor, Cladding Modified Optical Fiber, Immobilization, Glucose Oxidase

I. INTRODUCTION

In the year 1969 a sensor was developed by Clark of the children's hospital in Cincinnati, Ohio, which was used for sensing the biomolecules called as biosensor [1, 2]. It was investigated with the development of enzyme electrodes. After that ample of mature, reliable, fast and more sophisticated biosensors were developed by researchers throughout the World. In last 30-40 years a simple commercially available small, disposable, single-use, glucose sensitive electrode and the corresponding handheld-sized portable meter containing the integrated circuit (IC) and liquid crystal display (LCD) biosensing device was developed for the testing of blood glucose [3-7]. Biosensors are useful in various fields such as medicine, agriculture, biotechnology, military, environmental analysis, food analysis, health care, biochemical industries etc. [4-11]. Those sensors were the electrochemical biosensors. Due to the advanced properties of optical fibers such as light weight, small size, operated in hazardous environments, without any electromagnetic interference, wide bandwidth, propagation of light over long distances with little loss in intensity and continuous light intensity etc., researchers were investigated the optical fiber biosensors [12].

An optical fiber based sensor; needs a light source, optical detector and sensing element (probe) for the detection of different analytes (which is to be measured). The information of analyte in these sensors is due to change in polarization, phase, amplitude, frequency, intensity or combination of these things. The designing

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and development of sensing element in optical fiber sensors decides the type of sensor. In various types, cladding modified approach is the simplest and effective method of designing of optical fiber sensor. Its principle is based on the modulation of optical power / intensity in terms of absorption or interaction of light in the evanescent region.

For the development of such a biosensor; original passive cladding of an optical fiber is removed from a small portion and coated it with a thin layer of suitable matrix/material which can hold or capture the biomolecules without affecting it. For the cladding modification polymers like polyaniline, polypyrrole, polyindole, polythiophene etc. are found suitable and sensitive active cladding materials. It offers a porous matrix like cauliflower to hold or immobilize the biomolecules [13-17].

In the present investigation, variations in the sensing response of a cladding modified fiber optic intrinsic biosensor (FOIB) have been studied. This biosensor is developed by modifying the original cladding of optical fiber with polymer-polyaniline as an active cladding. Then it was incorporated with glucose oxidase (GOx) cross-linked via glutaraldehyde for the detection analyte-glucose. The sensitivity of developed biosensor has been studied by measuring intensity or power versus time. It has been observed that there is a type of uniform pattern or platues are formed, during the interaction between GOx and glucose. It shows an ON and OFF i.e. starts and ends of reaction between GOx and glucose. The results are reported.

II. METHODS AND MATERIAL

Aniline (monomer) and ferric chloride (oxidant) were purchased from Fisher Scientific used for the synthesis polyaniline.

1m long plastic cladded silica core optical fiber (core/cladding-960/40 μ m) was taken to develop a fiber optic intrinsic biosensor (FOIB). Both the ends of the optical fiber were cut and polished using polish paper. Two SMA connectors were connected to both the ends of the optical fiber. The sensing element of the FOIB was prepared by removing a small portion (1 cm) of original cladding mechanically of an optical fiber and deposited it with a thin layer of active cladding of polyaniline. It was synthesized by chemical polymerization method using monomer-aniline and oxidant-ferric chloride (FeCl_3) in an aqueous medium at room temperature. For the purpose, 0.2 M aniline and 0.05 M FeCl_3 stock solutions were prepared, separately, in double distilled water. 10 mL solution of aniline was taken in a beaker. The oxidant solution was added drop by drop in it with constant stirring and cladding removed portion was submerged in it during the polymerization to deposit a thin layer. After deposition, sensing portion was washed several times with distilled water. Then the sensing element immobilized with GOx prepared in phosphate buffer of pH 7.4 cross-linked via glutaraldehyde solution.

He-Ne laser (λ - 632.8 nm, power-1mW) was used as a source to illuminate the light at one end of the FOIB. At the other end; the sensing response of FOIB was recorded using a charge-coupled device (CCD) camera (Mels Impex America, Inc.) as a detector. Optical microscope AxioCam ERc 5s was used to record images of optical fiber at various stages in the experiment. Figure 1 shows the experimental arrangement of FOIB.

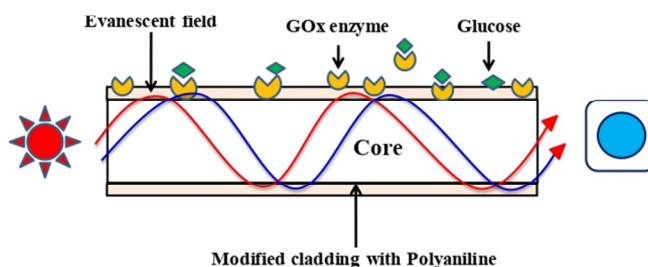


Figure 1 Experimental arrangement of FOIB.

III. RESULTS AND DISCUSSION

A. Optical Micrograph of Sensing Element

Figure 2 shows the sensing element of FOIB in various magnifications (4x and 10x). Figure 2 (a, b) shows the images of the sensing element before removal of cladding. Figure 2 (c, d) shows images of sensing element after removal of cladding. Figure 2 (e, f) shows images of sensing element after deposition of thin layer of polyaniline. As discussed earlier, polyaniline offers a porous matrix to accommodate the biomolecules like enzyme used for sensing analyte as shown in Figure 2 (e, f).

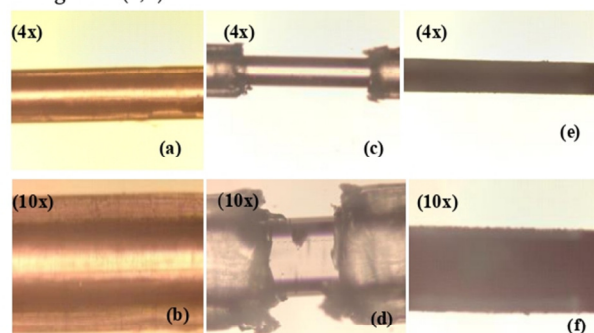


Figure 2 Optical microscopic images of optical fiber (a, b) with original cladding; (c, d) with removed cladding and (e, f) with polyaniline modified cladding

B. Sensing Response

Figure 3 shows the sensing response of FOIB for phosphate buffer solution (pH 7.4). It shows that there is no variation in power with respect to the time. It may show that there is no interaction or reaction between enzyme-GOx and phosphate buffer solution.

Figure 4 (a, b) and figure 5 (a, b, c) are the sensing response of FOIB after adding the glucose solution in the cell enclosed with sensing element immobilized with GOx. Figure 4 (a) shows the interaction between GOx and glucose solution. It's a type of ON and OFF i.e. starts and ends of reaction and shows the uniform pattern or plagues of it. It's in ON condition, while starting the reaction between GOx and glucose. After completion of the reaction it leaves behind Gluconolactone and hydrogen peroxide (H_2O_2), this condition is the OFF condition of reaction as shown in figure 4 (a, b). Again the enzyme GOx ready to interact with another glucose molecules and the reaction starts again. In this way power goes on increasing with respect to time and after the

interaction with all the glucose molecules, the power goes on decreasing as shown in figure 5 (a, b and c). Figure 5 (a) shows the increase in power during the interaction between GOx and glucose and the power starts decreasing as shown in figure 5 (b). Whereas, figure 5 (c) depicts the completion of interaction between GOx and all the molecules of glucose solution.

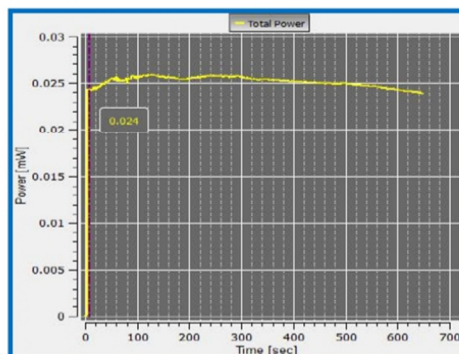


Figure 3 Sensing response of FOIB for buffer solution.

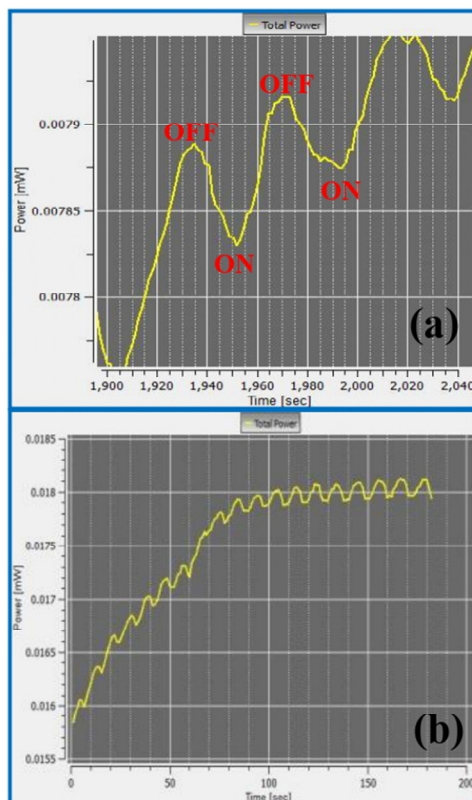


Figure 4 Sensing response of FOIB during the interaction between GOx and Glucose.

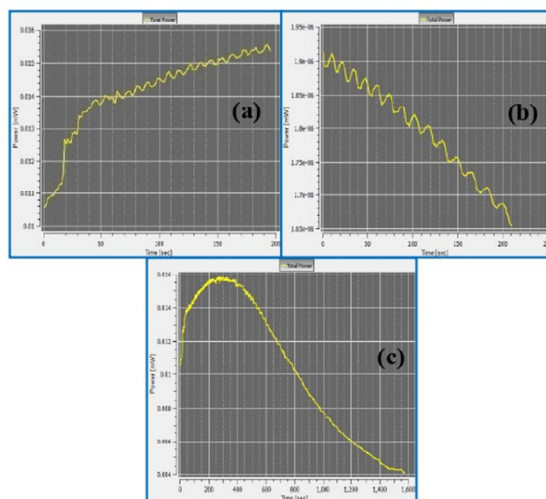


Figure 5 FOIB Sensing response (a) increasing, (b) decreasing and (c) completion of interaction between GOx and glucose.

IV. CONCLUSION

In the present investigation, a cladding modified fiber optic intrinsic sensor using biomolecules has been developed successfully. Polyaniline found a suitable matrix for the immobilization of enzymes-GOx. Cladding modified FOIB has been successfully detected the glucose and shows sensing response or variations during interaction between GOx and glucose. At time of sensing, a type of uniform pattern or plateau has been observed. It shows an ON and OFF i.e. starts and ends of reaction between GOx and glucose. It confirms the possible use of FOIB for immobilization of various biomolecules and detection of different analytes. It can also be effectively used in various fields.

V. ACKNOWLEDGEMENT

Authors acknowledge financial support by Defense Research and Development Organization (DRDO), New Delhi as research project (sanction letter no. ERIP/ER/1003856/M/01/1293).

VI. REFERENCES

- [1]. L. C. Clark Jr., "Monitor and control of blood and tissue oxygen tensions", Trans. Am. Soc. Artif. Int. Organs, 2 41 (1956).
- [2]. R. F. Taylor, "Introduction: The current status of immobilized protein technology. In: protein immobilization: fundamentals and applications", (vol. 14, N.Y. Marcel Dekker. Inc., 1991).
- [3]. J. D. Newman and A. P. F. Turner, "Home blood glucose biosensors: a commercial perspective", Biosensors & Bioelectronics, 20 2435 (2005).

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Published on Marth 15, 2023

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- [4]. R. S. Marks, D. C. Cullen, I. K. Karube, C. R. Lowe and H. H. Weetall, "Handbook of biosensors and biochips", (vol. 1, John Wiley & Sons, Inc, New York, 2007).
- [5]. B. R. Eggins, "Chemical sensors and biosensors", (John Wiley & Sons, New York, 2002).
- [6]. J. Wang, "Electrochemical glucose biosensors", Chem. Rev., 108 814 (2008).
- [7]. G. Holst and B. Mizaikoff, "Fiber Optic Sensors for Environmental Sensing. Handbook of optical fiber sensing technology", Edited by J. M. Lopez-Higuera, John Wiley & Sons Ltd: 729 (2001).
- [8]. A. M. Dietrich, "Measurement of pollutants: chemical species" Water environmental research: 68 391 (1996).
- [9]. G. Schwotzer, "Optical sensing of hydrocarbons in air or in water using UV absorption in the evanescent field of fibers", Sensors & Actuators B: 38 150 (1997).
- [10]. B. Mizaikoff, "Infrared fiber optic gas sensor for chlorofluorohydrocarbons Vibrational Spectroscopy", 8 103 (1995).
- [11]. J. W. Cardner, V. K. Varadan, O. O. Awadelkarim, "Microsensors MEMs and smart devices, (John Wiley & Sons, Inc, New York, 2001).
- [12]. F. T. S. Yu and S. Yin, "Fiber Optic Sensors", (Marrcel Dekker, New York, 2002).
- [13]. K. T. V. Grattam and T. Sun, Sens. Actuat. 82 40 (2000).
- [14]. Kwaaitaal Th, Sensors and Actuators, A 39 103 (1993).
- [15]. C. Muller, B. Hitzmann, F. Schubert and Scheper, Sensors and Actuators: B (Chemical), 40 71 (1997).
- [16]. V. G. Pahurkar, Y. S. Tamgadge, A. B. Gambhire and G. G. Muley, "Glucose oxidase immobilized PANI cladding modified fiber optic intrinsic biosensor for detection of glucose" Sensors and Actuators B: Chemical 210, 362-368.
- [17]. V. G. Pahurkar, Y. S. Tamgadge, A. B. Gambhire and G. G. Muley, "Evanescent wave absorption based polyaniline cladding modified fiber optic intrinsic biosensor for glucose sensing application", Measurement 61, 9-15



Artificial Intelligence in Sensor Technology

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ABSTRACT

Sensors are essential parts of systems that we depend on every day for a multitude of tasks. They make it easier to gather data, which permits wise choices to be made in a variety of applications. AI-infused sensors have been a driving force behind recent advancements in industrial Systems and other IoT systems, applications, and technology. These AI-powered sensors are smart enough to have intelligence built-in, and they can work together to communicate whether they are online or when they are operating independently.

Sensors embedded into nodes must demonstrate traits such as efficiency, intelligence, precision, and connection to fulfill the needs of today's advanced systems. Additionally, these sensors must demonstrate robustness, prioritize user safety, and uphold privacy considerations. Leveraging advanced AI technologies, a new breed of sensors has emerged, endowed with capabilities that can detect, identify, and mitigate performance degradation while unveiling novel patterns.

This research paper will succinctly explore the application of AI and Deep Learning (DL) in sensor technologies, aiming to enhance efficiency and address limitations associated with traditional sensor technologies. Through this exploration, we aim to shed light on the transformative potential of AI-infused sensors in ushering in a new era of smart and resilient IoT applications.

In addition to traditional applications, the research sheds light on the burgeoning role of AI in wearable sensors and health monitoring. The marriage of AI algorithms with wearables facilitates advanced analytics of physiological data, paving the way for proactive health assessments, fall detection, and sleep pattern analysis.

Keywords : Artificial Intelligence, Sensors, Deep Learning, Smart Sensors, CNN, RNN

I. INTRODUCTION

A sensor serves as a device designed to react to a physical stimulus, encompassing variables such as heat, light, sound, pressure, magnetism, or specific motion. Subsequently, it transmits a resultant impulse, thereby facilitating tasks such as measurement or the operation of a control system. Sensors, ubiquitously integrated into a myriad of systems, have become

integral components in contemporary scenarios, spanning residential and commercial environments, shopping complexes, healthcare facilities, and even embedded within ubiquitous smartphones.

From a technical standpoint, sensors manifest in an array of types, each specifically tailored to respond to a distinct physical stimulus. Thermal sensors, for instance, are engineered to detect variations in

temperature, while photoelectric sensors respond to changes in light levels. Acoustic sensors discern sound waves, and pressure sensors gauge alterations in atmospheric or mechanical pressure. Magnetic sensors, as another example, respond to variations in magnetic fields, and motion sensors detect specific types of movements.

Moreover, sensors have evolved to feature sophisticated technologies, with many incorporating elements of artificial intelligence (AI) and machine learning. These advanced sensors demonstrate heightened capabilities in terms of precision, adaptability, and pattern recognition. In the contemporary technological landscape, sensors have become indispensable tools, enabling the continuous improvement and optimization of various processes and systems. Their pervasive integration underscores their crucial role in the data-driven and interconnected world of today.

II. INTRODUCTION TO AI AND THE IMPORTANCE OF AN INTELLIGENT SENSOR

AI or Artificial Intelligence is a superset of various technologies which include machine learning and deep learning and many more. The integration of AI techniques into sensor-based systems is expected to pave the way for the development of applications. Current AI applications within sensor environments primarily focus on:

i) Boosting Operational Efficiency:

For instance, Google harnesses AI to optimize data center cooling costs through the implementation of intelligent sensor-driven systems.

ii) Enhancing Risk Management:

Companies like Fujitsu employ AI to analyse data from connected wearable devices, ensuring worker safety and providing more effective risk management strategies.

A smart sensor is an advanced sensing device equipped with additional capabilities beyond the basic sensing and data collection functions found in traditional sensors. It integrates technologies like Artificial Intelligence (AI), enabling it to process, analyse, and interpret data more intelligently.

Unlike traditional sensors that typically provide raw data, smart sensors process information locally, making them more autonomous and capable of providing actionable insights.

Components of a Smart Sensor:

1. Sensing Element: Similar to traditional sensors, a smart sensor has a sensing element to detect and measure physical parameters (e.g., temperature, pressure, light, or motion).
2. Processing Unit: The smart sensor is equipped with a processing unit, often incorporating microcontrollers or microprocessors, allowing it to analyse data on-site.
3. Communication Interface: Smart sensors can communicate with other devices or systems through wired or wireless interfaces, facilitating real-time data transfer.

III. Deployment of AI in Sensor Systems.

In agricultural applications, the integration of Artificial Intelligence (AI) with various sensors revolutionizes farming practices by providing data-driven insights and automating essential processes. For example:

1. Soil moisture sensor can be integrated with machine learning models like linear regression, decision trees to analyse historical soil moisture data to predict optimal irrigation schedules. In the realm of machine learning and statistics, linear

regression serves as a statistical tool. It helps model the connection between a variable which depends on another variable and one or more variables which are independent of others. The main aim of linear regression is to identify the most accurate linear relationship, usually depicted as a straight line. This line aims to minimize the distinction between the anticipated values and the real values of the dependent variable.

2. AI-powered image recognition using Drone mounted cameras and multispectral sensors can be used to identify crop health, weed infestations, and growth patterns. Object detection algorithms such as YOLO (You Only Look Once) are suitable for identifying and locating multiple objects within an image. They can be applied to detect individual plants, assess their health, and identify weed locations. YOLO is a pioneering object detection algorithm in the field of computer vision and image processing. YOLO is renowned for its efficiency and speed in detecting and classifying objects within images. Unlike traditional object detection methods that involve multiple stages and computations, YOLO takes a unique approach by dividing the image into a grid and making predictions for multiple bounding boxes and class probabilities in a single pass through the neural network.

IV. EXPLORING DEEP LEARNING IN RECOGNIZING ACTIVITIES BASED ON SENSOR DATA

Activity recognition using sensors seeks to derive meaningful insights about human activities from extensive low-level sensor data. Traditional pattern recognition methods have made notable progress, but they frequently rely on manual, rule-based feature extraction techniques, which may constrain their capacity to generalize effectively. Additionally,

current methods encounter difficulties in handling unsupervised and incremental learning tasks. The recent advancements in deep learning offer a chance to automatically extract higher-level features, demonstrating impressive performance in diverse fields. As a result, approaches based on deep learning have gained widespread acceptance in the domain of sensor-based activity recognition.

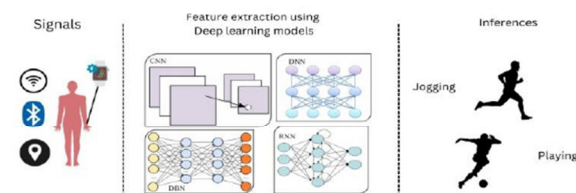


Fig.2. Applying Deep learning models for activity recognition using Sensors

Deep Learning models:

In this part, we will try to explore the different deep learning models used in Human Activity Recognition tasks.

a. CNN.

Convolutional Neural Networks or commonly abbreviated as CNNs excel at extracting features from signal data, delivering encouraging results in tasks like image classification and speech recognition. When correlated to classification based on time series, especially in Human Activity Recognition (HAR) and when compared to other models Convolution Neural Networks provide two major benefits which are local dependency and scale invariance. Local dependency implies that neighbouring signals in Human Activity Recognition often show correlation, improving the model's capability to grasp important patterns. Concurrently, scale invariance ensures the CNN's effectiveness in handling signals with different frequencies. Given the efficacy of CNNs, a

predominant focus within the surveyed literature pertains to their application in time series classification, especially in the domain of HAR.

In the case of applying CNN to Human Activity Recognition, key considerations include Pooling, Input adaptation and Weight-sharing techniques.

1. Input Adaptation:

Two main approaches are data-driven and model-driven.

Data-driven approach: In this approach we treat each dimension of the readings from sensor as single channel and then perform 1 directional convolution on them. Channels are processed independently, and outputs are flattened for further processing in DNN (Deep neural network) layers.

Model-driven approach:

In this approach we resize the input to get a non-real/virtual 2 directional image for 2 directional convolutions. Requires non-trivial input tuning techniques and domain knowledge.

2. Pooling:

Most approaches in Convolution neural networks use max pooling or average pooling.

Purpose: Prevents overfitting and accelerates training on large datasets.

3. Weight-Sharing:

This is a super-efficient approach to decrease the time for training on a new task.

Partial weight-sharing: Used in various studies (e.g., relaxed partial weight sharing) to account for differences in behaviour among units.

b. RNN.

Recurrent Neural Networks or commonly abbreviated as RNNs contribute significantly to tasks like

speech recognition and natural language processing. In the HAR field, where factors like training speed and resource efficiency hold importance, RNNs, frequently integrating LSTM or Long Short-Term Memory cells, are usually utilized.

LSTM cells are frequently integrated into RNN architectures, serving as memory units during gradient descent.

This integration allows RNNs to capture and utilize long-term dependencies in temporal data, a crucial aspect in HAR. In HAR scenarios, there is a common focus on developing RNN models optimized for resource-constrained environments. (Inoue et al., 2016) conducted investigations into model parameters [4], proposing an effective model capable of high-throughput HAR.

V. CONCLUSION

To sum it up, this paper offers a thorough exploration of how AI and deep learning are incorporated into sensor technologies, highlighting their significant impact on enhancing IoT systems, health monitoring, and recognizing activities based on sensor data. It sheds light on the evolving landscape of sensor technologies and the pivotal role of AI in enhancing the capabilities of modern sensors.

REFERENCES

- [1] Alsheikh, M.A., Selim, A., Niyato, D., Doyle, L., Lin, S., Tan, H.P., 2016. Deep activity recognition models with triaxial accelerometers. AAAI workshop.

- [2] Bao, L., Intille, S.S., 2004. Activity recognition from user-annotated acceleration data, in: International Conference on Pervasive Computing, Springer.
- [3] Bulling, A., Blanke, U., Schiele, B., 2014. A tutorial on human activity recognition using body-worn inertial sensors. ACM Computing Surveys (CSUR).
- [4] Masaya Inoue, Deep recurrent neural network for mobile human activity recognition with high throughput.
- [5] Almaslukh, B., An Effective Deep Autoencoder Approach for Online Smartphone-Based Human Activity Recognition
- [6] Jiang, W., Yin, Z., Human activity recognition using wearable sensors by deep convolutional neural networks.
- [7] Kim, Y., Human activity classification with transmission and reflection coefficients of on-body antennas through deep convolutional neural networks.
- [8] Ravi, D., Deep learning for human activity recognition: A resource efficient implementation on low-power devices, in: Wearable and Implantable Body Sensor Networks.
- [9] Zheng, Y., Exploiting multi channels deep convolutional neural networks for multivariate time series classification.
- [10] Zhang, L., Real-time activity recognition on smart phones using deep neural networks, in: UIC, IEEE.
- [11] Zibin, T., Human activity recognition with inertial sensors using a deep learning approach.
- [12] Zheng, L., Human activity recognition with dnn model, in: Cognitive Informatics & Cognitive Computing (IICCC).
- [13] Hsiao-Hwa Chen, An Energy-Aware Trust Derivation Scheme With Game Theoretic Approach in Wireless Sensor Networks for IoT Applications.
- [14] Suresh Borkar, Application of 5G Next Generation Network to Internet of Things.



Gravitational Waves- A New Window to Unseen Universe

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ABSTRACT

This abstract provides a succinct overview of the exploration into the realm of gravitational waves and their profound implications for our understanding of the cosmos. Delving into the theoretical foundations laid by Albert Einstein's general theory of relativity, the abstract outlines the transformative nature of the discovery of gravitational waves. It highlights their unique role as ripples in spacetime and their potential to unveil previously hidden facets of the universe. The abstract invites readers on a journey through this newfound observational frontier, where gravitational waves emerge as powerful tools for probing the mysteries beyond the visible spectrum. As humanity embraces this revolutionary perspective, the abstract captures the essence of gravitational waves as a gateway to an unseen universe, promising unprecedented insights into the fundamental fabric of our cosmic existence.

Keywords: Gravitational Wave, LIGO, LIGO-India, Sources

I. INTRODUCTION

The vast cosmos, stretching across unimaginable distances and harboring celestial phenomena beyond human comprehension, has forever been a source of fascination and inquiry. In the early 20th century, the scientific community was confronted with a paradigm-shifting revelation that would redefine our understanding of the universe: the existence of gravitational waves. Envisioned by the brilliant mind of Albert Einstein as a consequence of his general theory of relativity, these elusive waves represent ripples in the very fabric of spacetime itself.

This introduction embarks on a compelling journey through the theoretical genesis and experimental verification of gravitational waves, positioning them

as a transformative force in observational astronomy. Albert Einstein, in 1916, postulated that accelerated masses could send out waves through the curvature of spacetime. However, it wasn't until a century later, in 2015, that the Laser Interferometer Gravitational-Wave Observatory (LIGO) made the groundbreaking announcement of successfully detecting gravitational waves, ushering in a new era in astrophysics.

Gravitational waves, unlike any other observational tool, offer a distinct perspective into the unseen corners of the universe. As ripples generated by cataclysmic events such as black hole mergers or neutron star collisions propagate through spacetime, they carry with them information about the nature of these cosmic occurrences. Their detection not only validated a key prediction of Einstein's theory but also

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presented scientists with an unparalleled opportunity to explore celestial phenomena beyond the confines of traditional electromagnetic observations.

This journey through gravitational waves is not only a quest for scientific knowledge but an expedition into uncharted territories where these waves act as cosmic messengers, delivering insights into the most energetic and enigmatic events in the universe. This exploration holds the promise of uncovering hidden dimensions, providing a new lens through which we can peer into the heart of cosmic phenomena that were once beyond our observational reach.

As we delve into the narrative of gravitational waves, this journey extends an invitation to readers, scientists, and enthusiasts alike to join the exploration of this new window to the unseen universe—a portal to realms previously obscured from our view, where the study of gravitational waves unfolds as a transformative chapter in our quest to comprehend the profound mysteries of the cosmos.

I. Sources of gravitational waves

Gravitational waves are generated by the acceleration or motion of massive objects, especially those involving non-uniform motion or asymmetry. Here are some key sources of gravitational waves:

1. Binary Systems:

1.1. Binary Black Holes: When two black holes orbit each other, their gravitational interaction leads to the emission of gravitational waves. This becomes particularly pronounced as the black holes spiral inward and eventually merge into a single, more massive black hole.

1.2 Binary Neutron Stars: Similar to binary black holes, neutron stars in close orbits emit gravitational waves. The merger of neutron

star binaries can produce observable signals and is associated with phenomena like kilonovae, detected through both gravitational waves and electromagnetic observations.

2. **Asymmetric Neutron Star:** The rotation of a non-symmetric neutron star can lead to the emission of continuous gravitational waves. This is especially relevant when there is an asymmetry in the star's shape or density distribution.
3. **Supernovae:** The collapse and subsequent explosion of massive stars, known as supernovae, can generate gravitational waves. While the signal from a single supernova is challenging to detect, the cumulative effect of numerous supernovae in the universe contributes to the overall gravitational wave background.
4. **Compact Binary Systems with Non-Circular Orbits:** Gravitational waves are emitted when compact objects, such as white dwarfs or neutron stars, orbit each other in non-circular orbits. The non-sphericity of their motion results in the emission of gravitational radiation.
5. **Pulsars:** Rotating neutron stars with strong magnetic fields and non-uniformities in their structure can emit continuous gravitational waves. The detection of these signals requires precise measurements of pulsar timing.
6. **Cosmic Strings:** Theoretical cosmic strings, one-dimensional topological defects in the fabric of spacetime, are predicted to generate gravitational waves when they oscillate or undergo certain types of interactions.
7. **Primordial Gravitational Waves:** These are ripples in spacetime generated during the early moments of the universe, likely during cosmic inflation. Detecting these primordial

gravitational waves could provide insights into the very early universe.

8. **General Astrophysical Events:** Any massive, asymmetric, and dynamic astrophysical event, such as the collapse of a massive star or the interaction of dense matter in extreme conditions, can potentially produce gravitational waves.

II. Detection Methodology of gravitational waves

The detection and study of gravitational waves have opened a new era in astronomy, allowing scientists to observe and understand the universe in ways that were previously impossible. Detecting gravitational waves is a complex process that involves sophisticated instruments and precise measurements. The primary methodology for detecting gravitational waves is based on interferometry, and currently, the most successful instruments are laser interferometers. Instruments like LIGO (Laser Interferometer Gravitational-Wave Observatory), LIGO-India (upcoming) and Virgo have made significant contributions to the field by detecting gravitational wave signals and providing crucial insights into the sources and nature of these waves.

Here's a detailed methodology for detecting gravitational waves:

1. **Laser Interferometry:** The core of gravitational wave detection is a laser interferometer, a device that measures minute changes in the length of its arms caused by passing gravitational waves. A typical interferometer consists of two perpendicular arms, each several kilometers long. The lengths of these arms are carefully controlled using multiple reflections of laser light between mirrors at each end.
2. **Laser Light Source:** A laser beam is split into two parts at a beam splitter, and each part is

directed down one of the arms. The original intent is for the beams to recombine and cancel each other out, creating a dark fringe at the detector.

3. **Path Length Changes:** When a gravitational wave passes through the interferometer, it causes a slight change in the lengths of the arms. This change leads to the interference pattern at the detector shifting, creating a detectable signal.
4. **Michelson Interferometer:** The interferometer operates on the principles of a Michelson interferometer, where the interference of light waves is used to measure small displacements. Changes in the arm lengths due to gravitational waves alter the interference pattern.
5. **Detection Sensitivity:** Achieving the required sensitivity is a significant challenge. The interferometer must be able to detect changes in length on the order of a fraction of a proton diameter, which is about 10^{-18} meters.
6. **Multiple Detectors:** For increased accuracy and to help identify the source of the gravitational waves, multiple detectors are used. The Laser Interferometer Gravitational-Wave Observatory (LIGO) in the United States and Virgo in Europe are two prominent examples.
7. **Data Analysis:** Collected data is analyzed using advanced algorithms to distinguish gravitational wave signals from background noise. Signal processing techniques and statistical methods are crucial for extracting meaningful information.
8. **Electromagnetic Follow-Up:** When a gravitational wave event is identified,

astronomers coordinate with observatories across the electromagnetic spectrum to observe the event in other wavelengths (e.g., optical, radio). This multi-messenger approach provides a more comprehensive understanding of the astrophysical event associated with the gravitational waves.

9. Continuous Improvement: The detectors are constantly upgraded and refined to improve sensitivity and reduce sources of noise. Continuous research and development are ongoing to enhance the capabilities of gravitational wave observatories.

III. RESULTS AND DISCUSSION

Results

1. Detection of Gravitational Waves: The successful detection of gravitational waves using advanced observatories like LIGO and Virgo has opened a new era in astrophysics. Multiple gravitational wave events have been observed, including mergers of binary black holes and binary neutron stars.
2. Confirmation of Einstein's Predictions: The observed gravitational wave signals align closely with the predictions of Albert Einstein's general theory of relativity, providing strong support for this fundamental theory.
3. New Astrophysical Insights: Gravitational wave observations have unveiled previously unseen astrophysical phenomena, such as the coalescence of black holes and neutron stars, shedding light on their properties and distributions in the universe.
4. Multi-Messenger Astronomy: Gravitational wave events are now correlated with electromagnetic observations, enabling multi-messenger astronomy. This integration has provided a more comprehensive understanding of the astrophysical processes involved.

5. Exploration of Extreme Physics: Gravitational wave detections allow scientists to explore extreme conditions of gravity, providing insights into the behavior of matter under the influence of strong gravitational fields.

Discussion:

1. Astrophysical Implications: The observation of binary black hole mergers and binary neutron star collisions through gravitational waves has significant implications for our understanding of the formation, evolution, and distribution of these celestial bodies.

2. Cosmic String and Primordial Gravitational Waves: Ongoing efforts are directed towards the detection of exotic sources like cosmic strings and primordial gravitational waves. Successful observations of such phenomena could further enrich our understanding of the early universe.

3. Instrumental Advancements: Continuous improvements in gravitational wave detectors, such as LIGO and Virgo, are essential for enhancing sensitivity and expanding our capacity to observe fainter signals. Ongoing research and development aim to push the boundaries of gravitational wave detection.

4. Future Prospects: The era of gravitational wave astronomy is still in its infancy, and future missions, such as the Laser Interferometer Space Antenna (LISA), hold promise for detecting lower frequency gravitational waves and exploring different regions of the universe.

5. Educational and Public Outreach: Gravitational wave discoveries have captured the public's imagination. The engagement of the broader community through educational and outreach programs is crucial for sharing the excitement of these discoveries and fostering interest in astrophysics.

IV. CONCLUSION

The exploration of gravitational waves has undeniably marked a revolutionary chapter in our understanding of the universe. The successful detection and analysis of these elusive ripples in spacetime, as facilitated by advanced observatories like LIGO and Virgo, have not only affirmed the brilliance of Albert Einstein's theoretical predictions but have also ushered in a new era of observational astronomy.

The conclusive evidence of gravitational wave events, particularly the mergers of binary black holes and neutron stars, has broadened our observational capabilities, allowing us to peer into the previously unseen realms of the cosmos. These detections provide invaluable insights into the astrophysical processes governing the most extreme environments, from the cataclysmic collisions of massive celestial bodies to the intricacies of gravity's dance in binary systems.

The correlation of gravitational wave events with electromagnetic observations has paved the way for multi-messenger astronomy, presenting scientists with a holistic view of cosmic phenomena. The synergy between gravitational wave detectors and traditional observatories has not only deepened our comprehension of known astrophysical phenomena but has also opened avenues for the discovery of previously unknown cosmic events.

Looking forward, the ongoing refinement of gravitational wave detectors and the pursuit of innovative technologies, such as the LIGO-India, Laser Interferometer Space Antenna (LISA), promise to unlock further secrets of the universe. From probing the enigmatic nature of cosmic strings to unraveling the mysteries encoded in primordial gravitational waves, the future holds immense potential for expanding the frontiers of gravitational wave astronomy.

As we continue to delve into the unseen universe through the lens of gravitational waves, it becomes increasingly evident that our journey has just begun. The cosmic symphony, composed of gravitational waves echoing from the depths of spacetime, beckons us to unravel its intricacies, offering a profound and awe-inspiring melody that transcends the boundaries of our traditional understanding. In this era of gravitational wave astronomy, the universe reveals itself as a dynamic and interconnected tapestry, inviting scientists and enthusiasts alike to embark on a collective exploration of the cosmos' most profound mysteries.

V. REFERENCES

- [1] Abbott, B. P., et al. (LIGO Scientific Collaboration and Virgo Collaboration). (2016). "Observation of Gravitational Waves from a Binary Black Hole Merger." *Physical Review Letters*, 116(6), 061102.
- [2] Abbott, B. P., et al. (LIGO Scientific Collaboration and Virgo Collaboration). (2017). "GW170817: Observation of Gravitational Waves from a Binary Neutron Star Inspiral." *Physical Review Letters*, 119(16), 161101.
- [3] The LIGO Scientific Collaboration and the Virgo Collaboration. (2018). "GWTC-1: A Gravitational-Wave Transient Catalog of Compact Binary Mergers Observed by LIGO and Virgo during the First and Second Observing Runs." *The Astrophysical Journal Supplement Series*, 234(2), 28.
- [4] LIGO Scientific Collaboration. (2015). "Advanced LIGO." *Classical and Quantum Gravity*, 32(7), 074001.
- [5] LIGO Scientific Collaboration and Virgo Collaboration. (2019). "GW190521: A Binary

- Black Hole Merger with a Total Mass of 150 M_{\odot} ." Physical Review Letters, 125(10), 101102.
- [6] The LIGO Scientific Collaboration and the Virgo Collaboration. (2016). "Tests of General Relativity with GW150914." Physical Review Letters, 116(22), 221101.



IETE Journal of Research



ISSN: (Print) (Online) Journal homepage: <https://www.tandfonline.com/loi/tjir20>

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To cite this article: Majharoddin Kazi, Karbhari Kale, Raddam Sami Mehse, Arjun Mane, Vikas Humbe, Yogesh Rode, Siddharth Dabhade, Nagsen Bansod, Arshad Razvi & Prapti Deshmukh (2023): Face, Fingerprint, and Signature based Multimodal Biometric System using Score Level and Decision Level Fusion Approaches, IETE Journal of Research, DOI: 10.1080/03772063.2023.2217784

To link to this article: <https://doi.org/10.1080/03772063.2023.2217784>



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Face, Fingerprint, and Signature based Multimodal Biometric System using Score Level and Decision Level Fusion Approaches

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ABSTRACT

Principal Component Analysis (PCA) is the best face recognition method. This research suggests PCA for fingerprint and signature recognition. Simple image processing transforms like DCT, 2D-DCT, DWT, SWT, 2D-SWT, SVD (Singular Vector Decomposition), Entropy, and Rank can be used for feature extraction. These transforms and measures are utilized with PCA as a feature extraction module to construct uni-modal and multimodal biometric systems using face, fingerprint, and signature modalities. Most PCA biometrics systems compare stored template to claimed identification using Euclidean distance. This paper proposes matching modules using similarity and dissimilarity measures viz. Absolute Pearson's Correlation Coefficient (APCC), Absolute Uncentered Pearson's Correlation Coefficient (AUPCC), Bray Curtis Distance (BC), Canberra distance (CB), Chebyshev Distance (CBS), Chessboard Distance (CSB), City block or Manhattan distance (CTB), Cross Correlation (CC), Dot product (DP), Euclidean distance (EUC), Extended Jaccard Distance (EJ), Hamming Distance (HM), Harmonically Summed Euclidean distance (HSEUC), Kendall Correlation Coefficient (KCC), Mahalanobis Distance (MH), Minimum Coordinate Difference (MCD), Minkowski distance (MNK), Multivariate Kurtosis Coefficient (MVK), Multivariate Skew (MVS), Normalized City Block or Manhattan distance (NCTB), Normalized Cross-correlation (NCC), Normalized Euclidean distance (NEUC), Pearson's Cosine Distance (PCOS), Pearson's Correlation Coefficient (PCC), Pearson's Absolute Value Dissimilarity (PAVD), Pearson's Linear Dissimilarity (PLDISS), Spearman Correlation Coefficient (SCC), Standardized Euclidean Distance (SEUC), Uncentered Pearson's Correlation Coefficient (UPCC), Wave-Hedges Distance (WVH). This study again discusses score level fusion of face, fingerprint, and signature using sum and max rules, z-score normalization, and decision level fusion using AND rule.

KEYWORDS

face; fingerprint; human verification; multi-modal biometrics; signature

1. INTRODUCTION

The Face and Fingerprint Recognition systems have been well-acceptable in the uni-modal biometric systems. But, still, these systems suffer from intra-class variability and other problems like spoof attacks, etc. As we see in the literature, many researchers have used these modalities to design and implement bimodal biometric systems. We have introduced one more modality, i.e. signature in these two modalities. Since face and fingerprint are physiological characteristics the signature is a behavioral characteristic.

Most biometric systems deployed in real-world applications are unimodal since they rely on a single source

of information for authentication (e.g. single fingerprint, iris, or face). These systems suffer from different problems such as noisy data resulting, for example, from defective sensors, unfavorable ambient conditions, poor illumination, incorrect facial pose, and many others. Some of these limitations can be overcome by including multiple sources of information for establishing identity. Those are called multimodal biometric systems and are expected to be more reliable due to multiple and independent biometric features. These systems can meet the severe performance requirements imposed by various real-world applications by achieving higher accuracy and improved system performance [1,2].

Biometric systems have to contend with noisy data, restricted degrees of freedom, failure to enrol problems, spoof attacks, and unacceptable error rates. In some situations, it may be feasible to deploy a biometric system that takes advantage of more than one method of identification or authentication to overcome these problems. A biometric system can either be integrated with non-biometric forms of authentication or with other forms of biometric authentication systems. When a biometric system is integrated with other forms of biometric authentication systems, it can be described as a “multi-biometric system”. Multi-biometric systems may be more reliable and provide higher verification rates due multiple, independent pieces of evidence [3–11]. Multi-biometric systems address the problem of non-universality since multiple traits ensure sufficient population coverage, and provide anti-spoofing measures by making it difficult for an intruder to steal multiple biometric traits of a genuine user [3–11]. If there is a weakness in one method of biometrics, then combining it with a biometric method that is stronger for that weakness will alleviate that problem. For instance, it may be feasible to deploy a biometric system that consists of fingerprint scanning and voice recognition systems. In addition, a multi-biometric system may reduce the false reject rate and the failure to enroll the problem [3–11].

One must determine the logic used by a multi-biometric system. Each biometric method must be incorporated to logically work with the other biometric method that it is being combined with. The logic of the multi-biometric system may be implemented in an AND configuration or an OR configuration. If these two approaches must work together to provide continuous authentication using the AND configuration, then they both must output a matching score. It is noted in [3–11] that this type of configuration will reduce the false acceptances achieved by using either system by itself, but it will increase the number of false rejections.

These systems may be combined in an OR configuration. In the OR configuration, either approach will be able to provide the continuous authentication needed by the user. If the OR configuration is used as noted in [3–11] then this type of configuration will reduce the number of false rejections, but increase the number of false acceptances. The number of false rejections and false acceptances is based on the matching threshold that the administrators set the system at initially. The matching threshold is used to decide between a genuine user and an impostor.

Usually, vendors of biometric devices have suggestions for setting threshold values according to the security level you are trying to achieve. The security level may be labeled as low, medium, and high. Each security level has a threshold value associated with it as well. System performance can be improved by providing separate threshold values for each user of the system. In [12], it is shown that by providing separate threshold values for each user of the system, which consists of a combination of fingerprint, face, and hand geometry, the genuine accept rate is above 96%.

Using multiple biometrics in a system may not be the best solution in some cases. In [13], an example is given where fingerprints and voice were used together as one system. The conclusion from this study is that a strong biometric is better alone than in combination with a weaker one. More analysis and testing of multi-biometric systems are needed to be able to draw clear conclusions regarding the implementation of such a system.

A multi-biometric system may increase the certainty that the person is who he claims to be and increases the flexibility and circumstances under which someone can be verified. The accuracy and performance of an authentication system may be increased by employing a multi-biometric system if the most compatible methods are combined to produce a stronger biometric system (*i.e.* where weaknesses in one method are complemented by the strengths in the other method). If the results of combining different biometric methods are not fully researched, then a layered biometric system may be weaker than using only one method.

Also, since a single biometric feature can sometimes lead to type I and type II errors as well as higher failure to acquire (FTA) and failure to enroll (FTE) rates, a multimodal biometric system tends to be more reliable for the same application. For instance, fingerprints can be copied [3–11,14–16] or altered by cuts and bruises [7], a face recognition algorithm can result in too many false acceptances [13,17] and many other drawbacks exist in other biometric authentication schemes [4–9,14–16]. A multimodal biometric system [3,5,7–9] combines the use of more than one biometric feature to solve these issues. For example, the system can solve the problem of distinguishing between people with similar faces (*i.e.* identical twins) by using fingerprints as an additional biometric feature, while issues caused in a fingerprint biometric system by people having worn fingerprints and people missing fingers are handled by using face recognition. Furthermore,

a multimodal system also provides anti-spoofing measures [4,11,18] by making it more challenging for an impostor to fool the system.

The different groups such as the Biometrics Research Group and Computer Vision Laboratory have worked on different fusion schemes. These fusion strategies include sensor level, feature level, matching score level, and decision and rank-level approaches. Designing a multi-biometric system is an intriguing problem because it is very difficult to choose the optimum fusion strategy. Researchers all over the world have performed various combinations of biometric traits and evaluated the performance of the system using various pattern recognition and statistical techniques.

Biometric verification and identity via contactless palm scanning are presented in [19]. Ripplet-I Transform (R-IT), an extended form of Curvelet Transform (CuT), was employed in the study along with multi-resolution transforms including DCT, DWT, and Contourlet Transform (CT) (CoT). PCA and LBP have also been used to diversify algorithms. In the verification phase of the study, Artificial Neural Network (ANN), Euclidean Distance (ED), and Support Vector Machine (SVM) have been employed individually for matching to determine how classification methods affect study outcomes and processing times. Also investigated is CNN's classifier performance. The study's verification and identification algorithms were validated using palm print photos from Hong Kong Polytechnic University's Contact-free 3D/2D Hand Images Database (Version 1.0).

The literature reviews on these works have been briefly given in Table 1.

Table 1 shows work regarding multimodal biometrics systems using different modalities. Most fusion methodologies used by the researchers are at matching score levels. The sum rule is also preferred by most of the researchers. The decision-level fusion is carried out by majority voting. Whereas [41] has used feature-level fusion using the feature concatenation method.

2. PROPOSED MODEL

2.1 Multimodal Biometric System Using a Score-Level Fusion Approach

The typical multimodal biometric system consists of an acquisition module, feature extraction module, matching module, and decision module with the incorporation

of a Fusion Module (FM) at any one of the sensor/feature/matching/decision levels of the fusion. A proposed multimodal biometric system based on face, fingerprint, and signature using score-level fusion approach is shown in Figure 1:

The FE component in the figure represents the Feature Extraction module and the MM component represents the Matching Module. The fusion module encompasses the engine for score fusion. The symbol γ represents a threshold for the fused score and the decision module gives accept/reject results based on threshold.

2.2 Multimodal Biometric System Using a Decision-Level Fusion Approach

The multimodal biometric system for face, fingerprint, and signature using the decision-level fusion approach has the FE, MM, and DM components in serial for each modality where DM stands for decision module. Thereafter the decisions made by the DM are fused to accept/reject decisions. The system model is shown in Figure 2.

2.2.1 Feature Extraction (FE) Module of the Proposed Model

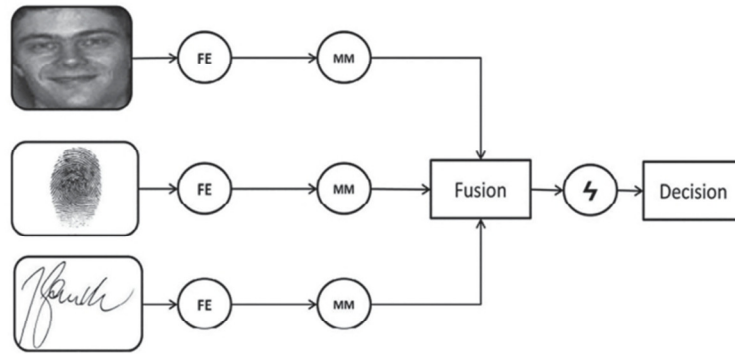
The proposed system consists of different 13 feature extraction (FE) approaches. The Principal Component Analysis (PCA) is well-known technique for dimensionality reduction and very beneficial for face recognition systems. We have proposed a combination of basic image transforms and principal component analysis (PCA) techniques to extract the features from face, fingerprint, and signature modalities. The proposed combinations of feature extraction (FE) modules are as follows:

- DCT (Discrete Cosine Transform)+PCA
- 2D DCT + PCA
- DWT (Discrete Wavelet Transform)+PCA
- SVD (Singular Vector Decomposition)+PCA
- PCA (Principal Component Analysis) [3,4,16]
- Image Entropy + Image Vector + PCA
- Image Rank + PCA
- Image Rank + Image + PCA
- Image Rank + Image Entropy + PCA
- Image Entropy + PCA
- SWT (Stationary Wavelet Transform) + PCA
- 2D SWT (Stationary Wavelet Transform) + PCA.

A brief description of the above feature extraction techniques is given next.

Table 1: Literature Survey on multimodal biometric systems

| Modalities fused | Authors | Level of fusion | Fusion methodology |
|---------------------------------------|---------|-----------------------|---|
| Face and Speech | [20] | Score | Selective method |
| Face and Fingerprint | [21] | Score | Fast Genetic Algorithm |
| Fingerprint (Two Sensors) | [22] | Sensor | Gaussian Mixture Model-based Bayesian classifier |
| Face and Voice | [23] | Feature | Boosted slice classifier |
| Face, fingerprint and hand-geometry | [24] | Score | K-nearest neighbor (KNN) schemes, likelihood-based schemes, Bayesian-based schemes and Multiple imputation (MI) schemes |
| Face, fingerprint, iris and speech | [25] | Score | Genetic Algorithm |
| Face and Speech | [26] | Score Normalization | Fusion of Z-norm and F-norm |
| Face and Speech | [27] | Score | Logistic Regression and Product Rule |
| Face and Voice | [28] | Match score; rank | Geometric weighted average; HyperBF |
| Face and Voice | [29] | Match score | Sum, product, min, max and median rules |
| Face and Voice | [30] | Match score | SVM; multilayer perceptron; FLD, Bayesian classifier |
| Face and Voice | [31] | Match score | Statistical model based on Bayesian theory |
| Face, Voice and lip movement | [32] | Match score; decision | Weighted sum rule; majority voting |
| Face and Fingerprint | [33] | Match score | Product rule |
| Face and Fingerprint | [34] | Match score | Sum rule, weighted sum rule |
| Face, fingerprint and hand geometry | [35] | Match score | Sum rule; decision trees; linear discriminant function |
| Face, fingerprint and voice | [36] | Match score | Likelihood ratio |
| Face and iris | [37] | Match score | Sum rule, weighted sum rule; FLD; neural network |
| Face and gait | [38] | Match score | Sum rule |
| Face and gait | [39] | Match score | Sum and product rule |
| Face and ear | [40] | Sensor | Concatenation of raw images |
| Face and palmprint | [41] | Feature | Feature concatenation |
| Voice, fingerprint, and hand geometry | [42] | Match score | Weighted sum rule |
| Fingerprint and hand geometry | [43] | Match score | A reduced multivariate polynomial model |
| Fingerprint and voice | [44] | Match score | Functional link network |
| Fingerprint and signature | [45] | Match score | SVM in which quality measures are incorporated |
| Voice and signature | [46] | Match score | Weighted sum rule |

**Figure 1:** Face, fingerprint, and signature-based multimodal biometrics system using the score-level fusion approach

DCT (Discrete Cosine Transform). In the following equation, y is the unitary discrete cosine transform of x

$$y(k) = w(k) \sum_{n=1}^N x(n) \cos\left(\frac{\pi}{2N}(2n-1)(k-1)\right),$$

$$k = 1, 2, \dots, N,$$

$$\text{where } w(k) = \begin{cases} \frac{1}{\sqrt{N}}, & k = 1, \\ \sqrt{\frac{2}{N}}, & 2 \leq k \leq N, \end{cases}$$

N is the length of x , and x and y are of the same size. The DCT is closely related to the discrete Fourier transform.

You can often reconstruct a sequence very accurately from only a few DCT coefficients, a useful property for applications requiring data reduction.

2D Discrete Cosine Transform (DCT). The discrete cosine transform (DCT) is closely related to the discrete Fourier transform. It is a separable linear transformation; that is, the two-dimensional transform is equivalent to a one-dimensional DCT performed along a single dimension followed by a one-dimensional DCT in the other dimension. The definition of the two-dimensional DCT for an input image A and output image B is

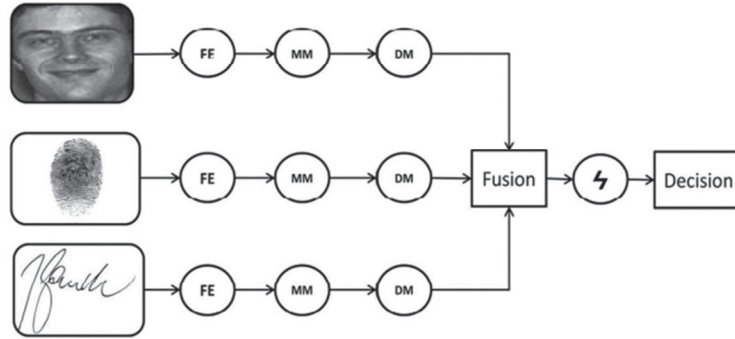


Figure 2: Face, fingerprint, and signature-based multimodal biometrics system using the decision-level fusion approach

where

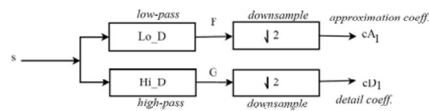
$$\alpha_p = \begin{cases} \frac{1}{\sqrt{M}}, & p = 0 \\ \sqrt{\frac{2}{M}}, & 1 \leq p \leq M-1 \end{cases}$$

and

$$\alpha_q = \begin{cases} \frac{1}{\sqrt{N}}, & q = 0 \\ \sqrt{\frac{2}{N}}, & 1 \leq q \leq N-1 \end{cases}$$

M and N are the row and column sizes of A , respectively. If you apply the DCT to real data, the result is also real. The DCT tends to concentrate information, making it useful for image compression applications.

DWT (Discrete Wavelet Transform). In single-level discrete 1-D wavelet transform starting from a signal s , two sets of coefficients are computed: approximation coefficients $cA1$ and detail coefficients $cD1$. These vectors are obtained by convolving s with the low-pass filter Lo_D for approximation and with the high-pass filter Hi_D for detail, followed by dyadic decimation.



\otimes Convolve with Filter X

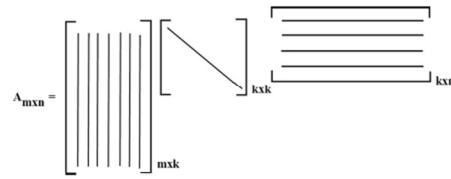
$\downarrow 2$ Keep the even indexed elements (also termed as downsampling)

Where

SVD (Singular Vector Decomposition). If A is an $m \times n$ matrix and has rank r , A can be factored as $A = U * S *$

V^T where U and V are orthogonal matrices containing the singular vectors, and S is a matrix of the form., where D is a diagonal matrix containing the singular values of A .

So, basically, SVD breaks A into three components:



PCA (Principal Component Analysis) [3]. Principal Component Analysis (PCA) has been an effective approach for face recognition; we have proposed PCA for fingerprint and signature recognition. The steps of PCA are as follows:

- Let a face image $\bar{X}(x, y)$ be a two-dimensional $m \times n$ array (8-bit Gray Scale) of intensity values. An image may also be considering the vector of dimension $m \times n$. Let the training set of images $X_1, X_2, X_3 \dots X_N$. The average face of the set \bar{X} is defined by

$$\bar{X} = \frac{1}{N} \sum_{i=1}^N X_i$$

- Calculate the covariance matrix to represent the scatter degree of all feature vectors related to the average vector. The covariance matrix C is defined by

$$C = \frac{1}{N} \sum_{i=1}^N (X_i - \bar{X})(X_i - \bar{X})^T$$

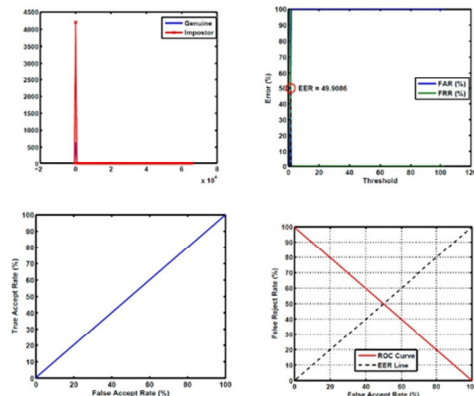


Figure 6: Score distribution (up-left), error versus threshold (up-right), TPR versus FPR (bottom-left), ROC curve (bottom-right) for a multimodal biometric system using YALE face, 2002 fingerprint, and KVKR Signature database and FE = SVD-PCA, MM = KCC, RULE = MAX, EER = 49.9086

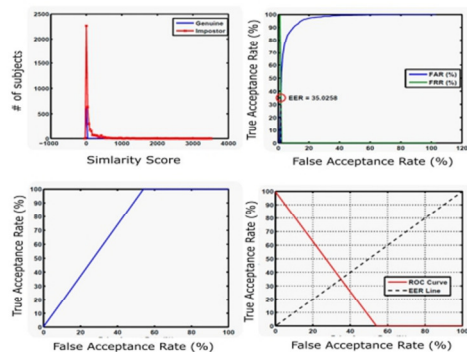


Figure 7: Score distribution (up-left), error versus threshold (up-right), TPR versus FPR (bottom-left), ROC curve (bottom-right) for a multimodal biometric system using YALE face, MIX fingerprint, and KVKR Signature database and FE = SVD-PCA, MM = PCC, RULE = SUM, EER = 35.0258

This approach again gives a 99.04% recognition rate as best for four different databases viz. BioID face database-FVC2002DB1A fingerprint database-KVKR signature database, BioID face database-FVC2004DB1A fingerprint database-KVKR signature database, BioID face database-KVKR fingerprint database-KVKR signature database, and BioID face database-MIX fingerprint database-KVKR signature database.

The main contribution of these highest systems is that it reduces the computational burden and cost as these uses resized data and surely responded as accept/reject. The failure to decide the rate of the systems is very low for

the max rule, i.e. $\sim 0.0660\%$, whereas $\sim 0.00\%$ for sum rule score fusion. These systems are also evaluated with different chimeric and non-chimeric databases Figures 6 and 7.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author(s).

REFERENCES

1. R. R. Dube. *Hardware-based computer security techniques to defeat hackers: from biometrics to quantum cryptography*. Manhattan, USA: John Wiley & Sons, 2008.
2. Whither biometrics committee. *Biometric recognition: challenges and opportunities*. Washington, D.C.: National Academies Press, 2010.
3. A. V. Mane. 2010 Development of human face recognition technique for digital rights management based on principal component analysis (PCA) Doctoral dissertation.
4. V. M. Arjun, M. M. Kazi, R. R. Manza, and K. V. Kale. 2010. "Human face recognition using superior principal component analysis (SPCA)", International Symposium on Computer Engineering and Technology (ISCET), RIMT - IET, Mandi Gobindgarh, 2010 Proceedings of ISCET 2010 ISBN: 978-81-910304-0-2.
5. A. G. Wilson, G. D. Wilson, and D. H. Ohwell. *Statistical methods in counterterrorism*. New York: Springer, 2006.
6. C. A. Shoniregun, and S. Crosier. *Securing biometrics applications*. US: Springer, 2008, pp. 113–142.
7. C. Wilson. *Vein pattern recognition: a privacy-enhancing biometric*. Boca Raton, FL: CRC Press, 2011.
8. C. Vielhauer. *Biometric user authentication for IT security: from fundamentals to handwriting (Vol. 18)*. New York City: Springer, 2005.
9. F. Song, Y. Xu, and Z. Liang. *Advanced pattern recognition technologies with applications to biometrics*. PA, USA: Medical Information Science Reference, 2009.
10. D. Zhang, X. Jing, and J. Yang. *Biometric image discrimination technologies*. PA, USA: IGI Global, 2006.
11. P. Tuyls, B. Škorić, and T. Kevenaar. *Security with noisy data: on private biometrics, secure key storage and anti-counterfeiting*. New York: Springer, 2007.
12. N. K. Ratha, and V. Govindaraju. *Advances in biometrics: sensors, algorithms and systems*. New York: Springer, 2007.
13. J. Yang, and N. Poh, Eds. *Recent application in biometrics*, NC: InTech. 2011.

14. A. Jain, K. Nandakumar, and A. Ross, "Score normalization in multimodal biometric systems," *Pattern Recognit.*, Vol. 38, no. 12, pp. 2270–2285, 2005.
15. M. M. Kazi, Y. S. Rode, S. B. Dabhade, N. N. H. Al-Dawla, A. V. Mane, R. R. Manza, and K. V. Kale, "Multimodal biometric system using face and signature: A score level fusion approach," *Adv Computat Res*, Vol. 4, no. 1, pp. 99–103, 2012.
16. K. V. Kale, S. B. Dabhade, Y. S. Rode, M. M. Kazi, and R. R. Manza, "Face recognition using principle component analysis and linear discriminant analysis comparative study," in *Elsevier 2nd National Conference on Advancements in the Multi-Disciplinary Systems, Technology Education & Research Integrated Institutions (TERII), Kurukshetra, Haryana, AEMDS-2013*, 2013, pp. 196–202.
17. J. D. Woodward, N. M. Orlans, and P. T. Higgins. *Biometrics: [identity assurance in the information age]*. New York: McGraw-Hill/Osborne, 2003.
18. S. Angle, R. Bhagtani, and H. Chheda, "Biometrics: A further echelon of security," in *UAE International Conference on Biological and Medical Physics*, 2005, March.
19. F. Hardalac, H. Yaşar, A. Akyel, et al., "A novel comparative study using multi-resolution transforms and convolutional neural network (CNN) for contactless palm print verification and identification," *Multimed. Tools. Appl.*, Vol. 79, pp. 22929–22963, 2020. DOI: 10.07/s11042-020-09005-2.
20. A. Jain, R. Bolle, and S. Pankanti, "Introduction to biometrics," in *Biometrics*, A. K. Jain, R. Bolle, and S. Pankanti, Ed. Springer US, 1996, pp. 1–41.
21. D. Maltoni, D. Maio, A. K. Jain, and S. Prabhakar. *Handbook of fingerprint recognition*. New York: Springer, 2009.
22. M. Tistarelli, S. Z. Li, and R. Chellappa. *Handbook of remote biometrics*. New York: Springer, 2009.
23. N. K. Ratha, and V. Govindaraju. *Advances in biometrics: sensors, algorithms and systems*. New York: Springer, 2007.
24. C. A. Shoniregun, and S. Crosier. *Securing biometrics applications*. Springer US, 2008. pp. 113–142.
25. N. Poh, A. Ross, W. Li, and J. Kittler, "Corrigendum to A user-specific and selective multimodal biometric fusion strategy by ranking subjects [pattern recognition," *Pattern Recognit.*, Vol. 47, no. 1, pp. 493, 2014.
26. R. Giot, and M. El-Abed, "Fast computation of the performance evaluation of biometric systems: application to multibiometrics," *Future Gener. Comput. Syst.*, Vol. 29, no. 3, pp. 788–799, 2013.
27. A. Rattani, N. Poh, and A. Ross, "A Bayesian approach for modeling sensor influence on quality, liveness and match score values in fingerprint verification," in *2013 IEEE International Workshop on Information Forensics and Security (WIFS)*, Guangzhou, China, 2013, pp. 37–42. DOI:10.1109/WIFS.2013.6707791.
28. P. A. Tresadern, T. F. Cootes, N. Poh, P. Matejka, A. Hadid, C. Lévy, and C. McCool, "Mobile biometrics: combined face and voice verification for a mobile platform," *IEEE Pervasive Comput.*, Vol. 12, no. 1, pp. 79–87, 2013.
29. Y. Ding, "A comparison of imputation methods for handling missing scores in biometric fusion," *Pattern Recognit.*, Vol. 45, no. 3, pp. 919–933, 2012.
30. R. Giot, "Genetic programming for multibiometrics," *Expert. Syst. Appl.*, Vol. 39, no. 2, pp. 1837–1847, 2012.
31. M. Bengherabi, F. Harizi, N. Poh, E. Boutellaa, A. Gues-soum, and M. Cheriet, "Improving biometric verification systems by fusing Z-norm and F-norm," in *Biometric Recognition. CCBR 2012. Lecture Notes in Computer Science*, 7701, W. S. Zheng, Z. Sun, Y. Wang, X. Chen, P. C. Yuen, and J. Lai, Ed. Springer: Berlin, Heidelberg, 2012, pp. 278–287. DOI:10.1007/978-3-642-35136-5_34.
32. C. McCool, et al., "Bi-modal person recognition on a mobile phone: using mobile phone data," in *2012 IEEE International Conference on Multimedia and Expo Workshops*, Melbourne, VIC, Australia ICME Workshops, 2012, pp. 635–640. DOI:10.1109/ICMEW.2012.116.
33. R. Brunelli, and D. Falavigna, "Person identification using multiple cues," *IEEE Trans. Pattern Anal. Mach. Intell.*, Vol. 17, no. 10, pp. 955–966, 1995.
34. J. Kittler, M. Hatef, R. P. Duin, and J. G. Matas, "On combining classifiers," *IEEE Trans. Pattern Anal. Mach. Intell.*, Vol. 20, no. 3, pp. 226–239, 1998.
35. S. Ben-Yacoub, Y. Abdeljaoued, and E. Mayoraz, "Fusion of face and speech data for person identity verification," *IEEE Trans. Neural Netw.*, Vol. 10, no. 5, pp. 1065–1074, 1999.
36. E. Bigun, J. Bigun, B. Duc, and S. Fischer, "Expert conciliation for multimodal person authentication systems using Bayesian statistics," in *Proceedings of First International Conference on AVBPA, Crass-Montana, Switzerland*, March 1997, pp. 291–300.
37. R. Frischholz, and U. Dieckmann, "Biold: a multimodal biometric identification system," *Comp. (Long. Beach. Calif)*, Vol. 33, no. 2, pp. 64–68, 2000.
38. L. Hong, and A. K. Jain, "Integrating faces and fingerprints for personal identification," *IEEE Trans. Pattern Anal. Mach. Intell.*, Vol. 20, no. 12, pp. 1295–1307, 1998.
39. R. Snelick, U. Uludag, A. Mink, M. Indovina, and A. Jain, "Large-scale evaluation of multimodal biometric authentication using state-of-the-art systems," *IEEE Trans. Pattern Anal. Mach. Intell.*, Vol. 27, no. 3, pp. 450–455, 2005.

40. A. Ross, and A. K. Jain, "Information fusion in biometrics, pattern recognition letters," *Special Issue on Multimodal Biometrics*, Vol. 24, no. 13, pp. 2115–2125, September 2003.
41. A. K. Jain, S. Prabhakar, and S. Chen, "Combining multiple matchers for a high security fingerprint verification system," *Pattern Recognit. Lett.*, Vol. 20, no. 11, pp. 1371–1379, 1999.
42. Y. Wang, T. Tan, and A. K. Jain, "Combining face and iris biometrics for identity verification," in *Proceedings of Fourth International Conference on AVBPA*, Guildford, UK, June 2003, pp. 805–813.
43. G. Shakhnarovich, L. Lee, and T. J. Darrell, "Integrated face and gait recognition from multiple views," in *Proceedings of the 2001 IEEE Computer Society Conference on Computer Vision and Pattern Recognition. CVPR 2001*, Hawaii, USA, 2001, pp. I–I. DOI:10.1109/CVPR.2001.990508.
44. A. Kale, A. K. Roy Chowdhury, and R. Chellappa, "Fusion of gait and face for human identification," in *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Montreal, Canada, 5, 2004, pp. 901–904.
45. K. Chang, K. W. Bowyer, S. Sarkar, and B. Victor, "Comparison and combination of ear and face images in appearance-based biometrics," *IEEE Trans. Pattern Anal. Mach. Intell.*, Vol. 25, no. 9, pp. 1160–1165, 2003.
46. K. Messer, J. Kittler, et al., "Face authentication test on the BANCA database," *ICPR*, Vol. 4, pp. 523–532, 2004.
47. T. Dunstone, and N. Yager. *Biometric system and data analysis: design, evaluation, and data mining*. New York: Springer, 2008.
48. M. Gudavalli, A. V. Babu, S. V. Raju, and D. S. Kumar, "Multimodal biometrics – sources, architecture and fusion techniques: An overview," in *2012 International Symposium on Biometrics and Security Technologies*, Taipei, Taiwan, 2012, pp. 27–34. DOI:10.1109/ISBAST.2012.24.



International Journal of Zoology Studies

Indexed Journal, Refereed Journal, Peer Reviewed Journal

ISSN: 2455-7269

Publication Certificate

This certificate confirms that **Thakare P R** has published article titled **Study of *In Silico* analysis and phylogeny of some tumor antigens alpha-fetoprotein and mesothelin.**

Details of Published Article as follow:

Volume : 8
Issue : 4
Year : 2023
Page Number : 62-64
Reference No. : 8054
Published Date : 15 Dec, 2023



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International Journal of Zoology Studies

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ISSN: 2455-7269

Received: 14-11-2023, Accepted: 29-11-2023, Published: 15-12-2023

Volume 8, Issue 4, 2023, Page No. 62-64

Study of *In Silico* analysis and phylogeny of some tumor antigens alphafetoprotein and mesothelin

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Abstract

This article presents *In Silico* and phylogenetic tree analysis and role of tumor antigens alpha-fetoprotein and mesothelin. The 21st century saw a significant increase in knowledge about the fundamental role of alpha-fetoprotein in neoplastic processes. Alpha-fetoprotein is the biomarker of hepatocellular carcinoma whereas mesothelin a tumor associated antigen broadly overexpressed on various malignant tumor cells. Statistical parameters viz., number of amino acids (in Daltons), number of acidic and basic amino acids, Radius of Folded Protein (A⁰) Estimated pH for protein of alpha-fetoprotein and mesothelin were studied.

Keywords: *In-silico*, tumor antigens, hepatocellular carcinoma etc

Introduction

AFP is normally produced during foetal and neonatal development by the liver, yolk sac, and in small concentrations by the gastrointestinal tract. After birth, serum AFP concentrations decrease rapidly, and by the second year of life and there after only trace amounts are normally detected in serum. Alpha-fetoprotein is a protein that in humans is encoded by the *AFP* gene. The *AFP* gene is located on the q arm of chromosome 4. The AFP test is a test that is performed during pregnancy of maternal blood or foetal amniotic fluid at 16-19 weeks of gestation.

Mesothelin is a cell surface protein that is found in normal mesothelium and highly expressed in several cancers including mesotheliomas and ovarian and pancreatic cancers. Mesothelin is not a cancer-specific antigen, it is a differentiation antigen that is present on normal cells and highly expressed in many cancers. It is produced as a part of the 69 kDa precursor protein. The furin cleavage of the precursor protein yields two proteins, the N-terminal megakaryocyte potentiating factor (MPF), which is a soluble extra-cellular protein. Whereas MPF was isolated from the medium of a human pancreatic cancer cell line. Mesothelin might be involved in adhesion and particularly in adhesion and spread of ovarian cancer cells throughout the mesothelium lining of the peritoneal cavity. Phylogenetic & Evolutionary Biology is the field that deals with the study of evolutionary relations among groups of organisms and the computational simulation techniques for the study of biological, behavioral, and social systems. A phylogeny, or evolutionary tree, represents the evolutionary relationships among a set of organisms or groups of organisms, called taxa. The tips of the tree represent groups of descendent taxa (often species) and the nodes of the tree represent the common ancestors of those descendants.

Review of literature:

Panda Choudhury *et al.*, (2004) studied on serum alpha fetoprotein levels in healthy full-term neonates and infants. Alpha fetoprotein (AFP) is an important tumour marker in

childhood. However, AFP levels remain high during the first few months of life, making clinical interpretation difficult in this period. The aim of the present study is to determine normal AFP levels in healthy full-term neonates and infants followed-up at Kocaeli University Hospital, Department of Paediatrics.

Lisa H. Butterfield, James S. Economou, in Gene Therapy of Cancer (Second Edition), (2002) DNA and Dendritic Cell-Based Genetic Immunization against Cancer studied that Alpha-fetoprotein (AFP) is the most abundant serum protein before birth, and the levels decrease to very low but detectable levels after birth. AFP is reactivated by approximately 80% of HCC. Like PSA, levels of serum AFP are an important diagnostic tool for detection of HCC. Extensive epitope mapping has been performed which has identified four immunodominant and ten subdominant epitopes restricted by HLA-A2.1. They have found that T-cell responses to AFP can be generated in both murine *in vivo* and human *in vitro* systems. This work has shown that AFP peptides are processed and presented by the cellular machinery and that AFP antigen-specific effector T cells can be expanded.

M.E.C. Blohm *et al.*, (1997)^[1] studied the alpha-fetoprotein (afp) reference values in infants up to 2 years of age.

Jingyu Zhan, Dong Lin, Nathan Watson, Wai Kwan Tang *et al.*, (2023)^[4] Structures of Cancer Antigen Mesothelin and Its Complexes with Therapeutic Antibodies studied that the tumor-associated antigen mesothelin is expressed at high levels on the cell surface of many human cancers, while its expression in normal tissues is limited. The binding of mesothelin to the tumor-associated cancer antigen 125 (CA-125) can lead to heterotypic cell adhesion and tumor metastasis within the pleural and peritoneal cavities. Immunotherapeutic strategies targeting mesothelin are being intensively investigated. Here, we report the crystal structures of mesothelin that reveal a compact, right-handed solenoid consisting of 24 short helices and connecting loops. These helices form a nine-layered spiral coil that resembles ARM/HEAT family proteins. Glycan attachments have been identified in the structure for all three predicted N-

glycosylation sites and confirmed with samples from cell culture and patient ascites. The structures of full-length mesothelin and its complex with the Fab of MORAb-009 reveal the interaction of the antibody with the complete epitope, which has not been reported previously. The N-terminal half of mesothelin is conformationally rigid, suitable for eliciting specific antibodies, whereas its C-terminal portion is more flexible. The structure of the C-terminal shedding-resistant fragment of mesothelin complexed with a mAb 15B6 displays an extended linear epitope and helps explain the protection afforded by the antibody for the shedding sites.

Christopher D. *et al.*, (2006) studied the Real-time detection of mesothelin in pancreatic cancer cell line supernatant using an acoustic wave immunosensor.

Bangalore K. Sathyanarayana *et al.*, (2008) ^[6] studied and concluded that the mesothelin is a 40 kDa protein present on the surface of normal mesothelium cells and overexpressed

in many human tumours, including mesothelioma and ovarian and pancreatic adenocarcinoma.

Material and methods

To analyse the protein Alpha-fetoprotein, and mesothelin the amino acid sequence of human Alpha-fetoprotein, and mesothelin was retrieved from NCBI site and was used for analysis in PepTool 2.0 demo version. For phylogenetic analysis, amino acid sequences of different vertebrate species were retrieved from NCBI and were aligned using MBGA 7 program. The phylogenetic tree was constructed using the same aligned file and the tree was saved and analysed.

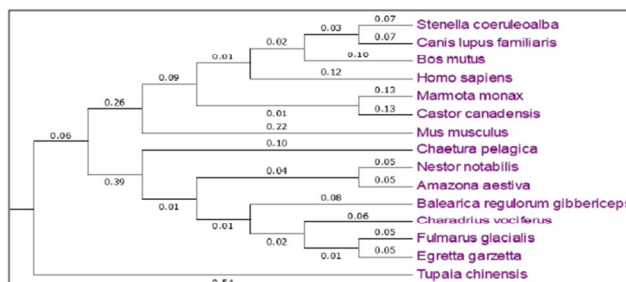
Observation and results

Protein Statistics

Alpha-fetoprotein

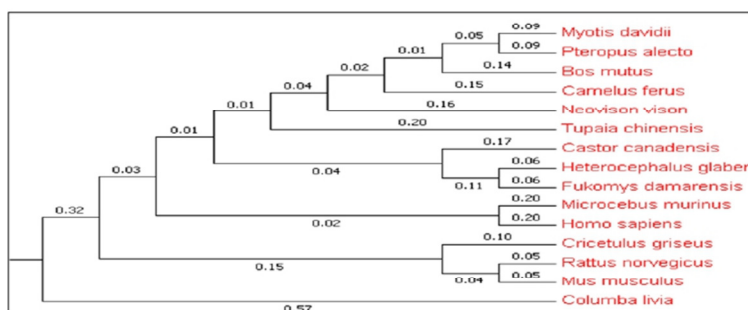
| Sr. No | Statistical Parameter | Value | Explanation of Term |
|--------|---|-----------|--|
| 1 | Molecular weight (Daltons) | 55563.793 | The sum total atomic weight for all the amino acids comprising the current sequence. Molecular weight calculations do not take into account post-translational modifications such as N-and C-terminal modifications or glycosylated residues. |
| 2 | Number of amino acids | 490 | The total number of amino acids comprising the current sequences. |
| 3 | Number of basic amino acids | 53 | The sum total number of arginine (R) and lysine (K) residues comprising the current sequence. Basic amino acids carry a net positive charge at physiological pH (7.2). |
| 4 | Number of acidic amino acids | 67 | The sum total number of aspartic acid (D) and glutamic acid (E) residues comprising the current sequence. Acidic amino acids carry a net negative charge at physiological pH (7.2). |
| 5 | Est. Radius of Folded Protein (Å ³) | 30.5495 | The estimated radius, in Angstroms, for the current sequence, assuming it folds into a globular protein. The radius is defined as the cube root of the number of amino acids comprising the sequence multiplied by the average distance between adjacent amino acid C-alpha atoms (3.875 Angstroms). |
| 6 | Estimated pH for protein | 6.2 | The pH at which the protein carries a net zero charge. |

Phylogenetic tree of Alpha-fetoprotein



Mesothelin

| Sr. No. | Statistical Parameter | Value | Explanation of Term |
|---------|---|-----------|--|
| 1 | Molecular weight (Daltons) | 68010.636 | The sum total atomic weight for all the amino acids comprising the current sequence. Molecular weight calculations do not take into account post-translational modifications such as N-and C-terminal modifications or glycosylated residues. |
| 2 | Number of amino acids | 622 | The total number of amino acids comprising the current sequences. |
| 3 | Number of basic amino acids | 63 | The sum total number of arginine (R) and lysine (K) residues comprising the current sequence. Basic amino acids carry a net positive charge at physiological pH (7.2). |
| 4 | Number of acidic amino acids | 70 | The sum total number of aspartic acid (D) and glutamic acid (E) residues comprising the current sequence. Acidic amino acids carry a net negative charge at physiological pH (7.2). |
| 5 | Est. Radius of Folded Protein (Å ³) | 33.0777 | The estimated radius, in Angstroms, for the current sequence, assuming it folds into a globular protein. The radius is defined as the cube root of the number of amino acids comprising the sequence multiplied by the average distance between adjacent amino acid C-alpha atoms (3.875 Angstroms). |
| 6 | Estimated pI for protein | 6.4 | The pH at which the protein carries a net zero charge. |

Phylogenetic tree of Mesothelin**Discussion****Protein Analysis and statistics of alpha-fetoprotein**

The number of basic amino acids in human Alpha-fetoprotein is 53 and acidic amino acids are 67. Number of buried amino acids in Alpha-fetoprotein is 203. Estimated Radius of Folded Protein 30.5495. Percentage of hydrophobic amino acids in human Alpha-fetoprotein is 47.7551. The molecular weight of human Alpha-fetoprotein is 55563.793.

Protein Analysis and statistic Mesothelin

The number of basic amino acids in human mesothelin is 63 and acidic amino acids are 70. Number of buried amino acids in mesothelin are 279. Estimated Radius of Folded Protein 33.0777. Percentage of hydrophobic amino acids in human mesothelin is 50.4823. The molecular weight of human mesothelin is 68010.656.

Conclusion**Alpha-fetoprotein**

From the results and discussion of present *In-silico* protein analysis study of vertebrate it can be concluded that the amino acid sequences among different vertebrate species shows slight to moderate differences without affecting its functions. The function of Alpha-fetoprotein is immune-regulatory properties and or may influence cell proliferation and growth. It also can be concluded from the phylogenetic tree analysis that the Alpha-fetoprotein in different vertebrates also has strong to moderate sequence similarities among studied vertebrates.

Mesothelin

From the results and discussion of present *In-silico* protein analysis study of vertebrate, it can be concluded that the amino acid sequences among different vertebrate species shows slight to moderate differences without affecting its functions. The function of mesothelin is cell adhesion. It also can be concluded from the phylogenetic tree analysis that the mesothelin in different vertebrates also have strong to moderate sequence similarities among studied vertebrates.

Acknowledgement

We are thankful to the NCBI for permission to access the valuable data regarding study purpose. We are also thankful to Department of Zoology, SGBAU University Amravati and Research Centre, Department of Zoology, Jijamata Mahavidyalaya, Buldhana.

References

1. Blohm M, Vesterling-Horner D, Calaminus C, Gobel U. Alpha-fetoprotein (afp) reference values in infants up to 2 years of age, 1997.
2. Corapcioglu Funda, Turker Gulcan, Aydogan Ayşen, Sarper Nazan, Duman. Arisoy A. Engin, serum alpha fetoprotein levels in healthy full-term neonates and infants, 2004.
3. Corso BS. Christopher, Stubbs MS. Desmond, Lee Sang-Hun, Goggins Michael, Hruban Ralph, Hunt William, real-time detection of mesothelin in pancreatic cancer cell line supernatant using an acoustic wave immunosensor, 2006.
4. Jingyu Zhan, Dong Lin, Nathan Watson, Wai Kwan Tang *et al.*, (2023) Structures of Cancer Antigen Mesothelin and Its Complexes with Therapeutic Antibodies
5. Lisa H Butterfield, James S Economou, in Gene Therapy of Cancer (Second Edition), (2002) DNA and Dendritic Cell-Based Genetic Immunization against Cancer
6. Sathyanarayana Bangalore, Hahn Yoonsoo, Patankar Manish, Pastan Ira and Lee. Byungkook Mesothelin, eocilin. Ster and Otoancorin are predicted to have super helical structures with ARM-type repeats 2008.
7. <http://www.bioperal.org/wiki/FASTA>.
8. <http://www.NCBI.com>
9. <http://www.Wikipedia.com>

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MAH MUL/03051/2012

Vidyawarta®

Jan. To March 2024

ISSN: 2319 9318

Peer-Reviewed International Journal

Special Issue

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“Education as an Equalizer is a Recurring and Prominent Aspect of Sudha Murthy's Works”

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Abstract:

In modern era woman is represents as independent, aggressive, self suffice and modern. All these transformation occurring due to the education of woman protagonist, the present paper presents education is the recurring theme of Sudha Murthy's works. Present paper refers some novels of Sudha Murthy which shows importance of education in woman life.

Introduction:

Sudha Murthy, an Indian author and philanthropist, her works often reflect a deep understanding of social issues and a concern for the well-being of women. While she may not explicitly identify as a feminist, her writings often address gender roles, social inequality, and the challenges faced by women in Indian society.

Sudha Murthy's novels and short stories often feature strong female characters that navigate societal expectations and overcome various challenges. Her stories often highlight the importance of education, independence, and self-empowerment for women. Additionally, her works explore themes such as poverty, education, and the impact of technology on society.

It's important to note that the label "feminist" can be subjective, and different people may interpret it in various ways. While Sudha Murthy may not align with the term in the way some contemporary feminist authors do, her writings do contribute to discussions around gender and social issues in India.

Sudha Murthy's works, including her novels, short stories, and children's books, often delve into various social issues, including those related to gender in the Indian context. Through her storytelling, she addresses societal norms, challenges faced by women, and the importance of empowering individuals, regardless of gender.

Her narratives typically showcase the resilience and strength of female characters, advocating for education and independence. By portraying these aspects in her stories, Sudha Murthy contributes to a broader conversation about gender roles, social inequalities, and the evolving dynamics of Indian society.

While she may not explicitly label herself as a feminist, her writings reflect a sensitivity to social issues and a commitment to promoting positive change, making her a significant voice in the literary landscape when it comes to discussions around gender and social matters in India.

The theme of education as an equalizer is a recurring and prominent aspect in Sudha Murthy's novels. She often highlights the transformative power of education, especially for

||| : Interdisciplinary Multilingual Refereed Journal Impact Factor 9.29 (IIJIF)

MAH MUL/03051/2012

Vidyawarta®

Jan. To March 2024

ISSN: 2319-9318

Peer-Reviewed International Journal

Special Issue

women, as a means to overcome societal constraints and achieve personal growth. Here are a few instances where the theme of education as an equalizer is evident in Sudha Murthy's writings:

1. **"Wise and Otherwise"**: This collection of short stories by Sudha Murthy reflects her experiences and observations of various social issues. In some of the stories, education is portrayed as a tool that empowers individuals to make informed decisions and break free from traditional constraints. In "Wise and Otherwise," Sudha Murthy draws from her real-life experiences and encounters to present narratives that often touch upon social issues, ethics, and human values. The stories provide glimpses into the lives of individuals who, through the power of education and ethical decision-making, navigate challenges and bring about positive change.

The recurring theme of education in "Wise and Otherwise" reflects Sudha Murthy's belief in the transformative potential of learning. Education, in the context of these stories, serves as a tool for empowerment, enabling individuals to make informed choices, challenge societal norms, and uplift themselves from difficult circumstances.

Whether through her novels or short stories, Sudha Murthy consistently emphasizes the role of education in shaping characters and influencing the broader societal landscape. It's this commitment to portraying the positive impact of education that resonates with readers and contributes to her reputation as a writer who addresses social issues with empathy and insight.

"When you are young, you think your beauty will last forever. But beauty is not like intelligence, she said. Intelligent people remain intelligent forever."

(Wise and Otherwise p.75)

2. **"The Mother I Never Knew"**: Sudha Murthy's novel explores the complexities of relationships and identities. While the primary focus is on the emotional journey of the characters, education is often portrayed as a factor that shapes their perspectives and helps them navigate life's challenges. The Mother I Never Knew gives a strong message of being a successive woman and a woman who suffers a lot because of being illiterate. In Venkatesh epistle, Shanta a successive woman shows her potential by being independent in finance also.

3. **"The Day I Stopped Drinking Milk"**: In this book, Sudha Murthy shares anecdotes and real-life experiences. The stories often touch upon the transformative impact of education on individuals, enabling them to challenge societal norms and pursue their aspirations.

4. **"Dollar Bahu"**: While this is a novella and not a full-length novel, it addresses the theme of education and its impact on the lives of the characters. The story explores the dynamics between traditional values and modern education, particularly in the context of the changing roles of women. The novella explores the clash between traditional values and modern aspirations within an Indian family. The story revolves around the lives of two sisters, one of whom moves to the United States as a "Dollar Bahu" (a daughter-in-law settled in the U.S.), while the other stays in India.

The protagonist, Vinuta, values education and encourages her son to pursue his academic interests. The novella depicts how education becomes a transformative force, providing opportunities and opening new horizons for individuals. The narrative emphasizes

||| : Interdisciplinary Multilingual Refereed Journal Impact Factor 9.29 (IJIF)

MAH MUL/03051/2012

Vidyawarta®

Jan. To March 2024

ISSN: 2319-9318

Peer-Reviewed International Journal

Special Issue

the importance of knowledge and learning in bridging gaps, fostering understanding, and empowering individuals to make informed choices.

Sudha Murthy often weaves themes of education, independence, and empowerment into her stories, and "Dollar Bahu" is no exception. Through the characters and their experiences, she highlights the role of education as a means to overcome cultural and social differences, facilitating personal growth and understanding between generations.

In these and other works by Sudha Murthy, education is portrayed as a means to bridge social and economic gaps, offering individuals, especially women, the tools to lead independent and fulfilling lives. The author often emphasizes the role of education in fostering critical thinking, empowerment, and the ability to challenge established norms.

Sudha Murthy's commitment to social issues, combined with her own experiences as a teacher and philanthropist, shines through in her narratives, making education a central theme that resonates with readers and encourages reflection on the transformative power of learning.

5. **Gently Falls the Bakula** is a novel written by Sudha Murthy, and in this work, the theme of education as an equalizer is indeed a recurring and prominent aspect.

The novel tells the story of Shrimati and Shrikant, a married couple with different aspirations and dreams. Shrimati sacrifices her academic and career ambitions to support her husband, Shrikant, in his pursuit of success. The novel explores the consequences of such choices and the impact on their relationship.

As the story unfolds, the narrative highlights the transformative power of education in empowering individuals and bridging gaps in society. Sudha Murthy emphasizes the importance of education as a means of empowerment, self-discovery, and breaking social barriers. The novel portrays how education can serve as an equalizer, providing opportunities for personal growth and fulfillment, particularly for women who may face societal constraints.

In "Gently Falls the Bakula," Sudha Murthy uses the characters and their experiences to delve into social issues, including the role of education in shaping lives and challenging traditional gender roles.

6. **Mahashweta** is a novel written by the renowned Indian author Sudha Murthy. The novel explores various themes, including the societal challenges faced by individuals, particularly women. While the primary focus of Mahashweta is on issues such as leprosy, social stigma, and the resilience of the human spirit, education is not explicitly a central theme in this particular work.

She learns about a vacant position for a Sanskrit lecturer at a college and gladly accepts it because she is passionate about teaching Sanskrit. As a lecturer

"she soon became confident and self-assured.

She had removed her mangalsutra – it had weighed down on her heavily, in more ways than one." (MS p. 94)

However, Sudha Murthy's works, in general, often touch upon the transformative power of education and its role in empowering individuals, especially women, to overcome societal obstacles.

Conclusion:

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MAH MUL/03051/2012

Vidyawarta®

Jan. To March 2024

ISSN: 2319-9318**Peer-Reviewed International Journal****Special Issue**

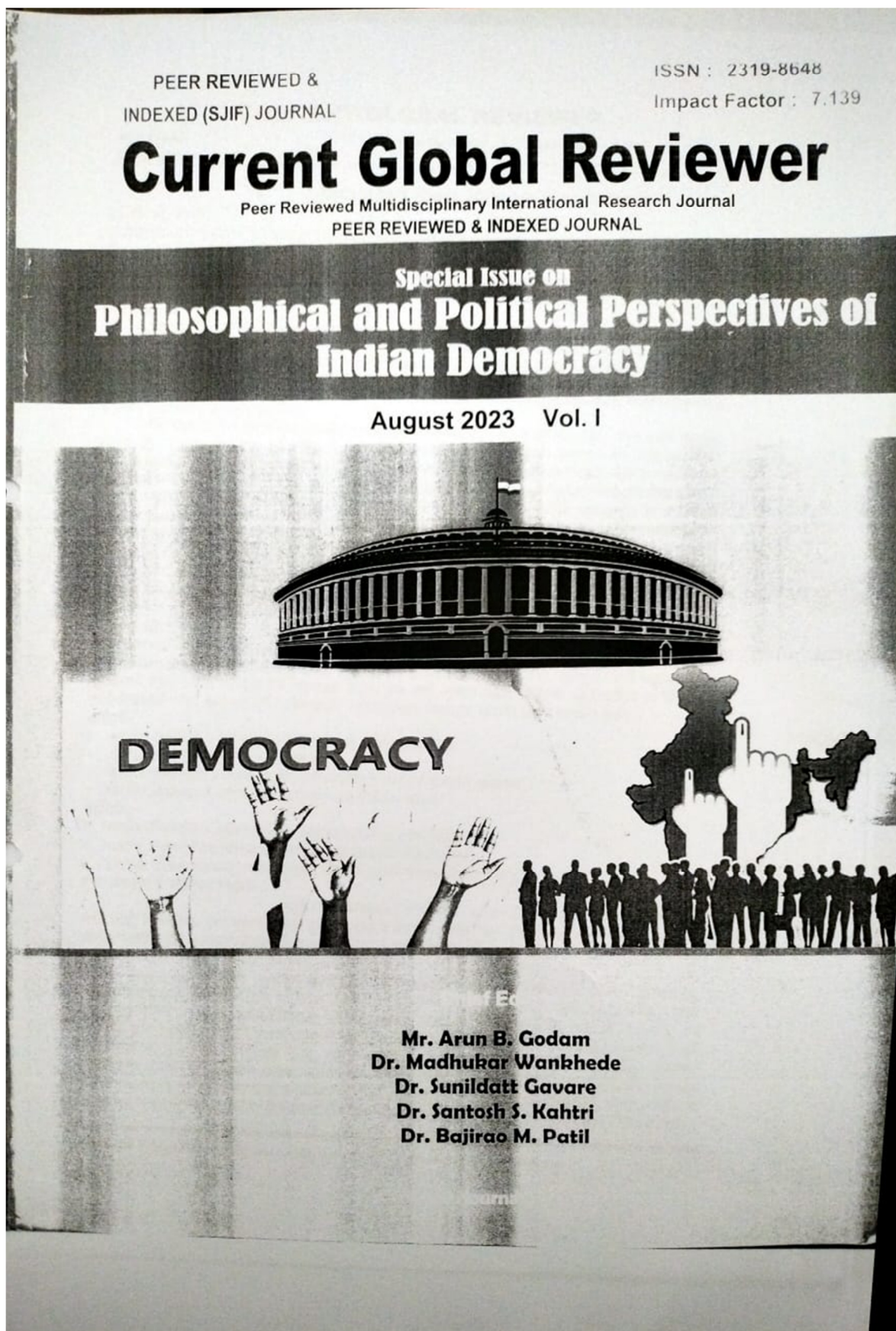
Sudha Murthy shows her uniqueness by picturing her female protagonist as strong and independent women. She not only makes them the courage to face the crisis and liberate them from problems in addition to that help them to be independent by keeping their education as a power tool. Sudha Murthy's female protagonists break the label by educating themselves and prove them as postfeminist female. Through education women can make change in their own life as well as others.

Bibliography:

1. Murthy Sudha, Mahashweta, Penguin Books, 2004.
2. Murthy Sudha, Wise and Otherwise, Penguin Books, 2006.
3. Murthy Sudha, Gently Falls Bakula, Penguin Books, 2008.
4. Murthy Sudha, The I Never Knew, Penguin Books, 2014
5. Murthy Sudha, The Day I Stopped Drinking Milk, Penguin Books, 2012.
6. Beauvoir, Simone De. The Second Sex. Translated (ed.) H. M. Parshley.

London, Vintage. 1997.

||| : Interdisciplinary Multilingual Refereed Journal Impact Factor 9.29 (IIJIF)



CURRENT GLOBAL REVIEWER

Half Yearly

Special Issue Vol II, Aug. 2023

Peer Reviewed

ISSN : 2319 - 8648

Impact Factor : 7.139

8 अलिप्ततावादी विचार आणि भारतीय लोकशाही

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प्रस्तावना:

देशाला १९४७ रोजी प्रदीर्घ अशा परकीय सत्तेच्या गुलामगिरीतून स्वातंत्र्य मिळाले. हे स्वातंत्र्य टिकविण्यासाठी भारताने संसदीय लोकशाही या शासनपद्धतीचा स्वीकार केला. ज्यात लोकांनी लोकांचे लोकांसाठी चालवलेले राज्य अभिप्रेत असते. भारता सारख्या विविधतेने नटलेल्या देशाला लोकशाही शासनपद्धतीचा स्वीकार करणे गरजेचे होते. देशाला स्थैर्य देणे व लोकांच्या मनातील गुलामगिरीची भावना पुसून टाकण्यासाठी लोकांनाही राजकीय सत्तेत सहभागी होण्यासाठी लोकशाहीच सर्वोत्तम पर्याय त्या वेळी देशासमोर होता. जो देशाने स्वीकारला. लोकशाहीच्या पालन पोषणासाठी लोकांच्या स्वातंत्र्याचे रक्षण करण्यासाठी भारताने परिस्थितीला अनुसरून काही निर्णय घेतल्याचे दिसून येते.

देश स्वातंत्र्य होत असतानाच जागतीक स्तरावर ही काही महत्वपूर्ण घटना घडल्या होत्या, ज्यात दुसरे महायुद्ध समाप्त होऊन साम्राज्यवादाचा अस्त होत होता.यात भारतासारखे आशिया आफ्रिका खंडातले देश साम्राज्यवादाच्या बंधनातून मुक्त होत होते.या देशांना स्वतःच्या देशाला विकासाच्या वाटेवर वाटचाल करायची होती. याच दरम्यान जगाची विभागणी दोन महाशक्तीत झालेली होती. जग हे दोन विचारसरणीत विभागले होते, भांडवलवादी विचारसरणीचा पुरस्कार करणारा अमेरिकादी गट तर समाजवादी विचारसरणीचा पुरस्कार करणारा रशिया समर्थित राष्ट्रांचा गट. या दोन गटात जगातील दुसऱ्या महायुद्धातून तावून सुलाखून निघालेल्या जगाची विभागणी झाली होती. नवस्वातंत्र्य देशासमोर स्वतःचे स्वातंत्र्याचे रक्षण करणे व देशाचा विकास करून घेण्यासाठी या दोन गटापैकी कोणत्याही एका गटात सामील होण्याचा पर्याय होता. भारताने आपल्या देशाचा विकास करण्यासाठी, मिळालेले स्वातंत्र्य टिकविण्यासाठी, लोकशाहीचा विकास करण्यासाठी महासत्तांच्या कोणत्याही एका गटात सामील न होण्याचा निर्णय घेतला. या साठी भारताने अलिप्ततावादाची संकल्पना जगासमोर मांडली या विचारसरणीनुसार अलिप्ततावाद म्हणजे जगातील दोन महाशक्तींच्या गटात सामील न होता स्वतःच्या देशाचा विकासासाठी दोन्ही महाशक्ती सोबत परस्पर सहकार्य करून दोन्ही गटाशी सलोखा राखणे होय. अलिप्ततावादाचा स्वीकार करणाऱ्या नवस्वातंत्र्य देशाच्या एकत्र येण्यातून व या नवस्वातंत्र्य देशाच्या प्रमुखांच्या पुढाकाराने एका संघटनेची स्थापना करण्यात आली, ती संघटना म्हणजे अलिप्तवादी संघटना होय. या संघटनेची स्थापना इंडोनेशियाच्या बांडुंग सम्मेलनात १९५५ साली पंडीत नेहरू, गमाल नासेर, मार्शल टिटो, सुकार्णो आदी राष्ट्रप्रमुखांच्या पुढाकाराने झाली. भारत या संघटनेचा संस्थापक सदस्य देश आहे. मुळात पंडीत नेहरूंच्या पुढाकारानेच या संघटनेची स्थापना झालेली आहे. म्हणून भारतीय लोकशाहीत अलिप्ततावादी विचाराचा खोलवर प्रभाव पडलेला आहे.

उद्दिष्टे :

१. भारतीय लोकशाही व अलिप्ततावादी विचार यांचा संबंध समजून घेणे.
२. अलिप्ततावादी विचारांचे स्वरूप समजून घेणे.
३. भारतीय लोकशाहीच्या जडण घडणीत अलिप्ततावादी विचारांचे योगदान अभ्यासणे.
४. भारतीय लोकशाही व अलिप्ततावादी विचार यांचे भवितव्य शोधणे.

गृहीतके:

१. भारतीय लोकशाही व अलिप्ततावादी विचार यांचा परस्पर संबंध दिसून येतो.
२. भारतीय लोकशाहीच्या विकासात अलिप्ततावादी विचारांचे योगदान दिसते.
३. जागतीक शांतता राखण्यात अलिप्ततावादी विचारांचे महत्व कायम असल्याचे दिसते.

तथ्य संकलन व संशोधन पद्धती :

प्रस्तुत शोध निबंधासाठी वर्णनात्मक, अन्वेषणात्मक पद्धतीचा वापर करण्यात आला आहे. त्याचबरोबर तथ्य संकलनासाठी दुय्यम साधनांचा वापर करण्यात आला आहे. त्यामध्ये संदर्भ ग्रंथ, मासिके वर्तमानपत्रातील लेख, संकेतस्थळे इत्यादी साधनांचा वापर करण्यात आला आहे.

अलिप्ततावादाचे धोरण / विचार- पार्श्वभूमी, अर्थ, उद्दिष्टे :

भारताचे स्वातंत्र्य आणि जागतिक राजकारणा मध्ये महासत्तांचा उदय ह्या दोन्ही घटना एकाच वेळी घडल्या, दुसऱ्या महायुद्धानंतर अमेरिका आणि सोव्हिएत रशिया यांचा महासत्ता म्हणून उदय झाला. आपल्या प्रभुत्वाखाली त्यांनी लष्करी गटाची स्थापना केली. अमेरिकेने नाटो, सेंटो या लष्करी करार संघटना निर्माण केल्या, अमेरिकेचा उद्देश सर्व साम्यवादी जगाच्या भोवती लष्करी तळांची साखळी निर्माण करणे हा होता. त्या डावपेचाला उत्तर म्हणून सोवियत रशियन संघाने वार्सा करार ही संघटना निर्माण केली. यामुळे साम्यवादी देशांचा गट विरुद्ध अमेरिकेच्या नेतृत्वात असणारा भांडवलशाही देशांचा गट असे दोन परस्पर विरोधी गट उदयाला आले. त्यांच्यात शस्त्रस्पर्धा सुरू झाली होती. महासत्ता एकमेका विरुद्ध डावपेच लढू लागल्या, प्रचार करू लागल्या. आपआपले प्रभावक्षेत्र वाढविण्याचा प्रयत्न करू लागल्या. या पार्श्वभूमीवर जे नवस्वातंत्र्य प्राप्त देश होते त्यांना दोन पैकी कोणत्यातरी एका गटात सामील होणे किंवा तटस्थ राहण्याचा

CURRENT GLOBAL REVIEWER

Half Yearly

Special Issue Vol II.

Aug. 2023

Peer Reviewed

ISSN : 2319 - 8648

Impact Factor : 7.139

पर्याय होता. मात्र भारताच्या पुढाकाराने त्या वेळच्या प्रमुख नवस्वातंत्र्य देशांनी तटस्थ न राहता अलिप्ततावादाचे, असंलग्नतेचे धोरण स्वीकारले अलिप्ततावादाचे आद्य पर्वतक म्हणून पंडित नेहरू यांचा उल्लेख केला जातो. नेहरू म्हणतात "भारताला स्वतःचे प्रश्न सोडविण्यासाठी स्वातंत्र्य जपायचे आहे. जगात चालू असणा-या संघर्षात होता होईलतो आम्हाला गुंतायचे नाही. आम्हाला जगात कोठेच युद्ध नको आहे. आम्हाला निदान शांततेची दहा-पंधरा वर्षे हवी आहेत. त्याशिवाय आम्ही आमच्या साधनांचा विकास करू शकणार नाही." नेहरूंच्या असंलग्नतेच्या धोरणामागे असा दृष्टिकोन होता की जगाची विभागणी परस्परविरोधी गटांत न होता सर्वच राष्ट्रांमध्ये परस्पर सहकार्य व स्नेहभाव वाढवा. जागतिक शांतता व सुव्यवस्था प्रस्थापित झाली तरच मागासलेली व नवोदित स्वतंत्र राष्ट्रे आपली प्रगती करू शकतील. भारताने अलिप्तता वादाचे धोरण स्वीकारून प्रथम आपली प्रगती करून घेतली पाहिजे. आणि जगातील सर्व राष्ट्रांशी मैत्रीचे, स्नेहाचे संबंध ठेवले पाहिजेत. तरच भारतीय लोकशाही सुदृढ होईल असे त्या वेळच्या भारतीय नेत्यांना वाटत होते.

अलिप्ततावादाचा अर्थ:

कोणत्याही लष्करी गटात सामील न होता, एक स्वतंत्र शक्ति म्हणून आंतरराष्ट्रीय शांतता आणि सहकार्य यासाठी कार्य करणे असा आहे. अलिप्ततेचा अर्थ तटस्थता असा अनेकदा केला जातो. पण तो चुकीचा आहे. ज्या राष्ट्रांचे धोरण चुकीचे असते, ते सर्व प्रकारच्या आंतरराष्ट्रीय वादामध्ये घडामोडीमध्ये तटस्थ राहते.

असंलग्नता किंवा अलिप्तता म्हणजे तटस्थता नव्हे संधिसाधुपणा नव्हे, तर एका निश्चित अशा सुसंगत दृष्टीने जगाकडे पाहणे होय. आणि त्या दृष्टिकोणातून प्रत्येक प्रश्नाचा स्वतंत्र विचार करणे हेच अलिप्ततावादाचे प्रमुख लक्षण होय. जागतिक शांतता व सहकार्य निर्माण करावयाचे असेल तर सत्तास्पर्धा करणा-या गटांपासून अलिप्त राहिले पाहिजे.

अलिप्ततावादाची तत्वे :

(१) अलिप्ततावादी विचारांचा काही तत्वे आहेत जसे की, अलिप्ततावादी राजकारणात स्वतःच्या राष्ट्रीय हितास अनुसरून स्वतंत्र दृष्टिकोन ठेवणे व त्याप्रमाणे घडणा-या गोष्टींचे मुल्यमापन करून निर्णय घेणे. (२) वसाहतवाद व साम्राज्यवादास विरोध करणे. (३) आंतरराष्ट्रीय क्षेत्रातील वादग्रस्त प्रश्न शांततेच्या मार्गाने सोडविण्याचा आग्रह धरणे. (४) निःशस्त्रीकरणाचा विशेषतः महासत्तांच्या निःशस्त्र करणाचा आग्रह धरून युद्धाचे वातावरण कमी करण्याचा प्रयत्न करणे. (५) बरोबरीच्या नात्याने सर्वांशी मैत्री करणे. (६) जागतिक शांतता ही सर्वांच्या विकासासाठी आवश्यक आहे. असा विश्वास बाळगणे. अलिप्ततावादी चळवळीने ही मुलतत्वे निश्चित केली असून गटनिरपेक्ष धोरणातून आंतरराष्ट्रीय शांतता, स्थैर्य व विकासासाठी या धोरणाचा स्वीकार करून जगातील सर्व राष्ट्रांशी मैत्रीचे व सलोख्याचे संबंध निर्माण केले.

भारतीय लोकशाहीतील अलिप्ततावादाची उद्दिष्टे :

भारतीय लोकशाहीत अलिप्ततावादाची बीजे रूजवण्याचे श्रेय पंडित नेहरू यांना जाते. कारण नेहरूंचे परराष्ट्र धोरणच या तत्वावर आधारलेले दिसून येते. यातूनच या अलिप्ततावादाची काही उद्दिष्टे दिसून येतात.

(१) भारताच्या राष्ट्रीय हितसंबंधाचे रक्षण करणे. (२) भारताचे राष्ट्रीय हितसंबंधाचे रक्षण करण्यासाठी जागतिक शांतता ठिकविण्यासाठी प्रयत्न करणे. (३) आंतरराष्ट्रीय शांतता ठिकविण्यासाठी संयुक्तराष्ट्र संघटनेसारख्या आंतरराष्ट्रीय संस्थेला अपेक्षित असणारे सहकार्य करणे. (४) जागतिक शांततेसाठी राष्ट्रांमधील वाद शांततेच्या मार्गाने सोडवण्यासाठी प्रयत्न करणे. (५) शांततेचे संवर्धन करण्यासाठी कोणत्याही लष्करी राजकीय गटात सामील न होणे. (६) बड्या सत्तांच्या राजकीय लष्करी संघर्षात न गुंतता त्यांच्याशी मैत्रीचे व सहकार्याचे संबंध ठेवणे. (७) साम्राज्यवादास विरोध करणे व वसाहतवादास बळी पडलेल्या राष्ट्रांना मुक्त होण्यासाठी पाठिंबा देणे, सहाय्य करणे. (८) भारताच्या शेजारील राष्ट्रांशी मैत्रीचे संबंध ठेवणे, व ते दृढ करणे. (९) जागतिक शांतता ठिकविण्यासाठी शस्त्र कपात योजनेमध्ये सर्वांतोपरी सहाय्य करणे, इत्यादी उद्दिष्टे ही भारतीय लोकशाहीत जो अलिप्ततावादाचा विचार स्वीकारलेला आहे. त्याची आहेत. उद्दिष्टांच्या पुर्ततेकरिताच अलिप्ततावादी राष्ट्रांची संघटना कार्य करते. भारताने ही या उद्दिष्टांच्या पुर्ततेसाठी प्रयत्न केलेले दिसून येतात.

भारतीय लोकशाहीवर अलिप्ततावादी विचारांचा प्रभाव :

भारताला स्वातंत्र्य मिळाल्यानंतर विविधतेने नटलेला देश एका सुत्रात बांधण्यासाठी लोकशाहीचा स्वीकार केला गेला. संसदीय लोकशाहीत लोक आपले प्रतिनिधी पाठवतात. व त्यांच्या मार्फत राजकीय प्रक्रियेत सहभागी होतात. भारताला स्वातंत्र्य आणि दुसरे महायुद्ध समाप्त होऊन जगाची दोन महाशक्तीत झालेली विभागणी समान वेळीच झाली. जगातील देश हे भांडवलशाही वा सामाज्यवाद या अमेरिका व रशिया प्रणित विचारप्रणालीत विभागले गेले. जे देश नव्यानेच स्वतंत्र झाले होते. व आपल्या देशाचे स्वातंत्र्य ठिकवून ठेवण्यासाठी देशाला विकासाच्या वाटेवर नेण्यासाठी चाचपडत होते. त्यांना अलिप्ततावादाने पाठबळ दिले. भारत हा तर अलिप्ततावादाचा संस्थापक सदस्य देश होता. भारताने आपल्या अलिप्ततावादी धोरणाला आपल्या लोकशाही प्रक्रियेशी जोडून देशाच्या विकासाची वाटचाल केलेली दिसून येते. भारताने जागतिक सत्तांच्या संघर्षात न पडता देशाच्या विकासासाठी जागतिक शांतता कशी ठिकविता येईल यासाठी प्रयत्न केले. भारतीय संविधानाच्या भाग ४ मधील मार्गदर्शक तत्वा अंतर्गत आंतरराष्ट्रीय शांतता राखण्यास प्रयत्न करण्याचे सुचविते. जागतिक संघर्षात कोणत्याही एका गटाच्या पारड्यात भारताने आपले मत टाकलेले दिसत नाही. कारण कोणत्याही एका गटात सामील न होता सर्वांशी सहकार्याने वागणे. व देश उभारणीत सर्वांची मदत घेण्याचे सर्वसमावेशक धोरण भारताने अवलंबिले आहे. जर भारताचे अलिप्तता धोरण हे तटस्थतेचे असते तर देश उभारणीत भारताला जागतिक महासत्तांची मदत झाली नसती म्हणून भारताचे अलिप्ततावादी धोरण हे तटस्थतेचे नसून सर्वांशी सहकार्याचे आहे. यातूनच भारतीय

CURRENT GLOBAL REVIEWER

Half Yearly

Special Issue Vol II, Aug. 2023

Peer Reviewed

ISSN : 2319 - 8648

Impact Factor : 7.139

लोकशाही प्रगल्भ झालेली दिसते. आजही जागतिक संघर्षात भारतीय भूमिकेला महत्व दिल्या जाते ते येथे असणा-या सर्वात मोठ्या लोकशाही मुळे आजही भारत अलिप्ततावादाचा जागतिक शांततेसाठी वापर करताना दिसून येतो. कोणत्याही एका पक्षाच्या बाजूचे समर्थन न करता दोघांनाही समजुतीचे व शांततेचे आवहन करताना दिसतो. सुरवातीच्या काळात देशात लोकशाही रुजवण्यासाठी, मजबूत करण्यासाठी अलिप्ततावाद हाच विचार योग्य होता हे आजच्या भारतीय लोकशाहीकडे बघितल्यावर कळून येते. शक्यतोवर जागतीक संघर्षात किंवा समस्येवर भारतीय कडून समोपचाराचेच मत प्रदर्शित केल्या जाते. कुणा एकाची बाजू घेणे वा एकाचा विरोध करणे ह्या गोष्टी टाळल्या जातात. कारण मुळातच भारतीय लोकशाही ही जगा व जगु ह्या या तत्वावर तसेच सर्व जगच हे कुटुंब आहे. या "वसुधैव कुटुंबकम्" या तत्वावर आधारलेली असून त्याला अलिप्ततावादाची जोड मिळाल्यामुळे भारतीय लोकशाही ही प्रगत झालेली दिसून येते. आज जागतिक व्यासपीठावर देशाची ओळख ही जगातील सर्वात विस्तृत लोकशाही असणारा देश म्हणून ओळखला जातो.

देशाला स्वातंत्र्य मिळाल्या नंतर देशाने, पर्यायाने देशातील लोकशाहीने इतर पारतंत्र्यात असणा-या देशाच्या स्वातंत्र्यासाठी आवाज उठविलेला दिसतो. भारतीय लोकशाहीच्या विचारांचा प्रभाव हा पुढे साम्राज्यवादावर लगाम घालण्यात ही पडलेला दिसून येतो. वंशवादावर ही भारतीय लोकशाहीचा प्रभाव पडलेला दिसून येतो. जेथे जेथे वंशवाद होता किंवा चालना मिळत होती. त्या त्या समस्येवर भारतीय लोकशाहीने मत प्रगट केले आहे. उदा आफ्रीकीतील रंगभेद, अमेरिकेतील रंगभेद याला भारतीय लोकांनी विरोध केलेला दिसून येतो. अलिप्ततावादाच्या अनेक उद्दिष्टांमधील हे एक उद्दिष्ट होते की तो साम्राज्यवाद वंशवाद, वसाहतवाद याला विरोध करेल, थोडक्यात भारतीय लोकशाहीवर अलिप्ततावादी विचारांचा प्रभाव हा मोठ्या प्रमाणात पडलेला आहे. भारतीय लोकशाही सुद्ध ठेवण्यात या अलिप्ततावादी विचारांचे मोठे योगदान आहे.

भारतीय लोकशाही व अलिप्ततावादी विचार भवितव्य :

शीतयुद्धाच्या समाप्तीनंतर अलिप्ततावादी चळवळीच्या अस्तित्वावर प्रश्नचिन्ह निर्माण झाले आहे. काही अभ्यासक खासकरून पाश्चिमात्य आणि अमेरिकन अभ्यासक अलिप्ततावादी चळवळ कालबाह्य झाल्याचे मत मांडत आहेत. त्यांच्या मते अलिप्ततावादी चळवळीचा उदय हा शीतयुद्धाच्या पार्श्वभूमीवर झाला होता. जागतिक नेतृत्वासाठी अमेरिका आणि सोव्हियत रशिया यांच्यात शीतयुद्धाचे राजकारण पंचेचाळीस वर्षे चालले. या पंचेचाळीस वर्षात आशिया आफ्रिका आणि लॅटीन अमेरिका खंडातील शंभरहून अधिक राष्ट्रांच्या हितसंबंधाचे रक्षण करण्यासाठी अलिप्ततावादी चळवळीचा जन्म झाला. शीतयुद्धाच्या राजकारणापासून अलिप्त राहणे आणि परस्पर सहकार्याच्या माध्यमातून आपला आर्थिक आणि सामाजिक विकास साधणे या उद्देशाने अलिप्ततावादाचे व्यासपीठ निर्माण करण्यात आले. आशिया-आफ्रिका खंडातील प्रत्येक लहानमोठ्या राष्ट्राला आपल्या परराष्ट्र धोरणासंबंधी कोणत्याही दबावाखाली न येता स्वतंत्रपणे निर्णय घेता यावा आणि अमेरिका किंवा सोव्हियत रशिया यासारख्या महासत्तांच्या प्रभावाखाली न येता. आपले स्वातंत्र्य आणि सार्वभौमत्व तिस-या जगातील राष्ट्रांना टिकवून धरता यावे, यासाठी केला गेलेला सामुहिक प्रयत्न म्हणजे अलिप्ततावादी चळवळ होती. अलिप्ततावादी चळवळीच्या निर्मितीस आणि या चळवळीच्या विकासामागे शीतयुद्धाचे राजकारण हे कारण महत्वाचे होते. शीतयुद्धाच्या राजकारणामुळे तिस-या जगातील राष्ट्रांना एकत्र येण्याची संधी प्राप्त झाली आणि आपल्या अधिकारांसाठी ते सामुहिकपणे प्रयत्न करू शकले. १९९० मध्ये सोव्हियत रशियाच्या विघटनाबरोबरच शीतयुद्धाचे राजकारण संपुष्टात आले आणि एक नविन विश्वरचना आकाराला आली. या नव्या विश्वरचनेत अलिप्ततावादी चळवळीचे भवितव्य राहिलेले नाही असाही प्रचार सुरू झाला त्यात काही प्रमाणात जरी तथ्य आढळत असले तरी अलिप्ततावादी चळवळ पुर्णपणे कालबाह्य झाली असे म्हणता येणार नाही. तरीही जागतिकीकरण व उदारीकरणाच्या युगात आज कोणताही देश व राष्ट्र पुर्णपणे अलिप्त राहू शकत नाही. जागतीक अर्थव्यवस्थेला आपल्या देशाची अर्थव्यवस्था जोडून देशाचा विकास साधण्याचा प्रयत्न ब-याच आफ्रिकी, आशियाई देशांनी केल्याचा दिसून येतो. भारतानेही १९९१ साली मुक्त व्यापार धोरणाचा पुरस्कार करून उदारीकरणाची प्रक्रीया भारतात सुरू केल्याचे दिसून येते. अलिप्ततावादी चळवळीच्या उदयात आणि विकासात भारताचे योगदान अतिशय महत्त्वाचे आहे. भारताने या चळवळीच्या निर्मितीत केवळ पुढाकारच घेतला नाही, तर या चळवळीला नेतृत्व पुरविले एक प्रभावी संघ म्हणून नावारुपाला आणले. शीतयुद्धोत्तर काळात भारतानेही देशाच्या विकासाकरिता अलिप्ततावादी चळवळीला तिच्या विचारांना परिस्थिती नुसार वापरलेले आहे. भारतीय दृष्टिकोणातून आजच्या परिस्थितीत विचार केला तर अलिप्ततावादी विचारांचा भारतीय लोकशाहीवर प्रदीर्घ प्रभाव असल्याचे दिसत असले तरी आज भारतीय लोकशाही ही जागतीक व्यवस्थे बरोबर जुळवून घेताना दिसून येते. शीतयुद्धोत्तर राजकारणात भारतीय लोकमाणस हे अमेरिकेकडे पर्यायाने भांडवलशाही गटाकडे झुकलेले दिसून येते. देशाच्या विकासासाठी भारताला आधुनिक तंत्रज्ञानाची आवश्यकता आहे जे तंत्रज्ञान पाश्चात्य देशाकडे आहे. म्हणून १९९६नंतर भारतीय धोरणात बदल झालेले दिसून येतात. १९९६ नंतरच्या निवडणुकातुनही अलिप्ततावादाचा मुद्दा कोणत्याही राजकीय पक्षाने आपल्या जाहिरणाम्यात घेतल्याचे दिसत नाही. भारतीय लोकशाहीत अलिप्ततावादाचा विचार जरी खोलवर रुजलेला असला तरी काळानुरूप त्यात बदल झालेला दिसून येतो. तसेही जागतीकीकरणात राष्ट्र ही एकमेकांवर अवलंबून आहेत. त्यामुळे आजच्या युगात कोणतेही राष्ट्र अलिप्त राहू शकत नाही, वा स्वताचा विकास करण्यास पुर्णपणे समर्थ आहे असेही नाही. त्यामुळे भारतीय लोकशाही व अलिप्ततावादी विचार यांचे भवितव्य हे येणाऱ्या परिस्थितीवर अवलंबून राहील. अलिप्ततावादी विचारांचा एक काळ होता. मात्र आजचा काळ हा अधिक गुंतागुंतीचा व परस्परवर निर्भर असणारा आहे. म्हणून अलिप्ततावादी विचारांचा प्रभाव आजच्या परिस्थितीत तितकासा जाणवत नाही.

CURRENT GLOBAL REVIEWER

Half Yearly

Peer Reviewed

ISSN : 2319 - 8648

Special Issue Vol II, Aug. 2023

Impact Factor : 7.139

निष्कर्ष व उपयोजना :

1. भारतीय लोकशाहीच्या दृष्टीने अलिप्ततावादी विचाराच्या भवितव्यासाठी काही उपाययोजना सुचवता येतात.
2. अलिप्ततावादी चळवळीने अधिक जागतिक परिस्थितीशी जुळवुण घेणे.
3. भारतीय लोकशाहीत अलिप्ततावादी विचारांचा प्रसार करण्यासाठी भारताला आत्मनिर्भर होणे आवश्यक आहे.
4. अलिप्ततावादी चळवळीला गौरवशाली व प्रभावी नेतृत्व मिळणे आवश्यक आहे.
5. अलिप्ततावादी चळवळीतील देशांनी स्वतःच्या राष्ट्रहिताकडे जास्त लक्ष दिल्याचे दिसून येते.
6. शितयुद्ध समाप्तीनंतर जागतिक राजकारणात अलिप्ततावादाचे महत्व उरले नाही.
7. जागतिक राजकारण हे अमेरिका या एकमेव महासत्तेसमोवताल एकवटल्यामुळे अलिप्ततावादी विचाराची उपयोगिता संपुष्टात आली.
8. भारताने ज्या प्रकारे परस्पर सहकार्य या तत्वाचा स्वीकार करून आपल्या अलिप्ततावादाची मांडणी केली त्या प्रकारे अलिप्ततावादाचा स्वीकार इतर राष्ट्रांनी करायला हवा.
9. अलिप्ततावादी संघटनेच्या बैठकामध्ये सातत्याचा अभाव आहे. तो दूर करून अलिप्ततावादी संघटनेच्या नियमीत बैठका, सभा होणे आवश्यक आहे.
10. काळानुसार अलिप्ततावादाने आपल्या विचारात बदल घडवून आणणे आवश्यक आहे.

समारोप :

अलिप्ततावादी चळवळ ही आज जरी कालबाह्य झाल्यासारखी वाटत असली तरी या चळवळीला प्रदीर्घ असा गौरवशाली इतिहास आहे या चळवळीला प्रभावी नेते नेतृत्व करत होते. त्यांनी त्यांच्या विचारातून या चळवळीला गौरव प्राप्त करून दिला असेही म्हणता येईल की जगाला तिस-या महायुद्धापासून दूर ठेवण्यात अलिप्ततावादी चळवळीने खुप योगदान दिले आहे. दोन महासत्तात समन्वय साधून जागतीक शांतता टिकवून ठेवण्याचे काम अलिप्ततावादी विचारांनी केले आहे. अलिप्ततावादी विचारांची भुमीका ही सुरुवातीच्या काळात मोठ्या प्रमाणात होती. मात्र आजच्या आधुनिक युगात व तंत्रज्ञानक्षेत्री युगात अलिप्ततावाद आपले अस्तित्व हरवून बसला आहे.

भारतीय लोकशाहीत अलिप्ततावादाचा विचार करायचा झाल्यास हे दिसून येते की स्वातंत्र्यानंतर देशाला स्थैर्य व शांतता ही खुप आवश्यक होती. यासाठी जागतीक सत्तासंघर्षाच्या एका गटात सामील होऊन दुस-या गटाला विरोध करणे देशाला परवडणारे नव्हते म्हणून पंडीत नेहरूंनी भारतीय दृष्टीकोणातून अलिप्ततावादाचा उपयोग करून घेतला. जास्तीत जास्त परस्पर सहकार्य साधणे व स्वतःचे स्वातंत्र्य ही अबाधीत ठेवणे असा अलिप्ततावादी विचार नेहरूंनी भारतीय जनमानसात भारतीय लोकशाहीत रूजविला. त्याचाच परिणाम म्हणून भारत कधीच कोणत्या एका गटाचा मित्र वा एका गटाचा शत्रु म्हणून वागला नाही तर सर्वसमान, सर्वसोबत सहकार्य या तत्वानुसार भारतीय लोकशाहीची वाटचाल झाली आहे. आज सर्वात मोठी लोकशाही म्हणून देशाला ओळखले जाते. यात अलिप्ततावादी विचारांचेही महत्वपूर्ण योगदान आहे.

संदर्भ ग्रंथ:**लेखक**

1. डॉ. बा. भा. पाटील

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प्रशांत पब्लिकेशन जळगाव - २००९.

2. प्रा. डॉ. शैलेंद्र देवळाणकर

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प्रतिमा प्रकाशन - पुणे - २००७.

3. डॉ. बी. एल. फाडिया

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साहित्य भवन, आग्रा. २०११.

4. डॉ. प्रशांत अमृतकर

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डायमंड पब्लिकेशन, पुणे 2012

7. वर्तमानपत्रे

8. मासीके

9. संकेतस्थळ

Volume No: 8



ISSN-2456-9504

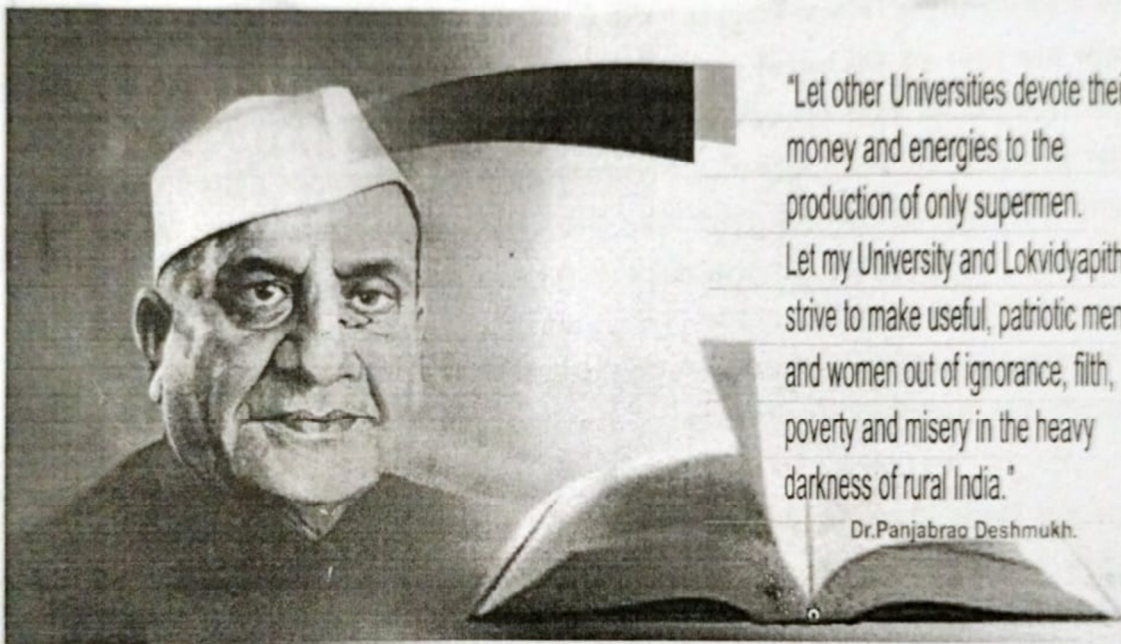
RESEARCH AWAKENING

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"Let other Universities devote their money and energies to the production of only supermen. Let my University and Lokvidyapitha strive to make useful, patriotic men and women out of ignorance, filth, poverty and misery in the heavy darkness of rural India."

Dr. Panjabrao Deshmukh.

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RESEARCH AWAKENING Multi-Disciplinary Peer Reviewed & Refereed Journal
(Bi-Annual Journal) Issue: Oct. 2023 - March, 2024



ISSN :
2456-9504

डॉ. पंजाबराव देशमुख : राष्ट्र बांधणीतील योगदान – एक विश्लेषणात्मक अध्ययन
प्रा.डॉ.जे.जे.जाधव

सहयोगी प्राध्यापक राज्यशास्त्र विभाग प्रमुख जिजामाता महाविद्यालय, बुलढाणा

विषयाची पार्श्वभूमी :

प्राचीन काळापासून भारत हा विविध लहान लहान संस्थाने, भाषिक, धार्मिक, भौगोलिक भूभागात विभागलेला देश होता. त्याचबरोबर विविध जाती, धर्म यांच्यातील संघर्ष, श्रेष्ठ-कनिष्ठ, गरीब-श्रीमंत, स्पृश्य-अस्पृश्य अशा विविध आधारावर मानसिक व सामाजिकदृष्ट्या विभाजीत झालेला देश ही भारताची पार्श्वभूमी होती. त्यातच अंधश्रद्धा, स्त्री-पुरुष विषमता, सतिप्रथा व निरक्षरतेचे प्रचंड प्रमाण भारतात मोठ्या प्रमाणात होते. त्यातून भारतात सामाजिक, आर्थिक व राजकीय विषमता मोठ्या प्रमाणात अस्तित्वात होती.

या सर्व परिस्थितीमुळे भारतीय समाजात असलेल्या भेदभावाचा, विषमतेचा व संघर्षाचा फायदा प्रत्येक वेळी परकीय आक्रमक सत्तांनी घेतला. त्याचा परिणाम म्हणून सुरुवातीला मध्ययुगीन काळात मुस्लीम आक्रमक व त्यानंतर ब्रिटीशांनी भारतावर राज्य प्रस्थापित केले. 1608 मध्ये ब्रिटीशांनी भारतात आगमन केले. पुढे 1757 मध्ये प्लासीच्या लढाईतील विजयानंतर भारतात सत्तेचा पाया रोवला. पुढे 1947 पर्यंत जवळपास दीडशे वर्षे ब्रिटीशांनी भारतावर एकहाती साम्राज्य प्रस्थापित केले. त्यामुळे भारताच्या राज्यकारभाराला संघटीत स्वरूप प्राप्त झाले. परंतु त्यांनी या दीर्घ काळात आर्थिक व राजकीय दृष्टीने भारतीय जनतेचे प्रचंड शोषण केले. या शोषणाबरोबरच भारतातील सामाजिक, आर्थिक विषमतेमुळे भारतीय समाज हा विखंडित व मानसिकदृष्ट्या विभागलेला होता.

अशा परिस्थितीत स्त्री-पुरुष भेदभाव, अस्पृश्यता निर्मूलन, सतिप्रथा, निरक्षरतेचे निर्मूलन करून समाजात सामाजिक समता प्रस्थापित करण्यासाठी अनेक संत व समाजसुधारकांनी प्रयत्न केले. ज्यात संत ज्ञानेश्वरापासून ते संत तुकाराम व संत तुकारामांपासून संत गाडगेबाबा, राष्ट्रसंत तुकडोजी महाराज, म.फुले, सावित्रीबाई फुले, गोपाळ गणेश आगरकर, लोकहितवादीपर्यंत अनेक संतांनी व समाजसुधारकांनी कार्य केले.

परंतु त्याचबरोबर समाज सुधारणांसह राजकीय क्षेत्रातील कार्याच्या माध्यमातून राजर्षी शाहू महाराज, अहिल्याबाई होळकर, सयाजीराव गायकवाड, डॉ.बाबासाहेब आंबेडकर, डॉ.पंजाबराव देशमुख अशा अनेक महापुरुषांनीही कार्य केले. या माध्यमातून सर्वांगीण दृष्टीने भारताला एक राष्ट्र म्हणून स्थापित करण्यात अशा अनेक महापुरुषांचा सहभाग आहे.

संशोधनाचे गृहितक (Hypothesis of Research) :

सामाजिक, आर्थिक, राजकीय दृष्टीने समतेवर आधारित राष्ट्र म्हणून भारताची राष्ट्रबांधणी करण्यात डॉ. पंजाबराव देशमुख यांचाही सिंहाचा वाटा आहे. हे त्यांनी भारताच्या विकासात आयुष्यभर दिलेल्या योगदानातून स्पष्ट होते.

राष्ट्र बांधणीचा अर्थ व स्वरूप :

राष्ट्रबांधणी म्हणजे राष्ट्रीय एकात्मतेच्या भावनेचा विकास करणाऱ्या निती, ध्येयधोरणे व वैचारिक तत्वज्ञानाचा समुच्चय होय. राष्ट्रबांधणीचा उद्देश विभिन्न समुहामध्ये विभागल्या गेलेल्या समस्त देशवासीयांच्या मनामध्ये राष्ट्रीय सहजीवनाची व सहकार्याची भावना विकसीत करणे होय. ज्यामुळे संपूर्ण मानवी समाज शांततेने,

RESEARCH AWAKENING Multi-Disciplinary Peer Reviewed & Refereed Journal
(Bi-Annual Journal) Issue: Oct. 2023 - March, 2024



ISSN :
2456-9504

बंधुत्वाच्या भावनेने एकत्र राहिल व राष्ट्रीय विकासामाठी सहयोग देण्यास तत्पर राहिल. अशी भावना जनतेत निर्माण करणे म्हणजे राष्ट्र बांधणी होय.

राष्ट्र बांधणीच्या प्रक्रियेमध्ये न्याय, स्वातंत्र्य, समता, बंधुत्व, सहिष्णुता, धर्मनिरपेक्षता, उदारमतवाद याबरोबरच उदारमतवादी राष्ट्रवाद, राष्ट्रप्रेम, राष्ट्रनिष्ठा, एकान्ततेची भावना या सामुहिक मूल्यांची नितांत आवश्यकता असते. त्यासाठी समाजातील सामाजिक, आर्थिक, राजकीय, सांस्कृतिक विषमता नष्ट करून सर्वांमधील समानतेची मूल्ये रूजविणे आवश्यक असते व हे कार्य समाजातील तसेच देशातील राष्ट्रीय नेत्यांकडून होणे आवश्यक असते.

राष्ट्र बांधणीसाठी उपरोक्त आवश्यक राष्ट्रीय कार्य विदर्भातील अमरावती येथील शिक्षणमहर्षी डॉ. पंजाबराव उपाख्य भाऊसाहेब देशमुख यांनी केल्याचे दिसते. त्यांनी हे कार्य शैक्षणिक, कृषीविषयक, अस्पृश्यता निवारण, स्वातंत्र्य चळवळ व संविधान निर्मितीत योगदान देऊन केल्याचे स्पष्ट होते.

1) डॉ. पंजाबराव देशमुख यांचे शैक्षणिक कार्य :

भारतीय समाजात स्त्री-पुरुष विषमता, जातीय व धार्मिक भेदभाव, अंधश्रद्धा, गरीबी, दारिद्र्य असे अनेक दोष होते. याचे मुख्य कारण समाजातील अज्ञान व निरक्षरता हेच होते. म.फुले, राजर्षी शाहू महाराज यांनी शैक्षणिक क्षेत्रात यावर मान करण्याचे दृष्टीनेच कार्य केले.

अमेच कार्य डॉ.पंजाबराव देशमुख यांनी विदर्भातील अज्ञानाच्या व निरक्षरतेच्या खाईत अमलेल्या बहुजन समाजामाठी केले. त्यामुळे विदर्भातील शेतकरी, शेतमजूर, वंचित घटक, ग्रामीण भागातील समाज अशा सर्व बहुजनांच्या मुलांना शिक्षणाची संधी मिळाली.

त्यासाठी डॉ. पंजाबराव देशमुख यांनी 1932 साली अमरावती येथे श्री शिवाजी शिक्षण मंथेची स्थापना केली. त्यापूर्वी 1926 साली ब्रिटनमधून वकीलीची सनद घेऊन भारतात आल्यावर, अमरावतीत वकीली व्यवसाय करत असतानाच आर्थिकदृष्ट्या संकटात सापडलेल्या मराठा हायस्कुलमध्ये विनामोबदला शिक्षकाची नोकरी करून बहुजनांच्या मुलांना ज्ञानदानाचे कार्य केले. पुढे ती शाळा बहुजनांच्या मुलांसाठी स्वतः चालविली. त्यानंतर अमरावती जिल्हा कौन्सिलच्या माध्यमातून ग्रामीण भागात मोठ्या प्रमाणात शाळा काढल्या. मध्य प्रांताच्या विधीमंडळात निवडून आल्यानंतर बटलरच्या मंत्रीमंडळात शिक्षण, सहकार व कृषी मंत्री म्हणून कार्य करतांना शिक्षण क्षेत्रात बहुजन मुलांसाठी ग्रामीण भागात शाळांचा विस्तार केला.

1926 साली सर्व जाती धर्माच्या मुलांसाठी अमरावती येथे श्रद्धानंद वसतीगृहाची स्थापना केली. 1937 साली नागपूर येथे श्रद्धानंद अनाथाश्रमाची स्थापना केली. त्याबरोबरच 1946 साली अमरावती व त्यापाठोपाठ विदर्भातील विविध शहरात व ग्रामीण भागात शाळा, महाविद्यालये, वसतीगृहांची स्थापना केली. ज्यामुळे समाजातील सर्व जाती, धर्माच्या, गरीब-श्रीमंतांच्या मुलामुलींना सहिष्णुता व सहकार्याच्या भावनेने एकत्र राहून शिक्षण प्राप्त करता आले. त्यापुढे देशाच्या विविध क्षेत्रात या बहुजनांच्या मुलांनी भविष्यात स्वतंत्र स्थान निर्माण करून समाज व राष्ट्राच्या प्रगतीत आपले योगदान दिले.

2) अस्पृश्यता निर्मूलनाचे कार्य :

राष्ट्र बांधणीच्या दृष्टीने डॉ.पंजाबराव देशमुख यांनी अस्पृश्यता निवारणाच्या क्षेत्रात केलेले कार्यही महत्त्वाचे आहे. म.फुले, राजर्षी शाहू महाराज यांच्या विचारांचा व कार्याचा प्रभाव डॉ. पंजाबराव देशमुख यांच्या व्यक्तीमत्त्वावर होता. तसेच डॉ.बाबासाहेब आंबेडकर व डॉ.पंजाबराव देशमुख यांचे मानवतावादी विचार, न्याय, स्वातंत्र्य, समता, बंधुता या मूल्यांविषयीचे विचार समान होते. म्हणूनच डॉ. पंजाबराव देशमुख यांनी 1927 साली अमरावती येथील प्रसिद्ध ऐतिहासिक अंबादेवी मंदीर अस्पृश्य वर्गासाठी खुले करण्यासाठी 1927 साली यशस्वी सत्याग्रह करून मंदीरात अस्पृश्यांना प्रवेश मिळवून दिला. 1927 साली आपल्या बडीलांच्या तेरवीला अस्पृश्य समाजाच्या मुलांना आमंत्रित

RESEARCH AWAKENING Multi-Disciplinary Peer Reviewed & Refereed Journal
(Bi-Annual Journal) Issue: Oct. 2023 - March, 2024



ISSN :
2456-9504

करून भोजन दिले. 1927 साली विमल वैद्य यांच्याशी आंतरजातीय विवाह केला. 1926 साली स्थापन केलेल्या श्रद्धानंद बसतीगृहात सर्व जाती, धर्मांची, मुले एकत्र ठेऊन सामाजिक समतेचे संस्कार केले.

3) कृषी क्षेत्रातील कार्य :

डॉ. पंजाबराव देशमुख हे पापळ या खेड्यातील शेतकरी कुटुंबात जन्मलेले होते. त्यामुळे शेती, शेतमजूर, ग्रामीण भाग यांच्या समस्यांची त्यांना जाणीव होती. म्हणूनच या क्षेत्रात भरीव काम करण्याची प्रेरणा त्यांना मिळाली. 1930 साली मध्यप्रांत विधीमंडळाचे सदस्य झाल्यानंतर त्यांना बटलर यांच्या मंत्रीमंडळात मंत्री म्हणून कृषी व शिक्षण खाते मिळाले. कृषी क्षेत्रात भरीव योगदान देण्याची त्यांना प्रथमच संधी मिळाली. यावेळी त्यांनी सावकारग्रस्त शेतकऱ्यांसाठी कर्ज लवाद बील (1932) पास केले. शिक्षण हक्क कायदा पास केला, तसेच देवस्थान वीलही मभागृहात मांडले.

पुढे 1952 ते 1962 त्यांनी स्वतंत्र भारताचे प्रथम कृषीमंत्री म्हणून कार्य केले. या काळात त्यांनी भारतीय शेतकऱ्यांना आधुनिक तंत्रज्ञानावर आधारित पाश्चिमात्य शेतीपद्धतीतून प्रेरणा मिळावी, यामाठी दिल्ली येथे आंतरराष्ट्रीय कृषी प्रदर्शन (1959-60) आयोजित केले. देशातील 2 कोटी शेतकऱ्यांनी प्रदर्शनाला भेट देऊन प्रेरणा घेतली. त्यानंतर हैद्राबाद, मद्रास, कलकत्ता, मुंबई येथेही कृषी प्रदर्शनांचे आयोजन करून शेतकऱ्यांना उत्कृष्ट शेतीसाठी प्रेरीत केले. शेतीत नविन तंत्रज्ञान, खते, वियाणे, संशोधन यांचा वापर करून आधुनिक शेतीला प्रेरणा दिनी. त्यामुळे अन्नधान्याबाबत परावलंबी असलेला भारत अन्नधान्याबाबत स्वावलंबनाच्या दिशेनी प्रगती करू लागला. शेतकऱ्यांना जोडघंद्यासाठी प्रेरीत केले. त्यामुळे भारताच्या कृषी क्षेत्राच्या विकासात डॉ.पंजाबराव देशमुखांचा मोठा वाटा आहे. ज्यामुळे भारतातील गरीब, वंचित समुह शेतमजुरांना पोटाची खळगी भरण्यास मदत होऊन सामाजिक न्याय निर्माण होण्यास मदत झाली.

4) स्वातंत्र्य चळवळीतील योगदान :

डॉ.पंजाबराव देशमुख यांच्या शैक्षणिक व कृषी विषयक क्षेत्रातील योगदानाचा अभ्यास झाला. परंतु त्यांचे स्वातंत्र्य चळवळीतील योगदान सतत दुर्लक्षिल्या गेले. 1939 साली अखिल भारतीय मराठा शिक्षण परिषद व मराठा लीगचे अधिवेशन भरले. यात देशातील अनेक संस्थांनाचे प्रतिनिधी उपस्थित होते. तसेच 1941 साली इंग्रजांना दुसऱ्या महायुद्धात मदत करण्याचे दृष्टीने संस्थानिकांची क्षत्रीय महासभा आयोजित करण्यात आली. यावेळी डॉ.पंजाबराव देशमुख यांनी संस्थानिकांना त्यांच्या पराक्रमाची व क्षात्र तेजाची आठवण करून देऊन संस्थानिकांना ब्रिटीशांच्या विरोधात स्वातंत्र्यासाठी ठामपणे उभे राहण्याचे आवाहन खुलेआम केले. तसेच 1939 साली महायुद्धाच्या काळात ब्रिटीशांना सहकार्य करण्यासाठी अमरावती येथे आयोजित सभेवर त्यांनी बहिष्कार टाकला. एवढेच नव्हे तर 1945 साली आझाद हिंद सेनेच्या 25 हजार सैनिकांचा खटलाही लढविण्यात डॉ.पंजाबराव देशमुखांनी सहभाग घेतला.

5) संविधान निर्मितीतील सहभाग :

डॉ. पंजाबराव देशमुख 1946 साली मध्यप्रांत विधीमंडळातून संविधान समितीवर सदस्य म्हणून निवडून गेले. संविधान समिती सदस्य म्हणून त्यांनी 500 पेक्षा अधिक दुरुस्त्या सुचविल्या. त्यापैकी अनेक दुरुस्त्या त्यांनी सामाजिक न्यायाच्या दृष्टीने मांडलेल्या होत्या. यात त्यांनी राजकीय व्यवस्थेतील राष्ट्रपतीचे व राज्यपालाचे स्थान व भूमिका, कायदेमंडळ सदस्यांचे अधिकार, उच्च न्यायालयातील न्यायधिकांची नियुक्ती, संचित निधी, वरिष्ठ सभागृहाची रचना, नागरीकत्व, संवैधानिक मूल्य व संस्था अशा विविध महत्वाच्या विषयांवर आपले योगदान दिले.



सामाजिक न्याय प्रस्थापित करण्याच्या दृष्टीने ग्रामीण भागातील कृषक, वारा बलुतेदार घटकांनाही वंचित, उपेक्षित अनुसूचित जाती-जमातीप्रमाणे आरक्षण मिळावे याची बाजू डॉ. पंजाबराव देशमुख यांनी डॉ. बाबासाहेब आंबेडकर यांचेकडे लावून धरली. दोन्ही नेते उपेक्षित व वंचित घटकांच्या समस्या जाणून होते. त्यामुळेच संविधानात इतर मागास घटकांसाठी 340 कलम समाविष्ट झाले. ज्यामुळे 1979 सालच्या मंडल आयोगाने इतर मागास वर्गीयांसाठी आरक्षणाच्या रूपात न्याय व संधीची दालने खुली करून दिली. ज्या आरक्षणातील उणीवा कायम राहिल्याने आज आरक्षणावर आधारित सामाजिक संघर्ष दिसत आहे. याबाबत डॉ. पंजाबराव देशमुख यांनी चेतावनी दिली होती. यावरून डॉ. पंजाबरावांची दूरदृष्टी लक्षात येते.

संविधान समितीतील त्यांच्या योगदानाचे कौतुक करतांना डॉ. आंबेडकर म्हणतात, "काँग्रेस पक्षाच्या शिस्तीमुळे संविधान सभेच्या कार्याला मुख्यस्थित रूप प्राप्त झाले. परंतु त्याचवेळी काँग्रेसच्या कठोर अनुशासनाचे पालन झाले असे तर संविधान सभा ही मुक्या-बहिन्यांची झाली असती. परंतु काँग्रेस पक्षातही सुदैवाने वंचित, उपेक्षित घटकांच्या कल्याणाची आम अमणारे डॉ. पंजाबराव देशमुखांसारखे आणखी काही विद्रोही सुद्धा होते. त्यामुळे चांगल्या वाढीचा समावेश करण्यात व संवैधानिक चौकट निर्माण होण्यास मदत झाली."

डॉ. आंबेडकरांचे उपरोक्त उद्गार हे डॉ. पंजाबराव देशमुख यांचे राष्ट्र बांधणीत संविधान निर्मितीच्या माध्यमातून योगदान स्पष्ट करतात. त्याचप्रमाणे भारताचे प्रथम राष्ट्रपती डॉ. राजेंद्र प्रसाद यांनी डॉ. पंजाबराव देशमुख यांचे शैक्षणिक, कृषी, अस्पृश्यता निवारण, संविधान निर्मिती या क्षेत्रातील योगदान जवळून पाहिल्यानंतर "एवढा विद्वान शिल्पकार विदर्भाच्या भूमीत जन्माला आला, हे या भूमीचे भाग्यच आहे." असे गौरवार्थी काढले.

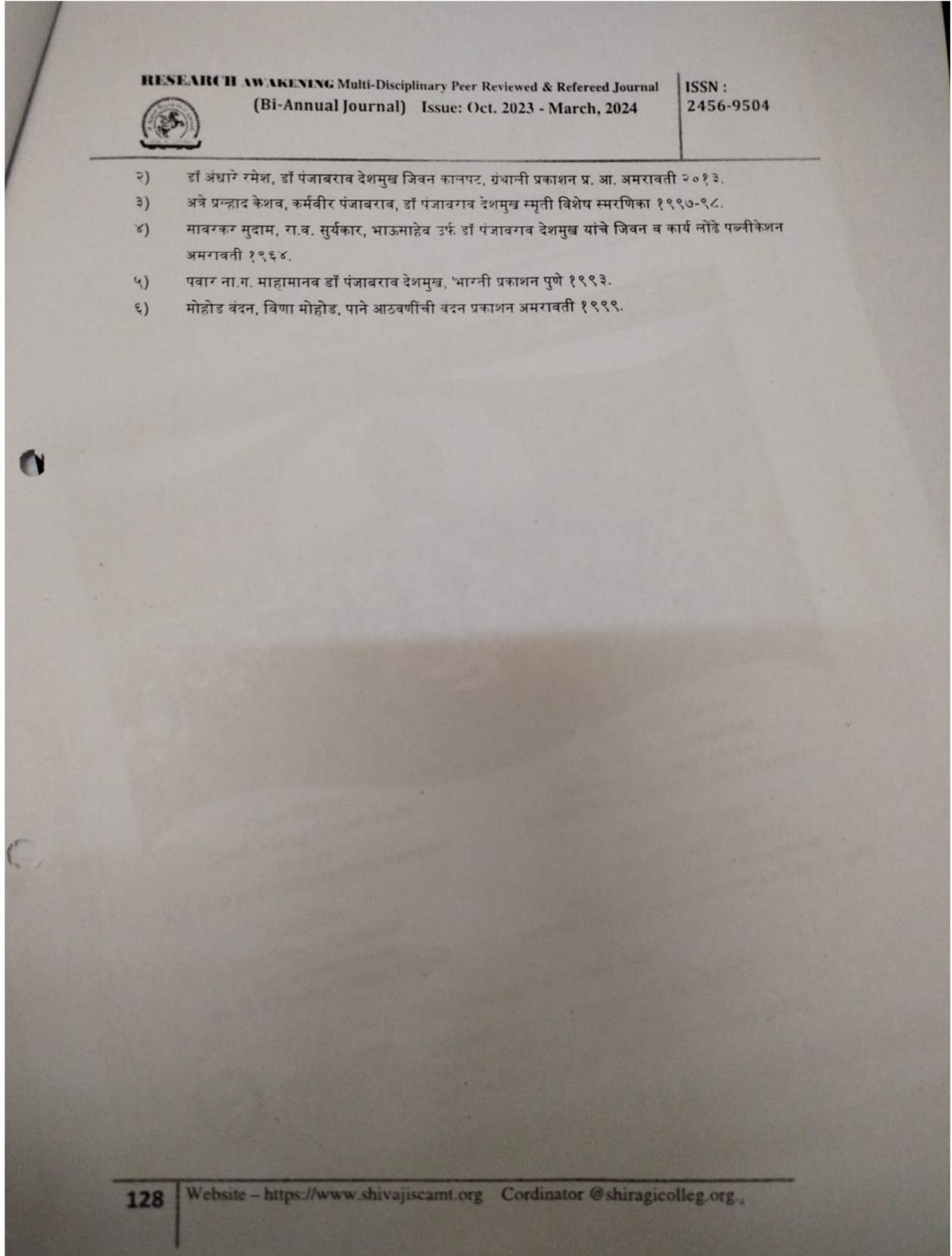
निष्कर्ष :

- डॉ. पंजाबराव देशमुख यांनी अज्ञान, निरक्षरता, अंधश्रद्धा यांच्या निर्मूलनात शिक्षण क्षेत्राच्या माध्यमातून केलेल्या कार्याचे मोठे योगदान आहे. त्यामुळे मानवामानवातील भेदभाव संपुष्टात येऊन सामाजिक ऐक्य निर्माण होण्यास मदत झाल्याचे सिद्ध होते.
- डॉ. पंजाबराव देशमुख यांनी म.फुले, राजर्षी शाहू महाराज यांच्या विचारातून प्रेरणा घेऊन डॉ. बाबासाहेब आंबेडकर यांचेमोबत अस्पृश्यता निर्मूलन क्षेत्रात केलेले कार्य, तसेच सर्व जाती, धर्माच्या मुलांना एकात्रीत वसतीगृहात राहणे व एकात्रीत शिक्षण घेण्याच्या प्रक्रीयेतून तसेच स्वतःचा आंतरजातीय विवाह, वडीलांचे तेरवीत उपेक्षित घटकांच्या मुलांना भोजन देणे. यामुळे सामाजिक समता प्रस्थापित होण्यास व सामाजिक ऐक्य, सद्भाव निर्माण होऊन सहिष्णुता व सहकार्य भाव वाढण्यास मदत झाली.
- स्वातंत्र्य चळवळीतील कार्यामुळे उपेक्षित, वंचित समूह, स्त्रिया यांना स्वातंत्र्य व अधिकार प्राप्त करून देण्याच्या बाबतीत योगदान दिले. यावरून राष्ट्र बांधणीतील त्यांचे योगदान स्पष्ट होते.
- संविधान निर्मितीत वंचित, उपेक्षित, अनुसूचित जाती व जमाती, स्त्रियांबरोबरच डॉ. बाबासाहेब आंबेडकरांना सोबत घेऊन आग्रहाने समाजातील इतर मागास घटकांना आरक्षणाच्या स्वरूपात न्यायाची व संधीची उपलब्धता प्राप्त करून देऊन राष्ट्र बांधणीत हातभार लावला.

एकुणच डॉ. पंजाबराव देशमुख यांनी आयुष्यभर शिक्षण, कृषी विकास, अस्पृश्यता निवारण, धर्मनिरपेक्ष व सहिष्णुतेवर आधारित संविधान निर्माण करण्यात, स्वातंत्र्य चळवळीत कार्य करून राष्ट्र बांधणीत आपले अमूल्य असे योगदान दिल्याचे स्पष्ट होते.

संदर्भ सुची...

- डॉ. ढाले रविन्द्र, डॉ. पंजाबराव देशमुख यांचे कृषी विषयक आर्थिक विचार, नभ प्रकाशन, प्र.आ. अमरावती वर्ष, २००९.



Impact Factor-8.632 (SJIF) ISSN-2278-9308
ISSUE NO.
(CDLXXV) 475

B.Aadhar

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Multidisciplinary International Research Journal

March-24

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B.Aadhar

Peer-Reviewed & Refereed Indexed Multidisciplinary International Research Journal

Impact Factor -(SJIF) -8.632, Issue NO, (CDLXXV) 475ISSN :
2278-9308
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B.Aadhar Peer-Reviewed & Refereed Indexed Multidisciplinary International Research Journal
 ISSN : 2278-9308
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 Impact Factor -(SJIF) -8.632, Issue NO, (CDLXXV) 475

बसवणांची आदर्श तत्त्वे व लोकशाही मूल्य : एक विश्लेषणात्मक अध्ययन
डॉ. जे.जे. जाधव
 जिजामाता महाविद्यालय, बुलढाणा

विषयाची पार्श्वभूमी :
 बसवणांच्या अर्थात संत महात्मा बसवेश्वर यांच्या 12 व्या शतकातील (1105-1165) जिवनाचा कालखंड हा मध्ययुगीन भारताचा कालखंड होता. या काळातील सामाजिक, आर्थिक, सांस्कृतिक व राजकीय परिस्थिती ही विषमतेवर आधारित व दयनीय होती. या कालखंडात चातुर्वर्ण्य, कर्मकांड, अंधश्रद्धा, यज्ञयाग, पशुहत्या, अस्पृश्यता, अनेक देवता पूजन, पुरोहितांचे प्राबल्य आणि ब्राह्मण वर्चस्व होते. ब्राह्मण देवांचे पुरोहित्य करीत असल्याने ते सर्व मानवात श्रेष्ठ समजले जात असत. त्यांनाच वेद पठण व लिहिण्याचा-वाचण्याचा अधिकार होता. समाजात ब्राह्मण (श्रेष्ठ), शुद्र व अतिशुद्र असे वर्ग होते. स्त्रिया देखील शुद्र होत्या. दलित वर्ग अतिशुद्र समजून गावकुसाबाहेर राहत होता. त्यांना पिण्याचे पाणी, मंदीर प्रवेशाला बंदी, रोटी-बेटी व्यवहारापासून ते वंचित होते. त्यामुळे स्त्रिया, शुद्र व अतिशुद्र समाजाला बंदिस्त कारागृहासारखे जिवन जगावे लागत होते. या सामाजिक विषमतेच्या, शोषणाच्या काळात धार्मिक मुक्तीची वाट पाहणाऱ्या समाजासाठी बसवणा देवदूत बनून रक्षणकर्ता म्हणून सिद्ध झाले.

कारण बसवणांनी शैव वीरशैव धर्मांतर्गत लिंगायत धर्माची स्थापना करून हा धर्म सर्व मानव जातीच्या दृष्टीने अहिंसा, सदाचार, एकदेवोपासना, कायक (श्रम), दासोह (दानधर्म) या मानवतावादी तत्त्वावर उभा केला. या वीरशैव पंथाने शैव धर्मातील उत्तरांगाचा स्विकार केल्याने तो शुद्ध, पवित्र, मानवतावादी, समता व सर्वसमभावाने मुक्त असा सर्वांगपूर्ण धर्म बनला. या धर्माने भक्त हाच पुरोहीत झाला. त्याला व्यक्ती-व्यक्तीत भेदभाव न करता भक्तीसाठी त्यांचे जिवन दारिद्र्य दूर केले. या उदार मानवतावादी तत्त्वामुळे शैवातील इतर संप्रदाय (पाशुपत, लाकुलीश, कालमुख, कापालीक, नाथ, नायनार) हे बसवणांच्या (वीरशैव) विशाल धर्मसागरात एकरूप झाले. कारण बसवणांच्या लिंगायत धर्मात लोकशाही मूल्यांवर आधारित आदर्श तत्त्वे होती.

संशोधनाचे गृहितक (Hypothesis of Research) :
 बसवणांच्या लिंगायत धर्मात विषमता, भेदभाव यांना स्थान नव्हते. त्यांचे विचार न्याय, स्वातंत्र्य, समता, बंधुता, मानवतावाद, सहिष्णुता या लोकशाही मूल्यांवर आधारित होते.

बसवणांची आदर्श तत्त्वे (Ideal Principles of Basavanna) :
 बसवणांनी जीवन जगण्याची जी तत्त्वमिमांसा मांडली त्यात एकदेवोपासना, कायक, दासोह, सदाचार, इस्टर्लीगभक्ती, दलीत भक्ती, स्त्री-उद्धार, स्वातंत्र्य, समता, बंधुता व शिवयोग अशा अकरा तत्त्वांचा समावेश होता. त्यांतील तत्त्व विस्तार पुढीलप्रमाणे-

1) कायक (श्रम) :
 बसवेश्वरांचे हे अत्यंत महत्त्वाचे तत्त्व आहे. त्यामुळे श्रमाला प्रतिष्ठा प्राप्त झाली. श्रमामध्ये श्रेष्ठ-कनिष्ठ असा भेदभाव नसतो. त्यामुळे व्यवसायाच्या आधारावरील श्रमामुळे श्रेष्ठ-कनिष्ठ असा भेदभाव नसतो. त्यामुळे व्यवसायाच्या आधारावरील श्रमामुळे श्रेष्ठ-कनिष्ठ असा भेदभाव करणे त्यांनी निषिद्ध मानले. त्यांच्या मते प्रत्येक व्यक्तीने जगण्यासाठी बौद्धिक किंवा शारीरिक श्रम केलेच पाहिजे. बसवणांच्या मते, कायका आधारे प्राप्त संपत्ती ही खरी शुद्ध असून तिचे आपण मालक नसून केवळ विश्वस्त आहोत. त्यामुळे कामगार व मालक यांच्यातील संबंध सलोख्याचे, समतेवर आधारित आहेत, असे मते मानतात.

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Peer-Reviewed & Refereed Indexed Multidisciplinary International Research Journal



Impact Factor -(SJIF) -8.632, Issue NO, (CDLXXV) 475

ISSN :
2278-9308
March
2024

त्यांच्या मते, कायक न करता दुसऱ्याचे कष्टांवर जगणे किंवा भिक्षा मागून उपजीविका करणे हे हरामाचे लक्षण असून बसव तत्त्वांविरुद्ध आहे.

बसवण्यांची ही तत्त्वे मार्क्सप्रणीत समाजवादाच्या आगेदरची आहेत. त्यामुळे ते मार्क्सच्याही पुढे होते हे स्पष्ट होते. त्यांनी एका अर्थाने मध्ययुगीन काळातच आर्थिक विषमता, दारिद्र्य, शोषण यांना खतपाणी घालणाऱ्या भांडवलवादाला विरोध केल्याचे व कायकाच्या आधारे सामाजिक, आर्थिक समता प्रस्थापित करण्याला प्राधान्य दिल्याचे दिसते.

2) दासोह (दानधर्म) :

बसवण्यांचे हे तत्त्व सामाजिक कल्याणाशी संबंधीत आहे. प्रत्येकाने श्रम करावेत यावर त्यांचा भर आहे. परंतु तरीही समाजात लहान मुले, वृद्ध व्यक्ती, अंध, अपंग, निराश्रित असे अनेक लोक असतात. ज्यांना श्रम करून जगणे शक्य होत नाही. तेव्हा कायकमध्ये नमूद विश्वस्त तत्त्वानुसार प्रत्येकाने आपल्या श्रमाद्वारे प्राप्त संपत्तीतील काही भाग दासोह (दानधर्म) रूपात अशा लोकांसाठी लोककल्याणासाठी अर्पण केला पाहिजे. त्यामुळे समाजातील निराधार घटकांना जगणे सोपे होईल. बेकारी, दारिद्र्य यांना आळा बसेल. सामुहिक कल्याणाची भावना वाढीस लागेल.

3) सदाचार :

बसवण्यांच्या मते, सदाचार हा मानवी जीवनातील महत्त्वाचा अलंकार आहे. सदाचार हाच पृथ्वीवरील स्वर्ग असून दुराचार हा नरक आहे. सदाचाराने मुक्ती तर अनाचाराने दुःख मिळते. त्यांनी सदाचारात अहिंसेच्या तत्त्वाला महत्त्व दिले. प्राणीमात्रांच्या हिंसेला विरोध केला. दुराचाराला प्रोत्साहन देणाऱ्या, मद्यपान, मांसाहार या वस्तुंचे सेवन त्यांनी वर्ज्य मानले. अशा सदाचारामुळे समाजातील अन्याय, अत्याचार, फसवणूक, शोषण या बाबींना आपोआप आळा बसून समाजात रामराज्य निर्माण व्हायला मदतच होते. त्यामुळे सदाचारी, नैतिक अधिष्ठान असलेल्या समाजाला कायद्याची व कायद्याच्या धाकाची आवश्यकता राहणार नाही, अशी ही बसवण्यांची तत्त्वे आहेत.

4) दलीत भक्ती :

बसवण्यांचा लिंगायत धर्म हा मानवतेच्या समता व बंधुभावाच्या तत्त्वावर आधारीत होता. लिंगायत धर्माच्या पूर्वी दलिताना अतिशुद्ध समजून गावकुसाबाहेर राहावे लागत असे. त्यांना पिण्याचे पाणी, रोटी-बेटी व्यवहार बंद होते. त्यांची सावली म्हणजे विटाळ समजला जात असे. मेलेली जनावरे ओढणे व त्यांचेच मांस खाऊन त्यांना जगावे लागत होते. त्यांना वेढवीगार केले जात असे.

हे सर्व मानवतेविरुद्ध होते. त्यामुळे बसवण्या व्यथित झाले. म्हणून त्यांनी दलिताना अन्यायापासून मुक्त करून त्यांचे मानवी जीवन सुखी व समृद्ध करून जगण्याची प्रेरणा दिली. ते म्हणतात-

शिवालय व महारवाड्याची |

भूमी ती एकची दोन्ही साठी ||

आचमन शौच दोन्हीचे ते जळ |

एकचि निर्मळ दुजे नाही ||

त्यामुळे त्यांनी समाजातील सर्व अतिशुद्ध समुहांना लिंगदीक्षा देऊन समाजात प्रतिष्ठा मिळवून दिली. दलितांचे वस्तीत जाऊन त्यांनी प्रसाद स्विकारला. एवढेच नव्हे तर अनेक आंतरजातीय विवाह लावून त्यांनी जातीअंताला प्रारंभ केला. मानवाला समतेच्या आधारे जगण्याची प्रेरणा दिली. आज एकविसाव्या शतकात बसवण्यांची ही तत्त्वे लोकशही मूल्यांना, समता, न्याय, बंधुतेला प्रेरणा देत आहेत.

B.Aadhar

Peer-Reviewed & Refereed Indexed Multidisciplinary International Research Journal



Impact Factor -(SJIF) -8.632, Issue NO, (CDLXXV) 475

ISSN :
2278-9308
March
2024

5) स्त्री-मुक्ती :

सनातन धर्मात स्त्रियांचा समावेशही अतिशुद्धात होता. तिला शिक्षणाचा, समाजकार्याचा अधिकार नव्हता. 'चुल व मुल' हेच तिचे कार्यक्षेत्र होते. विधवा विवाहांना बंदी, सतीची प्रथा, बालविवाह, देवदासी, वेश्या अशा विषमता, अन्याय व अत्याचाराच्या चक्रव्यूह हात स्त्री सापडलेली होती.

परंतु बसवण्यांच्या लिंगायत धर्मात स्त्रीला पुरुषांबरोबरीचा दर्जा देण्यात आला. शिक्षणाचा अधिकार मान्य केला. विशेषतः अनुभव मंटपात प्रामुख्याने सत्तर स्त्रियांना प्रतिनिधीत्व देऊन त्यांच्यातील प्रतिभावंत स्त्रियांकडून वचन साहित्याची निर्मिती करून घेतली. सतीची चाल, बालविवाह बंद केले. विधवा विवाहांना संमती दिली.

त्यांच्या या विचारामुळे स्त्री मुक्तीला, स्त्री-पुरुष समानतेला मध्ययुगीन काळातच प्रेरणा व प्रोत्साहन मिळाले.

आजच्या लोकशाही युगात संविधानाच्या आधारे स्त्रियांना जो समानतेचा, स्वातंत्र्याचा अधिकार मिळाला त्याची सुरवात बसवण्यांनी मध्ययुगीन काळातच केली. त्यावरून त्यांच्यातील दूरदृष्टी, लोकशाही व मानवतावादी मूल्यांची जाण स्पष्ट होते.

6) स्वातंत्र्य, समता, बंधुता :

बसवण्यांनी लिंगायत धर्मात स्वातंत्र्य, समता, बंधुता या तिन्ही लोकशाही तत्वांचा पुरस्कार केल्याचे आढळते.

त्यांचे स्वातंत्र्य कायकावर (श्रमावर) आधारित होते. प्रत्येकास आपआपला व्यवसाय करण्याचे स्वातंत्र्य दिले. तसेच कोणताही व्यवसाय श्रेष्ठ किंवा कनिष्ठ नाही हे स्पष्ट केले. याशिवाय अनुभव मंटपात प्रत्येकाला आपले विचार व्यक्त करण्याची, लेखन, भाषण करण्याची संधी ही कल्पनाही बसवण्यांची होती. प्रत्येक व्यक्ती व कुटुंबाला इच्छेप्रमाणे वागण्याचे स्वातंत्र्य प्रदान केले.

'समता' हे त्यांच्या धर्मप्रसाराचे प्रमुख तत्त्व होते. बसवण्या स्वतःला लीन मानत होते. भोजन अथवा प्रसादावेळी सर्वांनी भेदभाव न करता एकत्र बसावे. एवढेच नव्हे तर सार्वजनिक सभा, परिषद, अधिवेशन प्रसंगी सर्वांनी सारख्याच उंचीच्या खुर्चीवर बसावे, हा त्यांचा दंडक होता. कारण स्वामींचे उच्चासन व इतरांचे निम्नासन हे समतेच्या तत्त्वाविरुद्ध असल्याने त्यांनी वर्ज्य मानले.

'बंधुता' हे बसवण्यांचे प्रमुख तत्त्वांपैकी एक आहे. त्यामुळे बसवण्यांना सर्वजण अण्णा समजत. तर वयस्कांना/जेष्ठाना 'अप्पा' म्हणण्याची पद्धत होती. बसवण्यांनी हाच बंधुभाव धर्मात कायम ठेवला.

आधुनिक लोकशाही युगात बसवण्यांची ही मध्ययुगीन काळातील तत्त्वे लोकशाही संविधानाची आधारभूत तत्त्वे बनलेली आहेत. आधुनिक काळातील लोकशाही राज्यघटनेत या तत्त्वांचा लोकशाहीचा प्रमुख आधार म्हणून समावेश आहे.

आर्थिक-समाजवादी तत्त्वे :

बसवण्यांच्या मते, गरीबी पूर्वजन्मीचे पाप नाही. ते सामाजिक, धार्मिक व राजकीय व्यवस्थेचे कटु फळ आहे. त्यामुळे बसवण्यांनी कष्टकरी, क्षुद्र समजल्या जाणाऱ्या समाजाला जाती, वर्ण व्यवस्थेच्या जाचातून, छळातून, शोषणातून मुक्त करून त्यांना आत्मविश्वास दिला. त्याचवेळी पिढीजात संपत्तीचा वंशपरंपरागत उपभोग घेणाऱ्यांचाही त्यांनी समाचार घेऊन अशा ऐतखाऊंची, गरीबांच्या श्रमावर, शोषणावर जगणाऱ्यांची निर्भत्सना केली. त्यांना अमानवी, लाचार संबोधून त्यांचा धिक्कार केला. संपत्तीच्या अतिरिक्त संग्रहाला विरोध केला.

यावरून त्यांची धार्मिक व आर्थिक आदर्श तत्त्वे ही लोकशाही समाजवादास पूरक अशीच होती. आर्थिक विषमता, शोषण, बेरोजगारी, दारिद्र्य संपुष्टात आणून सामाजिक, आर्थिक, राजकीय समता प्रस्थापित करण्यासाठी ही तत्त्वे प्रेरणादायी होती हे स्पष्ट होते.

B.Aadhar'

Peer-Reviewed & Refereed Indexed Multidisciplinary International Research Journal



Impact Factor -(SJIF) -8.632, Issue NO, (CDLXXV) 475

ISSN :
2278-9308
March
2024

निष्कर्ष :

बसवणांनी लिंगायत धर्मातील आदर्श तत्त्वांच्या माध्यमातून आधुनिक लोकशाहीवर आधारित संविधान निर्मितीला प्रेरणा दिली आहे.

व्यक्ती व्यक्तीत भेदभाव निर्माण करणाऱ्या जातीव्यवस्थेला नाकारून सर्व मानव समान व सर्वांना विकासाची, जगण्याची समान संधी आहे हे मध्ययुगीन काळातच स्पष्ट करून ही तत्त्वे धर्माच्या माध्यमातून समाजात रुजविली आहेत.

व्यवसाय, जातीआधारीत, स्त्री-पुरुष विषमता आधारीत भेदभाव नाकारून त्यांनी समतेबरोबरच बंधुभाव जोपासण्याची प्रेरणा त्या काळात आपल्या अनुयायांना दिली. प्रत्यक्षात आपल्या अनुयायांमध्ये बंधुतेचे तत्त्व रुजविले. प्रत्येक व्यक्तीला अनुभव मंटपाच्या माध्यमातून विचार, अभिव्यक्ती, शिक्षण, व्यवसाय, इच्छेनुसार जगण्याचे स्वातंत्र्य उपलब्ध करून दिले.

कायक या माध्यमातून विषमता व शोषणाला खतपाणी घालणाऱ्या भांडवलवादी विचाराचा धिक्कार केला, दासोहच्या माध्यमातून कल्याणकारी राज्याची प्रेरणा दिली. अस्पृश्यता निवारण व सदाचाराच्या माध्यमातून न्याय, समता, स्वातंत्र्य, बंधुता या लोकशाही मूल्यांना प्रेरणा दिली.

त्यामुळे आधुनिक भारताच्या लोकशाही संविधानाची, आदर्श लोकशाही मूल्यांची व मानवाधिकार रक्षणाची प्रेरणा या तत्त्वांतूनही संविधानकर्त्यांना मिळाली, असे म्हटल्या जाऊ शकते.

संदर्भ सूची :

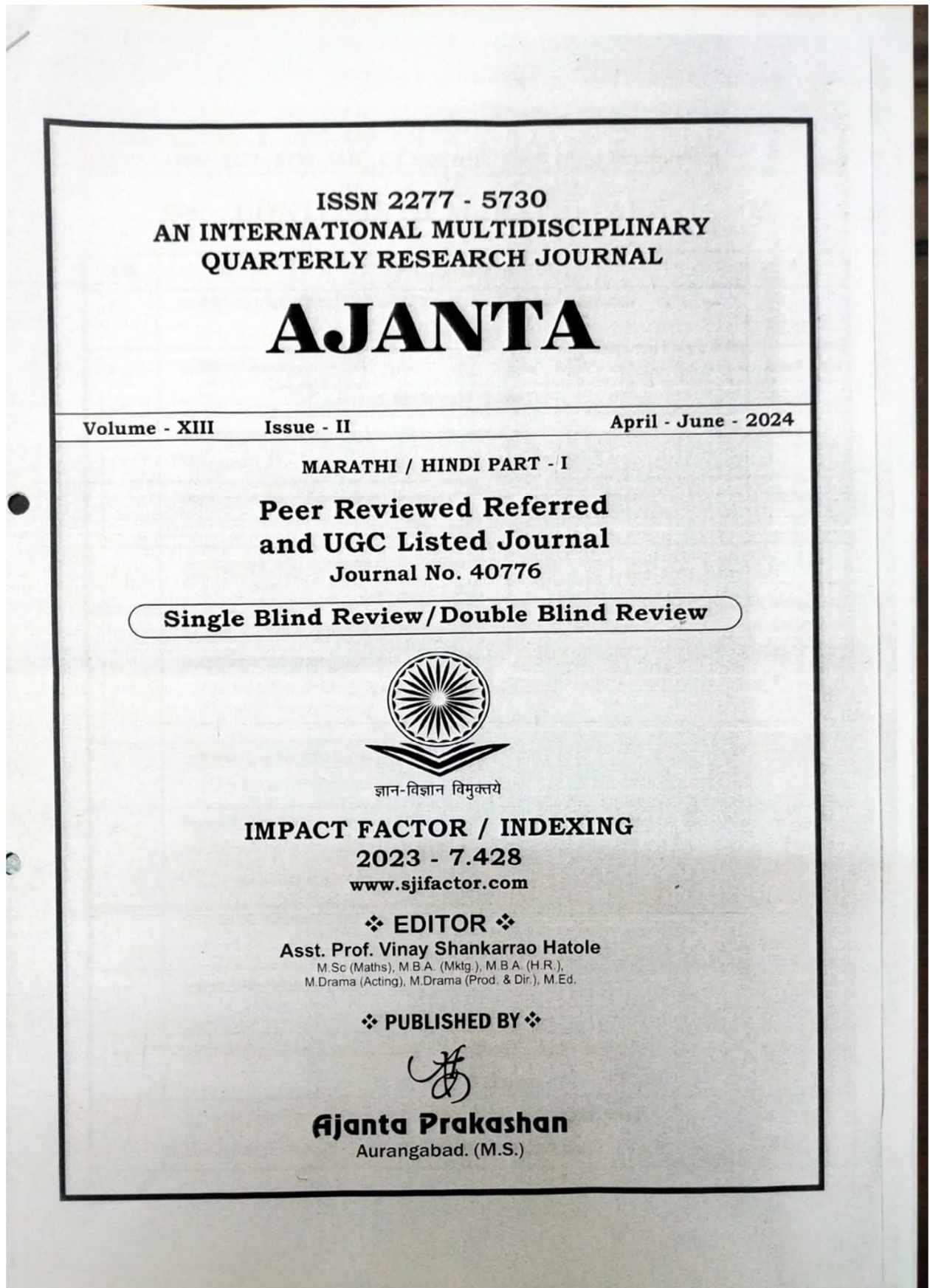
डॉ.मेनकुदळे म. अशोक, आद्य समाजसुधारक महात्मा बसवेश्वर.

डॉ. मोगलेवार सुधाकर, वचन साहित्य चिंतन (खंड 1, 2)

डॉ. कामत अशोक, महात्मा बसवेश्वर

डॉ. घुगरे सुर्यकांत, वीरशैव व इतर धर्म आणि समाज.

संपादक प्रा. माशलकर बाबुराव व प्रा.डॉ.तंगा म.ई., बसव सिद्धान्त.



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१. महाराष्ट्राच्या सांसदीय लोकशाहीचे बदलते स्वरूप : एक विश्लेषणात्मक अध्ययन

प्रा. डॉ. जे. जे. जाधव

सहयोगी प्राध्यापक, राज्यशास्त्र विभाग प्रमुख, जिजामाता महाविद्यालय, बुलढाणा.

विषयाची पार्श्वभूमी

घटना समितीने आपले संविधान निर्मितीचे कार्य व डिसेंबर 1946 ते 26 नोव्हेंबर 1949 या कालावधीत पूर्ण केले. याच भारतीय घटनेनुसार भारतात अमेरिकन अध्यक्षीय लोकशाही ऐवजी ब्रिटनप्रमाणे सांसदीय लोकशाही शासन पद्धतीचा स्विकार केला. त्यानुसार केंद्र व घटक राज्य अशा दोन्ही पातळीवर भारतीय संविधानाने सांसदीय शासन पद्धती निर्माण केली. यावेळी अध्यक्षीय लोकशाही स्विकारण्याचा निर्णय संविधान समितीने घेतला. कारण भारतीय समाजाचा आर्थिक मागासलेपणा दूर करण्यासाठी कार्यकारी विभाग व विधी विभाग यांच्यात समन्वय असणे अधिक आवश्यक असल्याचे संविधान समितीचे मत होते. याशिवाय ब्रिटीश संसदेने भारतात लोकशाही शासन कारभारासाठी लागू केलेल्या 1909, 1919 व 1935 च्या सुधारणा कायद्यांनी भारतीय नेत्यांना सांसदीय कामकाजाचा अनुभव प्राप्त होता. त्याचप्रमाणे भारतीय जनतेच्या व्यक्तीपुजक स्वभावामुळे अध्यक्षीय लोकशाहीत घराणेशाही निर्माण होऊन लोकशाही अंतर्गत व्यक्तीची हुकुमशाही प्रस्थापित होण्याची भीती डॉ. बाबासाहेब आंबेडकर व संविधान समितीतील अनेक नेत्यांना होती. त्यामुळे भारतासाठी सांसदीय लोकशाही अधिक सुसंगत राहिले असे संविधानकारांना वाटले.

1. संशोधनाचे उद्दिष्टे (Objective)

महाराष्ट्रातील सांसदीय लोकशाहीचे बदलते स्वरूप अभ्यासणे.

2. गृहितकृत्य (Hypothesis)

महाराष्ट्रातील 2019 नंतरच्या राजकारणामुळे सांसदीय लोकशाहीच्या आदर्श तत्वांवर आघात झाला आहे व विकृत स्वरूप प्राप्त झाले आहे.

3. सांसदीय लोकशाहीची आधारभूत तत्त्वे

भारतात संविधानाने केंद्र-राज्य अशा दोन्ही पातळीवर ब्रिटनच्या राजकीय संस्कृतीत विकसीत झालेल्या सांसदीय लोकशाही शासन पद्धतीच्या पुढील आधारभूत तत्वांवा स्विकार करण्यात आला.

नाममात्र व वास्तविक शासन प्रमुख

ब्रिटीश राजा नाममात्रा व ब्रिटीश पंतप्रधान वास्तविक शासन प्रमुख असतो. त्याचप्रमाणे भारतात राष्ट्रपती व पंतप्रधान तसेच राज्यपातळीवर मुख्यमंत्री व राज्यपाल अशी दोन पदे घटनेने केंद्र-राज्य पातळीवर निर्माण केली. यापैकी केंद्रातील राष्ट्रपती व राज्यातील राज्यपाल या दोन्ही नाममात्र शासन प्रमुखांनी ब्रिटीश राजा प्रमाणे निःपक्ष, राजकारणविरहीत, तटस्थ भूमिका घेऊन कार्य करणे अपेक्षित आहे.

VOLUME - XIII, ISSUE - II - APRIL - JUNE - 2024
AJANTA - ISSN 2277 - 5730 - IMPACT FACTOR - 7.428 (www.sjifactor.com)

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मंत्रीमंडळ संसदेप्रती उत्तरदायी

सांसदीय लोकशाहीत पंतप्रधान व मंत्रीमंडळ तसेच घटक राज्यातील मुख्यमंत्री व मंत्रीमंडळ जनतेद्वारा निर्वाचीत संसदेप्रती उत्तरदायी असणे ब्रिटनप्रमाणे अपेक्षीत होते. अशा उत्तरदायीत्वासाठी संसदेत विरोधी पक्ष मजबुत असणे अधिक आवश्यक असते.

राजकीय एकरूपता किंवा एकजीनसीपणा

सांसदीय लोकशाहीत मंत्रीमंडळात ऐक्य, एकता व गोपनीयतेचे तत्त्व जोपासण्यासाठी सत्ताधारी मंत्रीमंडळातील सर्व सदस्य व मंत्री एकाच राजकीय पक्षाचे असणे आवश्यक असते. त्यामुळे वैचारिक व धोरणात्मक मतभेद निर्माण न होता केंद्र व राज्य पातळीवरील मंत्रीमंडळ एकजुटीने कार्य करते. त्यासाठी पक्षनिष्ठा, पक्षशिरस्त पाळणे अपेक्षित असते. अन्यथा मंत्रीमंडळाचे अस्तित्व धोक्यात येते.

भारतातील सांसदीय लोकशाही

वरील आधारभूत तत्वांच्या आधारे ब्रिटिश राजकीय संस्कृतीत रुजलेली सांसदीय लोकशाही भारताने स्विकारली. 1947 ते 1967 पर्यंत उपरोक्त सांसदीय तत्त्वे भारतीय लोकशाहीत पाळली गेली. कारण केंद्रीय पातळीवर व बहुसंख्य घटक राज्यात काँग्रेस पक्षाचीच सरकारे अस्तित्वात होती. त्यामुळे भारतीय राजकारणाचे खरे स्वरूप उघडे पडले नाही. परंतु 1967 नंतर घटकराज्य पातळीवर व 1977 नंतर केंद्रीय पातळीवर एकाच तत्त्व विचारसरणीच्या राजकीय पक्षांची सरकारे बहुमताने सत्तेत येण्यास अडचणी वाढल्या. त्यामुळे समविचारी पक्षाच्या किंवा वैचारीक व ध्येय धोरणात्मक मतभेद असूनही समान कार्यक्रमावर आधारित राजकीय पक्षांनी एकत्र येऊन आघाडी सरकार स्थापन करण्याचे प्रयोग भारतात प्रारंभ झाले. यात 1977 साली इंदिरा गांधींच्या आणीबाणीच्या निर्णयाविरोधात परस्पर विरोधी विचारधारेचे पक्ष एकत्र आले व त्यांनी इंदिरा गांधींच्या काँग्रेसचा म्हणजे काँग्रेस पक्षाचा भारतात प्रथमच ऐतिहासिक पराभव केला. परंतु राजकीय एकरूपता किंवा राजकीय एकजीनसीपणा या सांसदीय लोकशाहीच्या तत्त्वाला याठिकाणी विविध विचारांच्या पक्षांच्या सत्तेसाठी एकत्र येण्याने तडा गेला. परीणामी हे सरकार फार काळ चालले नाही. मतभेदांअंती प्रथम पंतप्रधान मोरारजी देसाई व त्यानंतर लागलीच इंदिरा गांधींच्या पार्टीब्याने पंतप्रधान चौधरी चरणसिंग काँग्रेसने पुन्हा पार्टीबा काढून घेतल्याने कोसळले.

पुढे पुन्हा काँग्रेस सत्तेत आली. परंतु असाच प्रयोग पुन्हा केंद्रीय पातळीवर झाला. 1989 साली पंतप्रधान व्ही. पी. सिंग यांचे राष्ट्रीय मोर्चाचे सरकार आले. यात व्ही. पी. सिंग अल्पकाळ व त्यानंतर राजीव गांधींच्या नेतृत्वाखालील काँग्रेसच्या पार्टीब्याने ताबडतोब चंद्रशेखर यांचे आघाडी सरकार काही काळ चालले.

पुढे पुन्हा 1996 साली भाजपाचे अटलबिहारी वाजपेयी यांचे विश्वासदर्शक ठरावाच्या अपयशानंतर विविध पक्षांच्या संघीसाधु राजकीय पक्षांनी वैचारिक तडजोडीच्या आधारे प्रथम पंतप्रधान एच. डी. देवेगौडा व नंतर पंतप्रधान इंद्रकुमार गुजराल यांच्या रूपाने असे आघाडी सरकार स्थापन केले. परंतु राजकीय एकजीनसीपणा अभावी ते पुन्हा पराभूत झाले.

त्यानंतर 2014 पर्यंत आलेले प्रत्येक सरकार राजकीय एकरूपतेची तडजोड करून आघाडी सरकार म्हणून सत्तेत आले.

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AJANTA - ISSN 2277 - 5730 - IMPACT FACTOR - 7.428 (www.sjifactor.com)

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भारतातील अनेक घटक राज्यातही अशाच आघाडी सरकार स्थापन करण्याचा प्रारंभ 1950 च्या दशकात, 1952 ते 1957 च्या काळात पंजाब व इस्ट पतियाला स्टेट, 1957 ते 1963 ओरीसा, 1964 मध्ये केरळात, 1978 मध्ये महाराष्ट्रात झाला.

महाराष्ट्रातील सांसदीय लोकशाही

1978 च्या शरद पवारांच्या प्रयोगानंतर 1990 नंतरच्या कालखंडात महाराष्ट्राच्या राजकारणात अशा प्रकारच्या आघाडी सरकारचे प्रयोग सातत्याने सुरू झाले. त्यामुळे महाराष्ट्रात सांसदीय शासनाच्या आधारभूत आदर्श तत्वांना तडे जाण्यास प्रारंभ झाला.

1995 ते 2000 या काळात भाजपा-शिवसेना व इतर अपक्ष घटक पक्षांचे सरकार महाराष्ट्रात अस्तित्वात आले. त्यानंतर 2000 ते 2014 पर्यंतची सरकारे काँग्रेस-राष्ट्रवादी व इतर घटक पक्षांची सरकारे महाराष्ट्रात सत्तेत आली. 2014-2019 या काळात समान विचारांच्या भाजपा-शिवसेना पक्षांची सरकार महाराष्ट्रात सत्तेत आले. या कालखंडापर्यंत सांसदीय लोकशाही अनुरूप आधारभूत तत्वांचा बऱ्याच प्रमाणात महाराष्ट्राच्या राजकारणात अवलंब झाला.

2019 नंतर महाराष्ट्रातील सांसदीय लोकशाहीचे राजकारण

2014 च्या केंद्र व राज्य पातळीवरील यशानंतर महाराष्ट्राच्या राजकारणात सांसदीय शासन पद्धतीच्या आधारभूत तत्वांची पायमल्ली मोठ्या प्रमाणात होतांना दिसून आली.

- 2019 च्या महाराष्ट्र विधानसभा निवडणुकीत शिवसेना-भाजपा या वैचारीक एकरूपता असलेल्या आघाडीला बहुमत मिळाले. परंतु मुख्यमंत्री पदाच्या दावेदारीवरून शिवसेना-भाजपा या दोन्ही पक्षात राजकीय वाद निर्माण झाले. त्याचा परिणाम म्हणून महाराष्ट्राच्या सांसदीय राजकारणाचे स्वरूप पुर्णपणे बदलले.
- शिवसेना-भाजपाच्या उपरोक्त वादाचा लाभ राष्ट्रवादी काँग्रेस व काँग्रेसने अल्पमतात असुनी उचलला. शिवसेनेच्या नेतृत्वात काँग्रेस, राष्ट्रवादी काँग्रेस यांनी कट्टर वैचारीक मतभेदापलिकडे जाऊन विसंगत राजकीय आघाडी निर्माण करून सत्तेच्या स्वार्थासाठी सरकार स्थापन केले.
- 30 जून 2022 मध्ये वैचारिक विसंगतीतून या आघाडी सरकारचे ऐक्य भंग पावले. शिवसेनेतील एक मोठा गट फुटून स्वतंत्र झाला. या गटाने भाजपासोबत युती करून समान विचारधारा व राजकीय एकरूपता याआधारे महाराष्ट्रात सरकार स्थापन केले.
- जुलै 2023 मध्ये राष्ट्रवादी काँग्रेस पक्षात शिवसेनेप्रमाणेच फुट पडून राष्ट्रवादी काँग्रेसमधील मोठा गट भाजपा व शिवसेनेच्या (एकनाथ शिंदे प्रणीत) सरकारमध्ये अजित पवारांच्या नेतृत्वात सामील झाला. यावेळी पुन्हा सांसदीय लोकशाहीच्या राजकीय एकरूपतेला तडा गेला. राजकीय विचारसरणीच्या दृष्टीने विसंगत व सांसदीय लोकशाही तत्वाला तडा देणारे सरकार महाराष्ट्रात पुन्हा विस्तारीत झाले. कारण परस्पर विरोधी विचारसरणी व निवडणुकीपूर्वी एकमेकांवर टिका करणारे पक्ष व गट सत्तेसाठी एकत्र आले.

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AJANTA - ISSN 2277 - 5730 - IMPACT FACTOR - 7.428 (www.sjifactor.com)

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महाराष्ट्राच्या राजकारणात सांसदीय लोकशाही तत्वाविरोधी घडामोडी

- महाराष्ट्राच्या राजकारणात सांसदीय लोकशाही तत्वाविरोधी घडामोडी घडण्याच्या मुळाशी 1985 चा व 52 व्या घटना दुरुस्तीद्वारे नमूद पक्षांतर बंदी कायद्यातील पळवाटा किंवा कमकुवत बाबी मोठ्या प्रमाणात कारणीभूत आहेत. ज्यात 'निवडून आलेल्या कोणत्याही सदस्याने स्वेच्छेने पक्षाचे सदस्यत्व सोडले तर किंवा निवडून आलेल्या आमदाराने सभात्याग केला किंवा पक्ष भूमिकेविरुद्ध मतदान केले किंवा गैरहजर राहिले तर त्यांचे समजते सदस्यत्व सभागृह सभापती रद्द करतील, अशी तरतुद आहे.
- सभापतीला असा अधिकार 10 व्या अनुसूचीच्या नियम 6 नुसार प्राप्त आहे.
- परंतु एकनाथ शिंदेच्या नेतृत्वात शिवसेनेत फुट पडून त्यांच्या 40 आमदारांचा गट (शिवसेना मुळ पक्ष) 30 जून 2022 रोजी भाजपाबरोबर युती करून सत्तेत आला.
- त्यांच्यावर पक्षांतर बंदी कायद्याद्वारे कारवाई होईल असे वाटत असतानाच त्यांच्याकडील बहुमताच्या आधारे नियुक्त विधानसभा सभापती राहुल नाईकर यांनी एकनाथ शिंदेचा गटास खरी शिवसेना म्हणून मान्यता दिली. परंतु त्याच वेळी जनतेचा रोष किंवा टिका नको म्हणून 'उबाठा' गटाच्या आमदारांचीही आमदारकी रद्द न करता कायम ठेवत मोघम निर्णय दिला.
- असाच प्रकार राष्ट्रवादी काँग्रेस पक्षाचे अजित पवार यांचा गट 40 आमदारांसह जुलै 2023 मध्ये बाहेर पडला. त्यांच्याही बाबतीत समान निर्णय झाला. त्यामुळे पक्षांतर बंदी कायदा सांसदीय लोकशाहीतील पक्ष निष्ठा, आदेश याबाबत अपयशी ठरला. त्याचा परिणाम सांसदीय लोकशाहीच्या स्वरूप बदलण्यावर निश्चीतपणे झाला.

महाराष्ट्रात राज्यपाल व मुख्यमंत्री संघर्ष

- सांसदीय लोकशाहीत राष्ट्रपती किंवा राज्यपाल नाममात्र / घटनात्मक प्रमुख असतात. त्यांनी मुख्यमंत्री व मंत्रीमंडळाच्या सल्ल्याने शासन कारभार करणे अपेक्षित असते. हेच ब्रिटीश सांसदीय लोकशाहीचे खरे आधारभूत तत्त्व आहे.
- परंतु महाराष्ट्राचे राज्यपाल व मुख्यमंत्री यांच्यातील संघर्ष 2019 पासून शिगेला पोहचला आहे. त्यात मंत्रीमंडळाने नोव्हेंबर 2020 मध्ये शिफारस करूनही विधान परिषदेचे 12 सदस्य नियुक्त न करणे, उच्च न्यायालयाने राज्यपालांना घटनात्मक कर्तव्य पालनाची आठवण करून देऊनही निर्णय न घेणे, भाजपा-शिंदे गटाचे विधान परिषदेचे बहुमत नसल्याने रामराजे नाईक निंबाळकरांनंतर सभापती पद रिक्त ठेऊन सत्ताधारी गटाला अप्रत्यक्ष मदत करणे.

यासारखे सांसदीय लोकशाही तत्वांना तडा देणाऱ्या घडामोडी व राजकारण महाराष्ट्राच्या राजकारणात सतत सुरू आहे.

निष्कर्ष

महाराष्ट्राच्या राजकारणात विशेषतः 2019 नंतरच्या काळात आजपर्यंत पक्षांची फुट, पक्षांतरे, पक्षांतर करून किंवा पक्षातील मोठा गट बाहेर पडून सरकार स्थापन करणे, राज्यपालाची राजकीय भूमिका व वर्तन यामुळे सांसदीय

VOLUME - XIII, ISSUE - II - APRIL - JUNE - 2024

AJANTA - ISSN 2277 - 5730 - IMPACT FACTOR - 7.428 (www.sjifactor.com)

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लोकशाही स्वरूपात राजकीय स्वार्थ साधण्याच्या हेतूने विकृत स्वरूप प्राप्त होत आहे. यामध्ये राज्यकर्त्यांचे वर्तन व भूमिका ही सांसदीय लोकशाहीच्या प्रारूपास धोकादायक आहेच. परंतु त्याचबरोबर ब्रिटीश जनतेप्रमाणे भारतीय जनता सांसदीय लोकशाहीच्या आदर्श प्रारूपासाठी तिच्या पाठीशी न राहता गटातटातील व्यक्तीपूजक, राजकारणाला व संकुचित विचारधारेच्या राजकीय पक्षांच्या भूमिकेला पाठींबा देते.

ब्रिटनमध्ये हजारो वर्षांनंतर आजही नाममात्र शासनप्रमुख असलेला राजा व सभागृहाचे सभापती पक्षनिरपेक्ष भूमिकेत राजकीय वर्तन करतात. तसेच राजकीय पक्ष, कार्यकर्ते व नेते, संसद सदस्य पक्षाची विचारधारा, पक्षनिष्ठा, पक्षशिस्त आपल्या राजकीय स्वार्थाच्या पलीकडे जाऊन जपतात. त्यामुळे ब्रिटीश सांसदीय लोकशाहीचे प्रारूप आजही आदर्श आहे. परंतु भारतीय राजकारणातील विशेषतः महाराष्ट्रासच्या राजकारणातील राजकीय पक्षांचे, नेत्यांचे व मतदारांचे राजकीय वर्तन यामुळे हे सांसदीय लोकशाही प्रारूपाशी विसंगत आहे. त्यामुळे सांसदीय लोकशाहीचे प्रारूप धोक्यात आले आहे.

उपाययोजना

भारतातील सांसदीय लोकशाहीचे पावित्र्य जपायचे असेल तर त्यासाठी पक्ष सोडणाऱ्यांचे सदस्यत्व रद्द करणे, म्हणजेच पक्षांतर बंदी कायद्यात दुरुस्ती करणे, सभागृह सभापतींना सभापती पदानंतर कोणतेही इतर (राष्ट्रपती, उपराष्ट्रपती, राज्यपाल वगळता) पद धारण करण्यास कायदेशीर बंधन घालणे तसेच राज्यपाल, राष्ट्रपती यांनी पक्षनिरपेक्ष भूमिकेसाठी बांधील असणे. यासंबंधी कायदा करणे गरजेचे आहे. तसेच जनतेने सांसदीय प्रारूपाविरोधी वर्तन करणाऱ्या सदस्यांना पाठींबा न देणे आवश्यक आहे.

संदर्भ

1. विनायक के., भारतीय संविधान कलमे आणि घटना दुरुस्ती, सर्ई पब्लिकेशन, पुणे, प्र.आ. 2018.
2. जाधव तुकाराम व शिरापुरकर महेश, भारतीय संविधान व भारतीय राजकारण-भाग 2 (महाराष्ट्राच्या विशेष संदर्भासह), युनिक अकॅडमी पब्लिकेशन्स, पुणे, 2015.
3. जाधव तुकाराम व शिरापुरकर महेश, भारतीय संविधान व भारतीय राजकारण-भाग 1 (महाराष्ट्राच्या विशेष संदर्भासह), युनिक अकॅडमी पब्लिकेशन्स, पुणे, 2015.
4. लोटे रा. ज., भारतीय राज्य व शासन व्यवस्था, पिंपळापुरे अँड कंपनी पब्लिकेशन, नागपूर, प्र. आ. 2003.
5. लोकसत्ता, दिव्य मराठी, लोकमत, पुण्यनगरी मधील विविध विश्लेषणात्मक लेख.



Impact of social media in Lok Sabha General Elections: -An Analytical study of Recent Trends (Special reference to Lok Sabha election 2019)

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1) Introduction & Review of the subject :

The Indian independence movement was a series of historic events with the ultimate aim of ending British rule in India. The Indian Independence Movement was a constant process of ideological evolution, especially, anti-colonial, it was supplemented by visions of independence, economic development, democratic republic, and political structure with civil liberty.

The approach of electoral campaigns has also been evolving constantly with time as the political parties have now become increasingly competitive and the Congress party has also managed to scale of its offensive on social media. The traditional ways of election campaigns are no longer effective or enough to gain the attention of voters with rapid changes and advancement in media. The election campaigns increasingly need to rely on technology and wide network by being present in spaces where the voters now reside.

The 17th Lok Sabha election (2019) in India was unique in many aspects the one of the important aspects noticed by the people was the role of social media in election. The Lok Sabha election in 2019 was the biggest ever test of the role of social media in an election. The role of Facebook, Twitter and WhatsApp group was crucial.

2) Objective of Research...

- 1) To study of impacts of social media on Loksabha General election.
- 2) To study of impacts of social media to strengthen to the Democracy

3) Hypothesis:-

Social media helps to strengthen the Democracy and helps to Political parties and candidates for changing the political behaviour of voters

4) The Traditional approach to campaigning: 1952-1984

Ever since the first Lok Sabha election in 1952, the general elections in post independent India have become the world's largest electoral exercise. In early general elections of India political parties used newspapers, public meetings and door to door canvassing to convey their messages, policies, manifestoes and information about the party.

After 1952, during the Nehru era, two other general elections were held for the Lok Sabha and state assemblies in 1957 and 1962. In both, the voter turnout improved—while in 1951-52 it was 46 per cent, in 1957 it was 47 per cent and in 1962 nearly 54 per cent. The proliferation of Hindi newspapers and the venularization of the public sphere made a significant impact on political parties. Rapidly increasing circulation of newspapers in the North India was accompanied by strong mobilization of minority groups in South India during the 1960's. The phenomenal wave of the rise of the vernacular press in Indian democracy added to the multiplicity of issues.

With Rapid advancement and industrialisation of India, the traditional method methodologies of electoral campaigning also changed dramatically and give rise to and even higher proliferation of modern media Technologies. . The Congress party also use mass media extensively to target and sway voters during the entire election period of eighth general election 1984.

5) Second evolutions of election campaigns 1984-2004

During the 1989 Lok Sabha elections professional advertising agencies were brought in for electoral campaigning. It was for the first time when general election witnessed political advertising at a massive organised scale. This new trend later emerged as the determining factor, rewriting how political parties would fight elections. To disseminate a targeted message to a select group of the audience as well as to the general population, the BJP opted for narrowcasting as well also known as 'video on wheels' (VOW), the Yatra leveraged strategies that marked the genesis of hybrid media, the precursor of today's converged media scenario. The biggest achievement of the concept of VOW is that it has modernised rural marketing communication channels like never before.

In 14th General Election 2004, fledgling technical knowledge of Information technology (IT) was leveraged for election campaigns. The use of daily poll feedback given by their analyst made BJP appear as quite hi-take among its peers who remain doggedly shy of using technology. The strategic intent of the campaign was to collect and maintain a reliable and authentic large database and to approach the voters through emails and SMSs.

6) The rise of the IT cells and social media armies (From 2004) -its impact on Lok Sabha elections of 2014 and 2019

The 16th general election of 2014 will always be remembered for its grandness and scale in Indian history, with a total of over 815 million voters, a number larger than even the combined voters of United States and the European Union. The Congress adopted a mix approach of electoral campaigning by creating election control rooms to keep the track of campaigns and launching a website for online promotion. However, the relentless, strategic, organised and highly professional data driven campaigns by the BJP turn the table of the entire electoral campaigns. The BJP tried to find a new way of redefining the traditional approach of political campaigning and succeeded in organising large public rallies like corporate events, with all necessary tools to reach the voters. Apart from countless number of public rallies and roadshows the BJP's IT cell strategized these campaigns using micro-targeting techniques through a mix of social media, traditional media automated calls, brand building activities and image positioning by a number of volunteers of the party. A detailed analysis of the 2014 General Election and the narrative shaped by the media of the electoral campaigns tells us that political branding, image management, crisis communication, data analytics, microblogging and most importantly short clips videos today had the key for subsequent elections as the number of young first-time voter raised to over 0.2 billion.

The 17th Lok Sabha election (2019) in India was unique in many aspects the one of the important aspects noticed by the people was the role of social media in election. The Lok Sabha election in 2019 was the biggest ever test of the role of social media in an election. The role of Facebook, Twitter and WhatsApp group was crucial. General elections were held in India in 6 phases from 11th April to 19th May 2019 to elect the member of the 17th Lok Sabha, votes counted and the result was declared on 23rd May 2019. There was highest ever participation of women voters. The Bhartiya Janata party received 37.36% of the vote the highest vote share by a political party since the 1989 General Election and won 303 seats, further increasing the substantial majority in addition the BJP lead National democratic alliance NDA on 356 seats. The Indian National Congress won 52 seats failing to get 10% of the seats needed to claim the post of leader of opposition and the Congress lead United progressive alliance won 91 seats.

The approach of electoral campaigns has also been evolving constantly with time as the political parties have now become increasingly competitive and the Congress party has also managed to scale of its offensive on social media. The traditional ways of election campaigns are no longer effective or enough to gain the attention of voters with rapid changes and advancement in media. The election campaigns increasingly need to rely on technology and wide network by being present in spaces where the voters now reside. One of the biggest game changing factors, which has completely turned the table of electoral campaigns, is the boom of internet. Now with over 70 million internet users and contents rapidly moving towards masses, this is emerging as the true game changer on and off the campaign trail. In recent years, social media has emerged as an important factor in election campaigns as well. It has turned out to be a boon for the political parties to shape the result of election. Political parties are now extensively using modern technological tools such as sending personal messages, promotions on social media, short personalized videos and stories and even holdings digital meetups and rallies.

Now a days, the Internet has the potential to mobilize the voters and drum up both financial and material resources as well, especially through crowd fundraising and the online recruitment of volunteers and supporters. With the advancement of internet, the advantage of convenient, strong and always-on-communication network between the politician and the citizens is now given. This has also elongated the campaigning period for all parties extending it well beyond the traditional outlook of cutting off and beginning their campaign modes only when the polls have been announced.

The consecutive electoral turnout from first election is shown in following table

| Sr. | Lok Sabha | Voting Percentage |
|-----|-------------------------------------|-------------------|
| 1 | 1 st Lok Sabha (1951-52) | 44.87 |
| 2 | 2 nd Lok Sabha (1957) | 45.44 |
| 3 | 3 rd Lok Sabha (1962) | 55.42 |
| 4 | 4 th Lok Sabha (1967) | 61.04 |
| 5 | 5 th Lok Sabha (1971) | 55.27 |
| 6 | 6 th Lok Sabha (1977) | 60.49 |
| 7 | 7 th Lok Sabha (1980) | 56.92 |
| 8 | 8 th Lok Sabha (1984) | 64.01 |
| 9 | 9 th Lok Sabha (1989) | 61.95 |
| 10 | 10 th Lok Sabha (1991) | 56.73 |
| 11 | 11 th Lok Sabha (1996) | 57.94 |
| 12 | 12 th Lok Sabha (1998) | 61.97 |
| 13 | 13 th Lok Sabha (1999) | 59.99 |
| 14 | 14 th Lok Sabha (2004) | 58.07 |
| 15 | 15 th Lok Sabha (2009) | 58.21 |
| 16 | 16 th Lok Sabha (2014) | 66.44 |
| 17 | 17 th Lok Sabha (2019) | 67.40 |

Above table shows that with use of social media by political parties lead to highest voter turnout. Though the use of social media increased, but the other traditional means of campaigning are also used by political parties like mega rallies, door to door campaigning, banners etc.

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www.jetir.org (ISSN-2349-5162)

Prashant Jha in his book "How The BJP Wins" has stated that, "since 2014, the BJP has played, in varying degrees, the Hindu card. The Hindu card did not work for it in Bihar-showing that the politics of polarizations is only one element in a larger matrix and cannot work in all contexts. But it did succeed in UP, where the BJP – sharpened the rhetoric of how the regime has appeased Muslims. "Playing religious card by political parties and dissemination of such post by social media has created problems before secularism.

THE MODI WAVE

According to Farhat Basir Khan, in his book "The Game of Votes", he stated that, "The pre-existing apprehension of Congress finally took shape as Narendra Modi was named the prime ministerial candidate from BJP in the 2014 General election. The mass popularity of Modi was a key reason for the BJP to select Modi as its prime ministerial candidate over other veteran party leaders. People were looking for a strong leader who would bring in much-needed economic reforms and fight corruption. The incumbent Congress was reeling from exposes and scams – 2G, coal Adarsh, land – whose face was Robert Vadra, all but did them in. This was also the time when media in India displayed some brilliant journalism, using RTI to its fullest". The projection of Narendra Modi as prime ministerial candidate was started much before the election in social media. This proves that the social media is used for voter building long before elections.

In 2019 Lok Sabha election every political party was online having social media accounts of party and their leaders. Aam Adami Party in Delhi has achieved great success using social media. This shows that the use of social media was increased in 2019 Lok Sabha election than 2014 Lok Sabha election.

7) Conclusion:

Following conclusions can be drawn-

1. It seems that use of social media in elections has created problems before secularism.
2. The use of social media for voter building seems to continue long before elections.
3. After the 2014 elections, the 2019 elections seem to have seen an increase in the use of social media.
4. The rise in the use of social media does not seem to make traditional promotional tools obsolete.
5. The use of social media in election campaign seems to increase the voting percentage.

Reference:

- 1) Jha, Prashant; How the BJP wins- Inside India's greatest economic machine; Juggernaut Publication; New Delhi (2017)
- 2) Khan, Farhat Bashir; The game of votes -Media politics and elections in digital era; Sage publications; (2019)
- 3) Chopra, Shaili; The big connect -Politics in the age of social media; Panguin Random house India; Gurugram (2018)
- 4) Bhandari, Pradeep; Modi Mandate 2019- Dispatches from Ground Zero; Rupa publications ; New Delhi (2020)
- 5) <https://www.eci.gov.in>



International Journal of Botany Studies

www.botanyjournals.com

ISSN: 2455-541X

Received: 06-08-2023, Accepted: 21-08-2023, Published: 07-09-2023

Volume 8, Issue 9, 2023, Page No. 5-7

Antifungal properties of plant latex against stored oilseeds fungi

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Abstract

The oilseeds become infected with a range of field and storage fungi, as well as a number of seed-borne diseases. Seed damage during numerous processes ranging from crop maturity to harvesting, threshing, processing and storage. Poor farmers, store the preserved oilseeds for consumption and sowing the next season. The traders stored oil seeds in godown, warehouses, markets etc., for a few years in anticipation of the higher price of oilseeds. Storage oilseeds come into contact with a variety of microorganisms in the field and during storage. A fungus was found most dominant in storage oilseeds. The present study purpose was to examine the antifungal activity of latex from two plant species that are utilized in phytopathogenic fungi. Survey and collection of stored oil seeds soybean, mustard, sesame, Niger, castor, flax seeds collected from several places in Maharashtra's western Vidarbha region. Oil-seeds are sensitive to fungi infection. Ten dominant fungi were isolated from stored oilseeds. Agar well diffusion methods for the antifungal efficacy of ethanol and aqueous latex of *Calotropis procera* L and *Aloe vera* L latex against 10 seed-borne dominant fungi was studied. The results showed that for antifungal activity ethanol latex was the best effective solvent as compare to aqueous. *Aloe vera* L and *Calotropis procera* L ethanol latex was shows very dominant inhibitory zone against *Aspergillus flavus* and *Curvularia lunata* respectively.

Keywords: Plant latex, ethanol, fungicide and fungal culture

Introduction

Oilseeds play a very important role in the production of a healthy crop in agriculture. About 90% of the crops all over the world are produced by using seeds. Seeds in the field as well as in ill storage conditions interact with several microbes, which deteriorate the seeds Welbaum, 2006) [14]. The destruction of stored seeds is mostly due to the destructive action of fungi, insects and rodents, all of which are influenced by storage conditions. Microorganisms, particularly fungi, play an important role in the degradation of stored seeds, but because of their quiet character, they go overlooked Mukherjee *et al.*, 1968; Christensen and Kaufmann, 1969) [2]. Fungi infect seeds during harvesting, gathering and storage because they are so common in nature. Harvesting, handling, storage, processing and distribution practices expose food to the fungus that creates mycotoxin Shukla and Singh, 2006). Seeds are also harmed by a variety of causes, including postharvest and storage disease fungi as well as unfavorable environmental circumstances. Pathogens that infect seeds present a significant hazard to crop establishment and productivity Ebimicewe *et al.*, 2017) [3]. Scientists working in this subject have always been interested by biologically active chemicals found in medicinal plants. Chemical fungicides have a negative impact on the environment Anon, 2005) [1]. Plant metabolites and plant-based pesticides appear to be one of the better options since, unlike synthetic pesticides, they are recognized to have a low environmental impact and provide low risk to consumers Varma and Dubey, 1999) [13]. Various plant extracts have been shown to be effective in inhibiting seed-borne diseases Neerman, 2003) [8]. According to Hooda and Srivastava 1998) [4] Natural fungicides show low environmental toxicity when compared to synthetic compounds. Natural chemicals are less phytotoxic, biodegradable, and more systematic than synthetic compounds Saxena *et al.*, 2005) [11]. There is

currently little support of the medicinal plants under investigation's antifungal capabilities against phytopathogen fungi.

The antifungal activity of solvent extraction of *Calotropis procera* L and *Aloe vera* L latex was investigated and compared to that of a standard fungicide Roko against fungi, *Alternaria alternate*, *Alternaria dianthicola*, *Aspergillus flavus*, *Aspergillus niger*, *Curvularia lunata*, *Chaetomium globosum*, *Fusarium oxysporum*, *Macrophomina phaseolina*, *Penicillium spp*, *Rhizopus nigricans*. *Aloe vera* L and *Calotropis procera* L ethanol latex was shows very dominant inhibitory zone against *Aspergillus flavus* and *Curvularia lunata* respectively.

Material and methods

Latex

Early in the morning, fresh latex of *Calotropis procera* L and *Aloe vera* L was collected aseptically in clean glass tubes from the aerial sections of a healthy plant. A latex sample was given to the laboratory. Roko a chemical fungicide was purchased from certified agrochemical shops in Buldhana local market Manoorkar V.B *et al.*, 2015) [6].

Preparation of extraction

10 ml latex were properly weighed and dissolved in 100 ml of ethanol in an airtight cork bottle. The suspended solutions were maintained in a rotary shaker for 24 hours with the supernatant dried and the aqueous extract dried in a water bath. For bioassays, dried extract was utilized and stored at 4°C until used Parekh, 2007) [9].

Agar well diffusion method

Under study *in-vitro*, screening of antifungal activity was carried out. As well as crude extracts ethanolic and aqueous) of two part against above 10 pathogenic fungal strains were evaluated by using agar well diffusion method Pundirand

Jain, 2010) [10]. The cultures of fungi were maintained on Sabouraud dextrose agar. Each of the diluted culture was swabbed on sterile SDA plates separately by using sterile cotton swabs. The plates were dried for 30 minutes at room temperature. A well with diameter 6 mm was made using sterile cork borer. The bottoms of the wells were sealed by

pouring 20-50 µl of molten SDA into the scooped-out wells. From the prepared extract of solvents methanol and ethanol 100µl was poured in first two well and 150µl were added to another two wells. Roko is used as standard fungicide at 50 ppm.

Table 1: Antifungal activity of *Aloe vera* L latex against seed- borne fungi

| Sr. No | Test Fungi | Inhibitory zone (mm) | | |
|--------|--------------------------------|----------------------|---------|----------------|
| | | Plant Latex | | Roko (Control) |
| | | Aqueous | Ethanol | |
| 1 | <i>Alternaria alternata</i> | --- | 10 | 24 |
| 2 | <i>Alternaria dianthicola</i> | --- | 11 | 22 |
| 3 | <i>Aspergillus flavus</i> | --- | 14 | 25 |
| 4 | <i>Aspergillus niger</i> | --- | 12 | 26 |
| 5 | <i>Curvularia lunata</i> | --- | 09 | 21 |
| 6 | <i>Cercosporaseni</i> | --- | 10 | 24 |
| 7 | <i>Fusarium oxysporum</i> | -- | 13 | 23 |
| 8 | <i>Rhizopus nigricans</i> | -- | 11 | 27 |
| 9 | <i>Macrophomina phaseolina</i> | -- | 13 | 25 |
| 10 | <i>Penicillium spp</i> | -- | 10 | 26 |



Calotropis procera L against *Curvularia lunata*.



Aloe vera L against *Aspergillus flavus*

Table 2: Antifungal activity of *Calotropis procera* L latex against seed- borne fungi.

| Sr. No | Test Fungi | Inhibitory zone (mm) | | |
|--------|--------------------------------|----------------------|---------|---------------|
| | | Plant latex | | Roko Control) |
| | | Aqueous | Ethanol | |
| 1 | <i>Alternaria alternata</i> | --- | 11 | 21 |
| 2 | <i>Alternaria dianthicola</i> | --- | 13 | 24 |
| 3 | <i>Aspergillus flavus</i> | --- | 13 | 23 |
| 4 | <i>Aspergillus niger</i> | --- | 10 | 20 |
| 5 | <i>Curvularia lunata</i> | --- | 15 | 18 |
| 6 | <i>Cercosporaseni</i> | --- | 11 | 21 |
| 7 | <i>Fusarium oxysporum</i> | --- | 14 | 25 |
| 8 | <i>Rhizopus nigricans</i> | -- | 12 | 19 |
| 9 | <i>Macrophomina phaseolina</i> | -- | 11 | 22 |
| 10 | <i>Penicillium spp</i> | -- | 10 | 24 |

Results and discussion

According to a recent study, several chemical compounds found in large levels in a variety of plants have antifungal, antibacterial, and anti-inflammatory activities Shalini and Srivastava, 2009) [12].

Table no 1 shows that, the ethanolic latex was found the largest inhibitory zones against *Aspergillus flavus*, *Fusarium oxysporum* and *Macrophomina phaseolina*. While, *Curvularia lunata* was showed to have the lowest zone of inhibition. Aqueous latex was not shows any inhibitory zone. The study indicates that the latex of *Aloe vera* L. have fungicidal properties against the test fungi. In comparison to aqueous extraction, the results in the table showed that ethanol was the superior solvent for extracting antifungal compounds from this plant. Methanol, ethanol and water

extracts from *Blumealacera* leave demonstrated outstanding antifungal action against *Aspergillus flavus*, *Aspergillus niger*, *Aspergillus paraciticus* and *Aspergillus oryzae* reported by Kagne *et al.*, 2012) [9].

The Aqueous and ethanol latex of *Calotropis procera* L. was shows in *Curvularia lunata* more effective ethanoic latex. While aqueous latex was not shows zone of inhibition The research found that *Calotropis procera* L. latex has fungicidal properties in test organisms. In comparison to aqueous extraction, the results in the table showed that ethanol was the strongest solvent for extracting antimicrobial substances from this plant. Using agar well diffusion methods, the same effect was obtained against seed-borne dominant fungi *Curvularia lunata*, *Alternaria alternata*, *Rhizoctonia solani*, *Fusarium solani*, *Penicillium*

chrysogenum, *Aspergillus niger*, *A. flavus*, *A. terreus*, *A. fumigatus*, and *Rhizopus spp* reported by Manooorkar V.B *et al.*, 2015)^[6].

Conclusion

Pathogens in stored oilseeds have been recognized as key factors affecting economic losses in recent years, with identification of a few main things based on their symptoms, in the present study antifungal activity was found in the latex of *Aloe vera* L and *Calotropis procera* L. To protect stored oilseeds from fungi we can protect them by using plant latex for ecofriendly management as compare to fungicides. Fungicides are very harmful to living organisms and environment.

References

1. Anon. Pest control background. Int. J. Pest Control, 2005;45(2):232-233.
2. Christensen CM, Kaufmann HH. Grain storage. The Role of Fungi in Quality Loss University of Minnesota Press. Minneapolis, 1969, 153.
3. Ebimiewei Etebu, Akagbuo Barth Nwauzoma. A mini-review on the development and emerging perspectives of seed pathology. Microbiology Research International, 2017;5(1):1-7. ISSN: 2354-2128.
4. Hooda, K S, Srivastava. M.P, Biochemical response of scented rice as influenced by fungi toxicant and neem products in relation to rice blast. Indian J. Pl. Pathol, 1998;16:64-66.
5. Kagne RM, Jamdhade VC, Surwase BS. Antifungal Activity of Various Extracts of *Blumealacera* Burm.f.) DC against Different *Aspergillus* Species. Online International Interdisciplinary Research Journal, 2012;25):20-28.
6. Manooorkar VB, Mandge SV and Gachande BD Antifungal Activity of Leaf and Latex Extracts of *Calotropis procera* L. against Dominant Seed-Borne Storage Fungi of Some Oil Seeds. Bioscience Discovery, 2015;6(1):22-26.
7. Mookerjee PB, Jotwani MC, Sircar P and Yadav TD Studies on the incidence and extent of damage due to insect pests in stored seeds Indian J. Ento, 1968;30:61-64.
8. Neerman MF, Sesquiterpenes lactones a diverse class of compounds found in essential oils possessing antibacterial and antifungal properties. Int. J. Aromath, 2003;13:114-120.
9. Parekh J, Chanda SV. *In-vitro* antimicrobial activity and phytochemical analysis of some Indian medicinal plants. Turk. J. Biol, 2007;31:53-58.
10. Poudir R and Jain P. Comparative studies on the antimicrobial activity of black pepper and henna. Poudir Ram Kumar *et al*: Antimicrobial activity of *Mitragyna parvifolia* bark and *Butea monosperma* leaves extracts against human pathogenic microbial strains extracts. International Journal of Applied Biology and Pharmaceutical technology, 2010:492-500.
11. Saxena AR, Sahni Yadav RK, Upadhyay HL, Saxena M. Antifungal activity of some higher plants against *Fusarium oxysporum* f.sp. pisi. J. liv. World, 2005;12:32-39.
12. Shalini SR. Antifungal activity screening and HPLC analysis of crude extract from *Tectona grandis*, shilajit, *Valeriana wallichii*. Electr. J. Environ. Agriculture Food. Chem, 2009;8:218-229.
13. Varma J, Dubey NK, Prospective of botanical and microbial products as pesticides of tomorrow. Curr. Sci., 1999;76(2):172-179.
14. Welbaum GE. Natural defense mechanisms in seeds. In: Basra A S ed.), Handbook of Seed Science and Technology. Food Product Press: An Imprint of the Haworth Press, New York, 2006:451-73.



International Journal of Botany Studies

www.botanyjournals.com

ISSN: 2455-541X

Received: 06-08-2023, Accepted: 21-08-2023, Published: 07-09-2023

Volume 8, Issue 9, 2023, Page No. 11-13

Study the impact of propiconazole, azoxystrobin, and difenoconazole on the growth inhibition of plant pathogenic fungi through *In-vitro* conditions

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Abstract

In this study used the two different chemical fungicides against the seven different plant pathogenic fungi to check the control on growth of fungi under *In-vitro* condition. The effect of Tilt i.e., Propiconazole 25% EC inhibited growth of *Alternaria alternata*, *Fusarium oxysporum* and *Phoma glomerata* completely, its effect on other fungi growth inhibition (Percent Disease Control- PDC) in range of 69% to 76%. The Amistar fungicide which composed the Azoxystrobin 18.2% + Difenoconazole 11.4% was recorded most effective against plant pathogenic fungi *Pseudocercospora* spp. And in case of other fungi under study it showed 72% to 83% PDC.

Keywords: Fungicide, antifungal, efficacy, pathogenic fungi, PDC-percent disease control

Introduction

In the realm of plant pathology, the development and application of fungicides have emerged as pivotal strategies to mitigate the devastating impact of fungal pathogens on crops. *In vitro* studies play a crucial role in assessing the efficacy and potential of fungicides against these pathogens under controlled conditions. This research aims to delve into the utilization of fungicides *in vitro*, focusing on their inhibitory effects on selected plant pathogens. By meticulously investigating the interactions between fungicide formulations and diverse fungal strains, a deeper understanding of their modes of action and effectiveness can be gained. Such insights hold significant promise for refining fungicide application protocols and optimizing disease management practices. This study's findings are poised to contribute to the advancement of sustainable agricultural practices by offering targeted solutions to combat fungal infections and minimize yield losses. Due to their large application systemic activity, and protective and curative properties, a number of specific fungicides were often utilized until recently (Knight *et al.*, 1997; Morton and Staub 2008) [5, 6].

Propiconazole is an effective fungicide that offers reliable protection against a broad spectrum of fungal diseases. Its systemic action ensures thorough coverage, penetrating plant tissues to inhibit fungal growth and spore production. This fungicide is user-friendly due to its easy application and low toxicity to humans and animals when used as directed. With a proven track record of controlling various plant pathogens, Propiconazole is a valuable tool for maintaining healthy crops and preventing yield losses. Its effectiveness, safety, and versatility make it a preferred

choice for integrated disease management strategies. The four stereoisomers that make up propiconazole were initially combined in 1979 by Janssen Pharmaceutics (Toribio 2004 *et al.* and Thomson 1997) [4]. Azoxystrobin 18.2% and Difenoconazole 11.4% SC showcases exceptional efficacy as a dual-action fungicide *in vitro*. The synergistic blend effectively inhibits fungal growth by disrupting both respiration and sterol synthesis pathways. With broad-spectrum activity, it controls an array of plant diseases. Its superior systemic movement within plant tissues ensures thorough protection. A reliable choice for *in vitro* applications, offering advanced disease management for healthier plants. Due to these practical considerations, scientists, plant breeders, and farmers all confront phytopathogenic fungus. Azoxystrobin and other strobilurins prevent electron transport, which reduces mitochondrial respiration (Becker *et al.*, 1981) [3]. When delivering electrons to that protein, ubiquinone (coenzyme Q10) would typically attach at the quinol outer binding site of the cytochrome b-c1 complex. ATP manufacturing is so stopped (Moore *et al.*, 2019) [4].

Materials and Method

Effect of fungicides against selected dominant pathogenic fungi in *In-vitro* Fungicides mainly Propiconazole 25% EC, Azoxystrobin 18.2% + Difenoconazole 11.4% SC, following Poison food technique (Schnitz, 1930) [7]. The fungicides were tested against isolated fungus at the indicated doses (manufacturers dosage recommendations). After the treatment, data on mycelial growth was recorded at 9 and 15 days.

The details of Chemical fungicides used

| Sr. No. | Market (Brand) Name | Active Ingredient | Formulation | Manufacturer | Used form | Recommended Dosage |
|---------|---------------------|--|--------------------------|--------------------|-----------|--------------------|
| 1 | Tilt | Propiconazole 25% EC | Emulsifiable Concentrate | Syngenta India Ltd | Liquid | 0.1% |
| 2 | Amistar | Azoxystrobin 18.2% + Difenoconazole 11.4% SC | Suspension Concentrate | Syngenta India Ltd | Liquid | 0.1% |

SC- Suspension Concentrate, EC- Emulsifiable Concentrate

The experiment was conducted as follows

Design C.R.D.

Replication 3

Treatments 6

Here, C.R.D. - Completely Randomized Design.

To determine each treatment's relative effectiveness for preventing the mycelial growth of seven different pathogenic fungi, bioassays were conducted on selected fungi in a lab setting. Before putting the mixture into petri plates, the necessary amount of each treatment was added to 100 ml of PDA at a slightly warm stage and completely mixed by sacking. After pouring PDA into Petri plates, the medium was allowed to solidify before the plates were centrally inoculated with a disc of pathogenic fungus measuring 6 mm in diameter and cut with a sterilised cork-borer taken from the edge of an actively growing culture that had been incubating for 10 days. Without any type of treatment, control was employed as such in the medium. For the pathogen to grow, three replications of each treatment were incubated at 26±2°C. The effectiveness of several compounds was evaluated by counting the millimetres (mm) of the fungal colony's radial growth. When compared to the control, the inhibition was measured in terms of the percentage of fungal growth that was inhibited. After 6 and 10 days of incubation, the radial development of the fungus was measured in order to evaluate the effectiveness of various treatments. The following formula was used to compute the percentage of mycelial growth inhibition (McKinney, 1923).

The following formula was also used to calculate the percent inhibition over control.

Percent Disease Control (PDC) PDC

$$= \frac{\text{growth in control} - \text{growth in treatment}}{\text{growth in control}} \times 100$$

OR

$$(\text{PDC}) = \frac{C - T}{C} \times 100$$

Where

C = Growth in control (untreated). T = Growth in fungicide treated plate.

Fungicide effectiveness on mycelial growth and the percentage of isolated fungi that decreased were measured 5, 7, and 12 days after inoculation and noticed 6, 10, 15, and 20 days afterwards.

In these experiments tried to check the various fungicides against the surveyed dominant pathogenic fungi. Here the table indicating the values as control where no any kind of treatment given to the fungi while other three values are the treatment of given fungicide at three different concentrations. These numbers indicate the radial growth of colonies in petri-dish in millimetre units. To calculate Percent disease Control (PDC) taken lowest value from all three available values. For each fungicidal treatment here used three different concentrations, by keeping manufacturers recommended concentration should be an average. Two other fungicidal concentrations were lesser and the other one was higher than recommended by manufacturers. To calculate the Percent Disease Control (PDC) formula described in chapter three, by using that formula here we calculated the values of PDC. For PDC we considered only the lowest value of concentrations from the three concentrations we used.

Table 1: Effect of Tilt (Propiconazole 25% EC)

| Sr. No. | Fungi | 0.05% (mm) | 0.1% (mm) | 0.15% (mm) | Control (mm) | PDC |
|---------|-------------------------------|------------|-----------|------------|--------------|-------|
| 1 | <i>Alternaria alternata</i> | 08 | 00 | 00 | 55 | 100 |
| 2 | <i>Phomopsis spp.</i> | 32 | 21 | 12 | 48 | 75 |
| 3 | <i>Colletotrichum capsici</i> | 35 | 14 | 14 | 60 | 75.86 |
| 4 | <i>Fusarium oxysporum</i> | 20 | 00 | 00 | 62 | 100 |
| 5 | <i>Curvularia lunata</i> | 30 | 24 | 17 | 58 | 70.68 |
| 6 | <i>Phoma glomerata</i> | 22 | 00 | 00 | 50 | 100 |
| 7 | <i>Pseudocercospora spp.</i> | 25 | 18 | 16 | 52 | 69.23 |

Fungicide brand name Tilt composed the Propiconazole 25% EC (Emulsifiable Concentrate). These experiments used its three different concentrations in such a way that the recommended concentration (0.1%) comes from the mean value of all three. More or less in all fungi inhibited its

growth due to this treatment but mostly growth inhibition in *Alternaria alternata*, *Fusarium oxysporum* and *Phoma glomerata*. The percent of disease control (PDC) here ranges between 69.23% to 100% for different fungi by this fungicide.

Table 2: Effect of Amistar (Azoxystrobin 18.2% + Difenconazole 11.4% SC)

| Sr. No. | Fungi | 0.05% (mm) | 0.1% (mm) | 0.15% (mm) | Control (mm) | PDC |
|---------|-------------------------------|------------|-----------|------------|--------------|-------|
| 1 | <i>Alternaria alternata</i> | 34 | 26 | 15 | 55 | 72.72 |
| 2 | <i>Phomopsis spp.</i> | 22 | 18 | 13 | 48 | 72.91 |
| 3 | <i>Colletotrichum capsici</i> | 27 | 16 | 10 | 60 | 83.33 |
| 4 | <i>Fusarium oxysporum</i> | 25 | 14 | 13 | 52 | 75 |
| 5 | <i>Curvularia lunata</i> | 18 | 17 | 14 | 58 | 75.86 |
| 6 | <i>Phoma glomerata</i> | 25 | 18 | 12 | 50 | 76 |
| 7 | <i>Pseudocercospora spp.</i> | 20 | 12 | 00 | 52 | 100 |

The market name fungicide Amistar constituents are Azoxystrobin 18.2% with additional Difenconazole 11.4% SC (Suspension Concentrate). By this treatment mostly affected up to nil growth fungi was *Pseudocercospora* spp.

Other six fungi affected and the 0.1% as well as 0.15% influence more as increase the concentration of fungicide. Compared with control in all cases the fungi growth is reduced by too many levels. The percent of disease control

(PDC) here ranges between 72.72% to 100% for different fungi by this fungicide

Discussion

The presented data highlights the efficacy of the tested fungicide against a range of plant pathogenic fungi. At a concentration of 0.05%, the fungicide exhibited notable inhibition against *Alternaria alternata*, resulting in an 8 mm reduction in fungal growth as compared to the control. A similar trend was observed with *Phoma glomerata*, where the fungicide completely suppressed fungal growth at this concentration. Increasing the concentration to 0.1% led to enhanced inhibitory effects against *Phomopsis* spp., with a progressive decline in fungal growth from 32 mm to 12 mm. Moreover, *Colletotrichum capsici* and *Pseudocercospora* spp. also displayed sensitivity to this concentration, showcasing reductions of 21 mm and 16 mm, respectively, in comparison to the control.

At 0.15%, the fungicide continued to exhibit substantial antifungal activity. Notably, *Curvularia lunata* showed a significant reduction in growth from 30 mm to 17 mm. Similarly, *Colletotrichum capsici* and *Pseudocercospora* spp. maintained their sensitivity, further restricting growth to 14 mm and 14 mm, respectively. In contrast, *Fusarium oxysporum* displayed higher resistance, with no observable inhibition at both 0.05% and 0.1% concentrations. However, complete growth suppression was achieved at 0.15%, emphasizing the concentration-dependent nature of the fungicidal effect. The present study demonstrates the potential of the tested fungicide to effectively control a spectrum of plant pathogenic fungi. The variation in sensitivity among different fungal species suggests the importance of tailored fungicide concentrations for optimal disease management. These findings underscore the significance of continued research in refining fungicidal strategies and advancing plant protection measures in agriculture.

The study investigated the efficacy of Amistar, containing Azoxystrobin 18.2% + Difenconazole 11.4% SC, against various plant pathogenic fungi at different concentrations. At 0.05%, the fungicide exhibited varied effectiveness, significantly reducing *Alternaria alternata* growth from 34 mm to 15 mm, and *Phomopsis* spp. growth from 22 mm to 13 mm. *Colletotrichum capsici* showed partial sensitivity, decreasing growth from 27 mm to 10 mm. Enhanced inhibition was observed at 0.1%, with *Fusarium oxysporum* growth reduced from 25 mm to 13 mm, and *Curvularia lunata* from 18 mm to 14 mm. *Phoma glomerata* exhibited a slight reduction from 25 mm to 12 mm. At 0.15%, Amistar displayed continued antifungal activity, causing complete growth suppression in *Pseudocercospora* spp., whereas *Colletotrichum capsici* displayed limited sensitivity. The study underscores Amistar's potential in controlling diverse plant pathogenic fungi. The concentration-dependent responses highlight the importance of tailoring fungicide application for optimal disease management. These findings contribute to the understanding of Amistar's role in integrated pest management strategies, promoting crop health and productivity.

References

1. Toribio L, del Nozal MJ, Bernal JL, Jeménez JJ, und C, Alonso J. Chromatography A, 2004;1046:249-253.
2. Thomson WT, Agricultural Chemicals. Book IV: Fungicides. 12th edition. Thomson Publications, Fresno, CA, 1997.
3. Becker WF, von Jagow G, Anke T, Steglich W. "Oudemansin, strobilurin A, strobilurin B and myxofthiazol: New inhibitors of the bc 1 segment of the respiratory chain with an E-β-methoxyacrylate system as common structural element". FEBS Letters, 1981;132(2):329-333.
4. Moore David, Robson Geoffrey, Triacci D, Anthony PJ. "Agricultural mycocides for the 21st century: strobilurins". Archived from the original on, 2019, 09-08.
5. Knight SC, Anthony VM, Brady AM, Greenland AJ, Heaney SP, Murray DC. et al. Rationale and perspectives on the development of fungicides. Annu Rev Phytopathol, 1997;35:349.
6. Morton V, Staub T. Short history of fungicides. Online, apsnet Features, 2008. Doi:10.1094/apsnetfeature-2008-0308.
7. Schmitz H. Poisoned food technique. Industrial and Engineering Chemistry. Analyst, 1930;2:361.



Study on Growth Inhibition of Plant Pathogenic Fungi in In-Vitro Conditions by Some Chemical Fungicides

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Abstract

In this study used the three different chemical fungicides against the seven different plant pathogenic fungi to check the control on growth of fungi. Hexaconazole, Mancozeb and combination of Tebuconazole and Trifloxystrobin were treated to fungi under in-vitro conditions against the *Alternaria alternata*, *Phomopsis* spp., *Colletotrichum capsica*, *Fusarium oxysporum*, *Curvularia lunata*, *Phoma glomerata* and *Pseudocercospora* spp. The effect of Hexaconazole 5% SC showed complete 100 percent inhibition of *Alternaria alternata* and *Fusarium oxysporum*. The results of Mancozeb 75% WP use were inhibited *Phomopsis* spp., *Curvularia lunata* and *Phoma glomerata* completely. The effect of Tebuconazole and Trifloxystrobin chemicals together completely inhibited growth of *Fusarium oxysporum*.

Keywords – Fungicide, Antifungal, Efficacy, Pathogenic fungi

Introduction-

This research article aims to present a comprehensive analysis of the in-vitro efficacy of select fungicides against a range of pathogenic fungi. By examining the inhibitory effects of these fungicides on key fungal isolates, we seek to enhance our understanding of their potential as control agents. Furthermore, this study will shed light on the broader implications of fungicide application, including the emergence of resistance and the ecological impact on non-target organisms. In the context of sustainable agriculture and integrated disease management, it is essential to assess fungicides' performance under laboratory conditions before their deployment in the field. Through this investigation, we aspire to contribute to the refinement of fungicide selection and application strategies, ultimately fostering more effective disease management and promoting the long-term resilience of agricultural systems.

In the subsequent sections of this research paper, we will detail the materials and methods employed in the study, present the results of our in-vitro experiments, and discuss the implications of our findings in the broader context of fungal disease control. By addressing these aspects, we aim to offer valuable insights that contribute to the ongoing advancement of effective strategies to combat pathogenic fungi and secure global food production. Numerous particular fungicides were widely used up until recently due to their wide application windows, systemic activity,

and protective and curative characteristics (Knight *et al.*, 1997; Morton and Staub 2008).

Unquestionably, these compounds have contributed greatly to the agriculture business and led to huge productivity increases. These most widely used chemical fungicides, meanwhile, have significant drawbacks. The development of infections with diverse fungicide resistances as a result of the careless use of these fungicides has made the management of the illnesses much more challenging (Talibi *et al.*, 2014). Furthermore, due to their unfavourable effects on non-target species (carcinogenicity, high and acute residual toxicity), potential dangers to environmental pollution (long degradation time), and increasing restrictions on their repetitive and exclusive use, fungicides are no longer widely used (Bai *et al.*, 2013). The current study focuses on the in vitro efficiency of fungicides against *Alternaria solani* because of the plant's economic significance, the yield losses caused by early blight, and its impact on yield.

The genus *Alternaria* contains a variety of deuteromycetes, which are harmful plant parasites for families like Solanaceae, Cucurbitaceae, and Brasicaceae. Worldwide species that coexist as saprophytes and weak parasites are included in the *Alternaria* genus. Tiny black spots are regularly produced in a variety of conditions on pods and delicate twigs (Valkonen and Koponen, 1990). The *Alternaria* genus is responsible for some of the most prevalent plant diseases in the world. On all of their hosts, the different *Alternaria* cause some

of the highest absolute gross losses of any pathogen (Agrios, 2005). Khalid et al. (2004) and Choulwar et al. (1994) present a thorough, comparative analysis of the morphological variations of the several forms of *Alternaria* found in cucurbitaceous, brassicaceous, and solanaceous crops.

Materials and Method

Effect of fungicides against selected dominant pathogenic fungi in in-vitro Fungicides

The details of Chemical fungicides used

| Sr. No. | Market (Brand) Name | Active Ingredient | Formulation | Manufacturer | Used form | Recommended Dosage |
|---------|---------------------|------------------------------------|----------------------------|--------------------------------------|-----------|--------------------|
| 1 | Contra Plus | Hexaconazole 5% EC | Emulsifiable Concentrate | Rallis India Ltd. (Tata enterprises) | Liquid | 0.1% |
| 2 | Dithane M-45 | Mancozeb 75% WP | Wettable Powder | Bayer Crop Science Ltd | Powder | 0.2% |
| 3 | Nativo | Tebuconazole + Trifloxystrobin 75% | Water Dispersible granules | Bayer Crop Science Ltd | Granules | 0.05% |

WP- Wettable Powder, EC- Emulsifiable Concentrate

The experiment was conducted as follows:

Design C.R.D.

Replication 3

Treatments 6

Here, C.R.D. - Completely Randomized Design.

To determine each treatment's relative effectiveness for preventing the mycelial growth of seven different pathogenic fungi, bioassays were conducted on selected fungi in a lab setting. Before putting the mixture into Petri plates, the necessary amount of each treatment was added to 100 ml of PDA at a slightly warm stage and completely mixed by sacking. After pouring PDA into Petri plates, the medium was allowed to solidify before the plates were centrally inoculated with a disc of pathogenic fungus measuring 6 mm in diameter and cut with a sterilised cork-borer taken from the edge of an actively growing culture that had been incubating for 10 days. Without any type of treatment, control was employed as such in the medium. For the pathogen to grow, three replications of each treatment were incubated at 26±2°C. The effectiveness of several compounds was evaluated by counting the millimetres (mm) of the fungal colony's radial growth. When compared to the control, the inhibition was measured in terms of the percentage of fungal growth that was inhibited. After 6 and 10 days of incubation, the radial development of

mainly Hexaconazole 5% SC, Mancozeb 75% WP, Tebuconazole 50% + Trifloxystrobin 25% w/w (75 WG) following Poison food technique (Schmitz, 1930). The fungicides were tested against isolated fungus at the indicated doses (manufacturers dosage recommendations). After the treatment, data on mycelial growth was recorded at 9 and 15 days.

the fungus was measured in order to evaluate the effectiveness of various treatments. The following formula was used to compute the percentage of mycelial growth inhibition (McKinney, 1923).

The following formula was also used to calculate the percent inhibition over control.

$$\text{Percent Disease Control (PDC)} = \frac{\text{growth in control} - \text{growth in treatment}}{\text{growth in control}} \times 100$$

$$\text{OR} \quad (\text{PDC}) = \frac{C - T}{C} \times 100$$

Where, C = Growth in control (untreated). T = Growth in fungicide treated plate.

Fungicide effectiveness on mycelial growth and the percentage of isolated fungi that decreased were measured 5, 7, and 12 days after inoculation and noticed 6, 10, 15, and 20 days afterwards.

In these experiments tried to check the various fungicides against the surveyed dominant pathogenic fungi. Here the table indicating the values as control where no any kind of treatment given to the fungi while other three values are the treatment of given fungicide at three different concentrations. These numbers indicate the radial growth of colonies in petri-dish in millimetre units. To calculate Percent disease Control (PDC) taken lowest value from all three available values. For each fungicidal treatment here used three different

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ISSN – 2347-7075

concentrations, by keeping manufacturers recommended concentration should be an average. Two other fungicidal concentrations were lesser and the other one was higher than recommended by manufacturers. To calculate the Percent Disease Control (PDC) formula

described in chapter three, by using that formula here we calculated the values of PDC. For PDC we considered only the lowest value of concentrations from the three concentrations we used.

1. Effect of Contaf Plus (Hexaconazole 5% SC)

Table No. 1.

| Sr. No. | Fungi | 0.05% (mm) | 0.1% (mm) | 0.15% (mm) | Control (mm) | PDC |
|---------|-------------------------------|------------|-----------|------------|--------------|-------|
| 1 | <i>Alternaria alternata</i> | 28 | 00 | 00 | 55 | 100 |
| 2 | <i>Phomopsis spp.</i> | 33 | 26 | 22 | 48 | 54.16 |
| 3 | <i>Colletotrichum capsici</i> | 42 | 24 | 13 | 60 | 78.33 |
| 4 | <i>Fusarium oxysporum</i> | 00 | 00 | 00 | 52 | 100 |
| 5 | <i>Curvularia lunata</i> | 32 | 20 | 16 | 58 | 72.41 |
| 6 | <i>Phoma glomerata</i> | 36 | 28 | 18 | 50 | 64 |
| 7 | <i>Pseudocercospora spp.</i> | 32 | 26 | 14 | 52 | 73.07 |

The Contaf Plus fungicide composing Hexaconazole 5% SC (Suspension Concentrate) its effect in-vitro was observed to inhibit the growth in case of *Alternaria alternata* and *Fusarium oxysporum* very well. *Fusarium oxysporum* was highly sensitive for this fungicide so it showed nil growth at 0.05% of hexaconazole. Comparatively

with *Fusarium* less sensitivity is shown by *Alternaria alternata* with hexaconazole because it shows some growth at 0.05%. All other fungi in this experiment got affected by its growth partially but not completely. The percent of disease control (PDC) here ranges between 54.16% to 100% for different fungi by this fungicide.

2. Effect of Dithane M-45 (Mancozeb 75% WP)

Table No. 2

| Sr. No. | Fungi | 0.1% (mm) | 0.2% (mm) | 0.3% (mm) | Control (mm) | PDC |
|---------|-------------------------------|-----------|-----------|-----------|--------------|-------|
| 1 | <i>Alternaria alternata</i> | 40 | 38 | 13 | 55 | 75.36 |
| 2 | <i>Phomopsis spp.</i> | 22 | 00 | 00 | 48 | 100 |
| 3 | <i>Colletotrichum capsici</i> | 40 | 26 | 12 | 60 | 80 |
| 4 | <i>Fusarium oxysporum</i> | 32 | 24 | 11 | 62 | 82.25 |
| 5 | <i>Curvularia lunata</i> | 16 | 00 | 00 | 58 | 100 |
| 6 | <i>Phoma glomerata</i> | 18 | 00 | 00 | 50 | 100 |
| 7 | <i>Pseudocercospora spp.</i> | 24 | 16 | 15 | 52 | 65.38 |

Dithane M-45 composed of the Mancozeb 75% WP (Wettable Powder) the manufacturer recommended effective concentration that is 0.2% observed more effective. At this recommended concentration got nil or no growth for 3 different pathogenic fungi *Phomopsis*, *Curvularia*

and *Phoma glomerata*. For other fungi it positively interrupted the colony growth as well as rate of growth with time. The above 0.2% concentration gives their effect nearly the same. The percent of disease control (PDC) here ranges between 65.38% to 100% for different fungi by this fungicide

3. Effect of Nativio (Tebuconazole 50%+ Trifloxystrobin 25% w/w (75 WG))

Table No.3

| Sr. No. | Fungi | 0.01% (mm) | 0.05% (mm) | 0.1% (mm) | Control (mm) | PDC |
|---------|-------------------------------|------------|------------|-----------|--------------|-------|
| 1 | <i>Alternaria alternata</i> | 36 | 20 | 14 | 55 | 73.07 |
| 2 | <i>Phomopsis spp.</i> | 34 | 42 | 23 | 48 | 74.54 |
| 3 | <i>Colletotrichum capsici</i> | 24 | 06 | 00 | 60 | 52.08 |
| 4 | <i>Fusarium oxysporum</i> | 35 | 26 | 19 | 52 | 100 |
| 5 | <i>Curvularia lunata</i> | 24 | 20 | 13 | 58 | 63.46 |
| 6 | <i>Phoma glomerata</i> | 28 | 22 | 16 | 50 | 77.58 |
| 7 | <i>Pseudocercospora spp.</i> | 26 | 12 | 00 | 52 | 68 |

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ISSN – 2347-7075

The Natio contains the two different chemical constituents in its composition Tebuconazole 50% and Trifloxystrobin 25% by weight so this proportion together showed 75 WG (Water granules). In this treatment observed more effect on *Colletotrichum capsici* and *Pseudocercospora* spp. The concentration recommended showed a good effect nearly on all fungi but our experimental conclusion recommends 0.1 % concentration better than 0.05%. The percent of disease control (PDC) here ranges between 52.08% to 100% for different fungi by this fungicide.

Discussion

In these tests, it was attempted to compare several fungicides to the dominant pathogenic fungus that had been studied. The values for controls show that the fungus received no treatment at all, while the other three values show that fungicide was applied at three different concentrations. These statistics represent the colony's radial growth on petri dishes measured in millimetres. In order to determine the percent disease control (PDC), the lowest value out of the three options was chosen. Here, three different concentrations of each fungicidal treatment were utilised, with the manufacturers' recommended concentration serving as the average. Two alternative fungicidal concentrations exist, but one of them is lower and the other is higher than what manufacturers advise. Some fungicides exhibited no signs of growth from all fungicidal treatments. It implies that fungicides were used successfully to halt the development of these fungus. Our study came to these results about fungi and fungicidal combinations, which are displayed in table number 31. Given the success of the combination of Hexaconazole 5% SC in treating *Alternaria alternata*, this combination should be used. In our study, these combinations demonstrated good control compared to other fungicidal chemical compositions.

Contaf Plus fungicide, composed of Hexaconazole 5% SC, effectively inhibited the growth of *Alternaria alternata* and *Fusarium oxysporum* in-vitro. *Fusarium oxysporum* was highly sensitive to hexaconazole, showing nil growth at 0.05%. *Alternaria alternata* showed less sensitivity, showing some growth at 0.05%. The fungicide had a partial effect on growth, with a percent of disease control (PDC) ranging from 54.16% to 100% for different fungi. Dithane M-45, containing Tebuconazole 50% and Trifloxystrobin 25%, showed more effect on *Colletotrichum capsici* and *Pseudocercospora* spp. The recommended concentration of 0.1% was better than 0.05%, with a PDC range of 52.08% to 100%, *Fusarium oxysporum*, and *Phoma glomerata*. Overall, the


fungicide effectively inhibited fungi growth, with a PDC range of 72.72% to 100% for various fungi.

References

1. Talibi, I., Boubaker, H., Boudyach, E. H., and Ait Ben, and Aoumar, A. (2014). Alternative methods for the control of postharvest citrus diseases. J. Appl. Microbiol. 117, 1–17. doi: 10.1111/jam.12495.
2. Bai, Y. B., Zhang, A. L., Tang, J. J., and Gao, J. M. (2013). Synthesis and antifungal activity of 2-chloromethyl-1H-benzimidazole derivatives against phytopathogenic fungi in vitro. J. Agric. Food Chem. 61, 2789–2795. doi: 10.1021/jf3053934.
3. Knight SC, Anthony VM, Brady AM, Greenland AJ, Heaney SP, Murray DC, Powell KA, Schulz MA, Spinks CA, Worthington PA, Youle D (1997) Rationale and perspectives on the development of fungicides. Annu Rev Phytopathol 35:349.
4. Morton V, Staub T (2008) Short history of fungicides. Online, apsnet Features. Doi:10.1094/apsnetfeature-2008-0308.
5. Schmitz, H. (1930). Poisoned food technique. Industrial and Engineering Chemistry, Analyst, 2:361.
6. Deshmukh HV, Deokar CD, Raghuwanshi KS, Khaire PB and Brahmane PR, "Efficacy of different fungicides against the *Alternaria solani* under in vitro conditions", Journal of Pharmacognosy and Phytochemistry 2020; 9(6): 1057-1060.
7. Valkonen, J. (1990). *The seed-borne fungi of Chinese cabbage (Brassica pekinensis), their pathogenicity and control*. [https://www.semanticscholar.org/paper/The-seed%E2%80%90borne-fungi-of-Chinese-cabbage-\(Brassica-Valkonen-Koponen/7c3add80360c4ff56c14b44eb82caa8c70db1a58](https://www.semanticscholar.org/paper/The-seed%E2%80%90borne-fungi-of-Chinese-cabbage-(Brassica-Valkonen-Koponen/7c3add80360c4ff56c14b44eb82caa8c70db1a58).
8. Agrios, G. (2005) Plant Pathology. 5th Edition, Elsevier Academic Press, Amsterdam, 5-6.
9. Agrios, G. (2005) Plant Pathology. 5th Edition, Elsevier Academic press, Amsterdam, anthracnose diseases caused by ascomycetes and deuteromycetes (mitosporic fungi) Page No. 487.
10. Khalid A, Arshad M, Zahir ZA (2004) Screening plant growthpromoting rhizobacteria for improving growth and yield of wheat. J Appl Microbiol 96(3):473–480.
11. Choulwar AB, Datar VV. Tolerance of *Alternaria solani* to fungicides. J. Maharashtra Agril.Unvi 1994;19(1):133-134.
11. McKinney, H.K. (1923). Influence of soil temperature and moisture on infection of wheat seedlings by *Helminthosporium sativum*. J. Agric. Res., 26: 195- 218.

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**Oct. To Dec. 2023
Special Issue**

**Date of Publication
1 Dec. 2023**


Chief Editor
Dr. Jay Bagul

Co Editor
Dr. S. B. Patil

Co Editor
Dr. M. V. Gangurde

❖ विद्यावार्ता या आंतरविद्याशाखीय बहुभाषिक त्रैमासिकात व्यक्त झालेल्या मतांशी मालक, प्रकाशक, मुद्रक, संपादक सहमत असतीलच असे नाही. न्यायक्षेत्र:बीड

“Printed by: Harshwardhan Publication Pvt.Ltd. Published by Ghodke Archana Rajendra & Printed & published at Harshwardhan Publication Pvt.Ltd.,At.Post. Limbaganesh Dist,Beed -431122 (Maharashtra) and Editor Dr. Gholap Babu Ganpat.



Harshwardhan Publication Pvt.Ltd.
 At.Post.Limbaganesh,Tq.Dist.Beed
 Pin-431126 (Maharashtra) Cell:07588057695,09850203295
 harshwardhanpubli@gmail.com, vidyawarta@gmail.com
 All Types Educational & Reference Book Publisher & Distributors / www.vidyawarta.com

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Peer-Reviewed International Journal

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National Education Policy: Issues & Challenges

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ABSTRACT :

The national Education Policy lays particular emphasis on the development of the creative potential of each individual. It is based on the principle that education must develop not only cognitive capacities both, the foundational capabilities of literacy & Numeracy & Higher order cognitive capabilities such as critical thinking Problem Solving but also social ethical & emotional capacities & dispositions. New education policy will give new identity to Indian education system.

KEY-WORDS: -National Education Policy (NEP 2020), Higher education, Skill development.

World Development Report 1991 published by World bank asserts, The Challenge of Development is to improve the quality of life, especially in the world's poor countries, a better quality of life. Generally, calls for higher incomes, but it involves much more. It encompasses an ends in themselves better education, higher standards of Health & Nutrition, less poverty & cleaner environment, more equality of opportunity."

Education is the most important factor for the Improvement of individual's life, actually education is one of the most important basic needs of man. Hence, John Dewey - the great American Philosopher said, "Education is not preparation for life but Education is life itself." this well-known quotation expressed the

importance of education. Education plays vital role not only in individuals' life but also in the strong building of Nation. So, education is fundamental for achieving Full human potential, developing an equitable & just society, & promoting national development.

The global Education Development agenda reflected in Goal 4 (SDG. 4) of the 2030 Agenda for sustainable Development adopted by India in 2015 seeks to "ensure inclusive and equitable quality education & promoting the lifelong learning opportunities for all" by 2030. When we talk about India which have population Dividend. India have ability to provide High-quality education opportunities to the highest population of young people (Population Dividend) will determine the future of our country.

HISTORICAL BACKGROUND OF EDUCATION POLICIES IN INDIA:

The aim of education in ancient India was not just the acquisition of knowledge as preparation for life. In this world, or life beyond schooling, But for the complete realization & liberation of the self. The pursuit of Knowledge (Jnan), Wisdom (Prigya) and truth (Satya) was always considered in Indian thought & philosophy as the highest human goal.

when we look at previous policies education has focused largely on issues of access & equity. The Unfinished Agenda of the National policy on education 1986, Modified in 1992 (NEP 1986/92) is appropriately dealt with in this New education policy.

A major development since the last Policy of 1986/92 has been the Right of children to free 2009 which compulsory education act 2009 which laid down legal underpinning for achieving universal elementary education.

ABOUT NATIONAL EDUCATION POLICY :-

National Education Policy 2020 is the first education policy of the 21st century and aims to address the many growing development imperatives of our country. This policy proposes the revision & revamping of all aspects of the

विद्यावार्ता: Interdisciplinary Multilingual Refereed Journal | Impact Factor 9.154 (IIJIF)

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education structure, including regulation of government to create new system that is aligned with aspirational goals of 21st century education including SDG4, while building upon India's traditions & value systems. The National education policy lays particular emphasis on the development of the creative potential of each Individual. It is based on the principle that education must development not on only cognitive

Capacities - both The Fundamental Capacities of literacy & numeracy & Higher Order cognitive capabilities, such as critical thinking & problem Solving but also social ethical & emotional capacities & dispositions.

The New education policy Must provide to all students, irrespective of their place of residence, a quality education is system, with particular focus on historically marginalized, disadvantaged & underrepresented groups. The New Education policy must help recruit the very best & brightest to enter the teaching profession at all levels, by ensuring livelihood, respect, dignity & autonomy, while also instilling in the system basic methods of quality Control & accountability.

PRINCIPLES OF NEP :-

The purpose of education system is to develop good human beings capable of rational thought & action possessing Compassion & end path Courage & resilience, scientific temper & immigration with sound ethical. It aims at producing engaged productive & contributing citizen for Building an equitable inclusive Q plural society as envisaged by our Constitution.

MAJOR ISSUES OF NEP 2020:

1. Empower student through flexibility in Course Choices:-

In NEP Students will be given increased flexibility & choice of subject to study, particularly in secondary school including Subjects in physical education the arts & crafts & vocational skills So That they can design their own paths of study & life plans.

2. Curricular Integration of Essential Subjects, Skills & capacities:-

while students must have a large amount flexibility in choosing their individual curricular certain subjects'skills & capacities should be learned by all students to become good successful innovative adaptable & productive human beings. In today's rapidly changing world.

3. Transforming Assessment for Student Development:-

In NEP the aim of assessment is more competency based promotes learning & development for students & tests higher order skills such analysis, critical thinking, & conceptual clarity.

4. Recruitment of Teachers :-

The motivation & empowerment of teachers is required to ensure! the best possible! future for own children & Nation.

5. Continuous Professional Development (CPD):-

Teachers will be Continuous opportunities for self-improvement & to learn the latest innovations & advances in their professions.

6. Career Management & Progression (CMP):-

This is to Support the fact that all stages of school education will require the highest-quality teachers, & and no stage will be considered more important than any other.

7. Quality Universities & colleges: A New & Forward-looking vision for India's Higher Education System:

Higher' education plays extremely important role in promoting human as well as social well-being.

8. Equity & Inclusion in Higher Education:

Entry into quality higher education can open a vast array of possibilities that can lift both individuals as well as communities.

9. Reimagining Vocational Education:

NEP aims to overcome the social status heraldry associated with vocational education & requires integration of vocational education programmes into mainstream education in all

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education institution in a phased manner.

10. Professional Education:

Preparation of professionals must involve an education in the ethic & importance of public purpose, an education in the discipline, & an education for practice.

11. Technology Use & Integration:

The digital India campaign is helping to transform for entire nation into a digitally emporia society & knowledge economy.

12. Online & Digital Education : Ensuring Equitable Use of Technology:

The platforms & ongoing ICT based educational initiatives must be optimized & expanded to meet the current & Future challenges in providing quality education for all.

CHALLENGES OF NEP:

1. Trained teachers (faculty):

Teacher education is vital in creating a pool of school teacher's that will shape the next generation. But in India there is lack of trained teacher.

2. Lack of funding:

The NEP 2020 calls for a significant increase in funding for higher education. However, it is not clear how the funds will be generated. The government needs to find a way to increase funding for higher education without placing an undue burden on taxpayers.

3. Digital Divide:

The benefits of online digital education cannot be leveraged unless the digital divide is eliminated through concerted efforts such as Digital India campaign & the availability of computing devices. It is important that the use of technology for online & digital education adequately address concerns of equality.

4. Co-ordination of centre state for implementation:

Any policy's effectiveness depends on its implementation. Subject wise implementation Committees of experts in Cooperation & consultation with other relevant ministries will be set up at both centre & State levels to develop details implementation plans for each aspect of this policy in accordance with

principles to achieve the goals of the policy.

5. Quality:

The NEP 2020 aims to improve the quality of higher education in India. This will require a number of changes, including improving teacher training, introducing more rigorous assessment standards, and promoting research and innovation.

6. Governance:

The NEP 2020 calls for a more decentralized system of governance in higher education. This requires the government to devolve power to state governments and institutions. It will also require the development of new mechanisms for coordination and collaboration between different stakeholders.

7. Culture:

The NEP 2020 aims to create a more learner-centric culture in higher education. This will require not only a change in mindset among students, teachers, and administrators but also the development of new teaching and learning methods

8. Capacity:

India's higher education system is currently under-resourced and overcrowded. In order to implement NEP 2020, the government needs to invest in expanding the capacity of higher education institutions, which includes building new colleges and universities, as well as improving the infrastructure of existing institutions.

Challenging to implement NEP 2020 in Academic Institutions

In addition to the above, here are some other critical issues that need to be addressed for the successful implementation of NEP 2020 in higher education:

Lack of access to higher education:

The NEP 2020 aims to increase access to higher education for all sections of society. However, there are still a number of barriers to entry, such as poverty, gender discrimination, and lack of infrastructure. The government needs to address these barriers in order to make higher education more accessible to all.

Quality of teaching and learning:

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The NEP 2020 aims to improve the quality of teaching and learning in higher education. However, there are still a number of challenges in this area, such as the shortage of qualified teachers, the lack of resources, and outdated curriculum. The government needs to address these challenges in order to improve the quality of teaching and learning in higher education.

Research and innovation:

The NEP 2020 aims to promote research and innovation in higher education. However, there are still a number of challenges in this area, such as the lack of funding, the shortage of qualified researchers, and the lack of infrastructure. The government will need to address these challenges in order to promote research and innovation in higher education.

The successful implementation of NEP 2020 in higher education will require a concerted effort from all stakeholders. The Central government, State governments, institutions, teachers, students, and the community will all need to work together to make this happen.

CONCLUSION:

NEP 2020 to provide equitable access to quality education to all Student irrespective of their socio-economic back grounds gender or physical abilities. To promote multidisciplinary approach to education & encourage students to explore pursue their interests.

REFERENCES:

- 1) National Education Policy 2020, Ministry of Human Resource Development, Government of India.
- 2) Reports of UGC; AICTE & Government of India.
- 3) Kumar K (2005), Quality of education at the Beginning of the 21st century lesson from Indian. Educational Review Draft National Education Policy 2019.
- 4) Manoj Ambika (2021), National Education Policy 2020: Issues & Challenges to implementation, university news, vol.59, No.5, April 12-18, pp. 146.
- 5) Chaturvedi D.P. (2020), The Significance shift in the education policy of India, IJ Journal of management, 71-78.

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Impact of G 20 on New Education Policy

Dr. Sidhartha B. Sawant

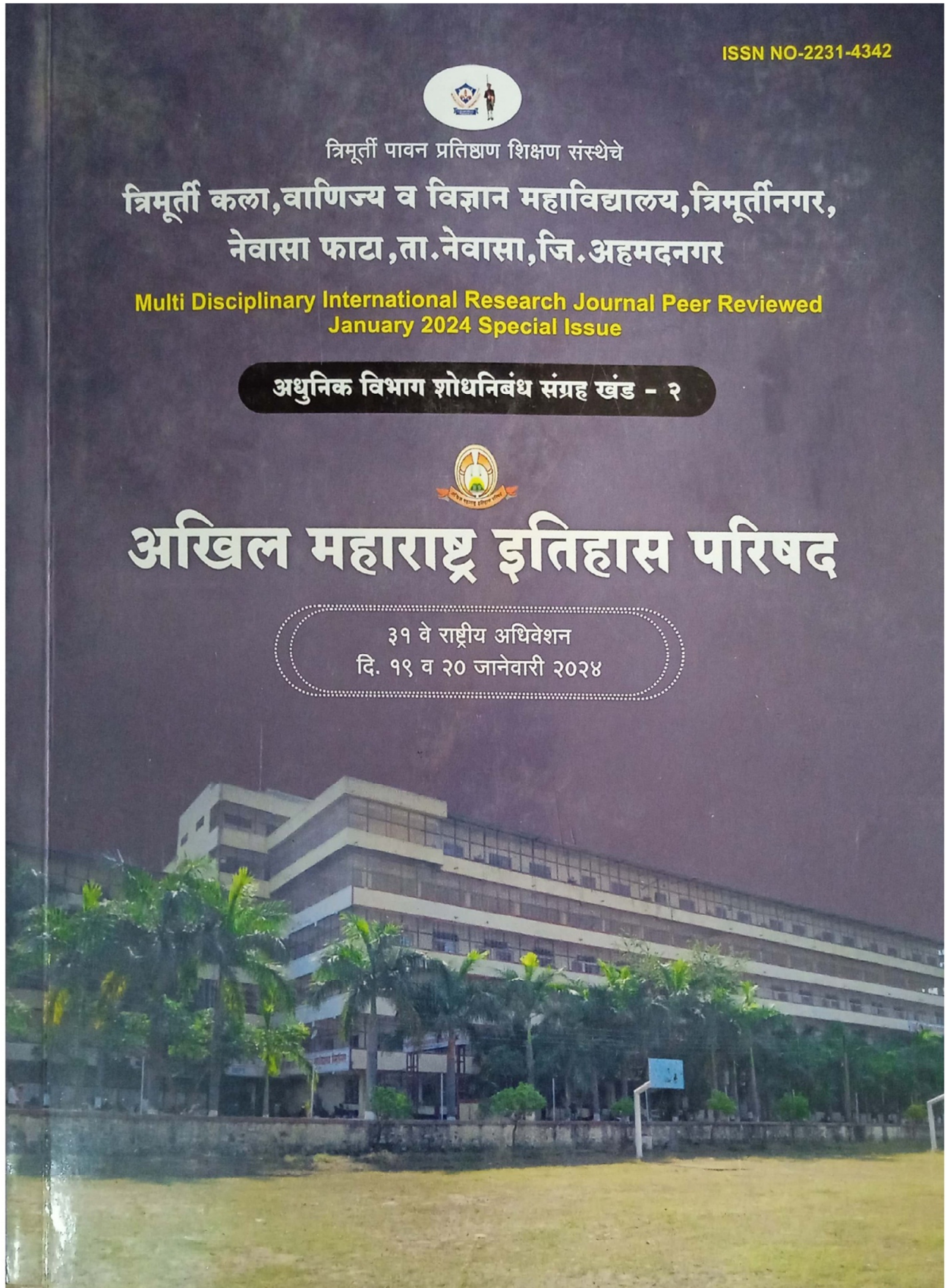
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Abstract :

The G20, or Group of 20, is a forum of governments that includes 19 countries, the European Union and the African Union. It works to solve fundamental problems related to international trade such as international financial stability, climate change and sustainable development. India holds the G20 Presidency from 1 December 2022 to 30 November 2023. The G20 meeting, chaired by India, is also an opportunity to showcase India's achievements in education, especially behind the launch of the National Education Policy 2020. New trends and changes in the use of digital solutions and technology in education worldwide and among G20 countries require greater cooperation. Workplaces and working patterns are changing after Covid-19; this will require changes in curriculum and technology to teach new skills that will lead to employment. Technology-enabled learning will become the norm at all levels of education. India can use the opportunity of G-20 Presidency to establish cooperation in the field of educational exchange, teaching and training with various countries. Currently, there are more than 50 American Universities waiting to open offices and collaborate in the field of education with Indian Universities. More academic exchanges are underway.

Key Words: G 20, New Education Policy, Technology.

विद्यवाता: Interdisciplinary Multilingual Refereed Journal Impact Factor 9.154 (IIJIF)



ISSN NO. 2231-4342

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Multi-Disciplinary International Reserach Journal Peer Reviewed January 2024 Special Issue

Scanned with QNEN Scanner

ISSN No. 2231-4342

डॉ. पंजराव देशमुख आणि भारत कृषक समाज**प्राचार्य डॉ. प्रशांत पी. कोठे**

जिजामाता महाविद्यालय, बुलडाणा

मो. नं. ९८२२४६१४१६

डॉ. पंजाबराव देशमुखांनी कृषी क्षेत्राच्या विकासासाठी राष्ट्रीय व आंतरराष्ट्रीय स्वरूपाच्या अनेक संघटना स्थापन केल्या. त्याचबरोबर अनेक संघटनांचे ते अध्यक्ष व सदस्य राहिले. या संघटनांमुळे भारतीय शेतकऱ्यांचे जीवनमान उंचावण्यासाठी मोलाची मदत झाली. इंग्लंडमध्ये मजुर संघटीत झाले आणि त्यांचे प्रतिनिधी पार्लमेंटमध्ये बसू लागले. त्यामुळे त्या देशातील मजुरांची स्थिती सुधारू लागली. हे इंग्लंडमध्ये असतांना डॉ. पंजाबराव देशमुखांनी पाहिले होते. त्या धर्तीवर आपल्या देशातील कामगार व शेतकऱ्यांनी संघटीत व्हावे असे त्यांना वाटत होते. पाश्चात्य राष्ट्रांच्या सामाजिक व राजकीय जीवनात कृषी संघटना किती प्रभावी कार्य करू शकतात आणि शेतकऱ्यांची आर्थिक परिस्थिती सुदृढ करण्याचा त्यांचा किती उपयोग होतो. हे त्यांनी प्रत्यक्ष पाहिले होते. शेतकऱ्यांची संघटना उभारल्याशिवाय शेतकऱ्यांचे प्रश्न सोडवणे शक्य नाही. हे डॉ. पंजाबराव देशमुखांनी ओळखले होते. म्हणून शेतकऱ्यांची संघटीत शक्ती निर्माण करण्यासाठी त्यांनी शेतकऱ्यांच्या संघटना उभारल्या, त्या संघटनांच्या माध्यमातून शेतकऱ्यांच्या विकासासाठी त्यांनी कार्य केले.

शेतकऱ्यांच्या समस्यांवर विचार विनीमय करून त्या सोडवण्यासाठी शेतकऱ्यांची एखादी अखिल भारतीय संघटना असावी असे डॉ. पंजाबराव देशमुखांना सुरुवातीपासूनच वाटत होते. इ. स. १९४८ व १९५१ या वर्षी त्यांनी अमेरिका व युरोप या खंडात प्रवास केला. त्यावेळी त्यांनी त्या देशातील कृषी संघटनांच्या कार्याचे बारकाईने निरीक्षण केले शेतकऱ्यांना तेथे आर्थिक सुस्थिती प्राप्त करून देण्याकरिता या संघटनांचा किती उपयोग होतो हे त्यांनी प्रत्यक्ष पाहिले. त्यामुळे भारतातही अशाप्रकारची संघटना असणे त्यांना आवश्यक वाटत होते. त्यासंबंधी १५ फेब्रुवारी १९५५ ला आकाशवाणीवरून बोलताना डॉ. पंजाबराव देशमुख म्हणतात, "जी संस्था राष्ट्रीय स्तरावर कृषकांचे विचार आणि दृष्टीकोन व्यक्त करू शकेल अशा समाजाची किंवा संस्थेची भारताला नितांतात गरज आहे. ही संस्था स्थापन झाली तर भविष्यात तिचे स्वरूप पुढील प्रमाणे असावे. अखिल भारतीय कृषक समाज या नावाने ही संस्था कार्य करील, राज्य, जिल्हा, तालुका आणि गाव या विविध पातळीवर तिच्या शाखा असाव्यात, शेतकऱ्यांना आपला दृष्टीकोन व्यक्त करण्याचा आणि सामुहिक रूपाने चर्चा करण्याचे अधिकार या संस्थेच्यावतीने देण्यात यावे. ही संघटना कार्यप्रवण करण्याकरिता समुह विकास योजना अधिकारी, ग्रामसेवक आणि प्रगतीशील शेतकऱ्यांचे सहकार्य घेतले जाईल. भारतीय भाषांमध्ये वेगवेगळ्या प्रांतातील कृषक

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समाजाला या कृषक समाजाच्यावतीने प्रस्ताव सादर करण्याचा अधिकार राहिल. या संस्थेचे कृषकांचा सर्वांगीण विकास साध्य करण्याच्या दृष्टीने पाक्षिक समाचार पत्र काढले जाईल. अखिल भारतीय कृषक समाज शाखांचे विभिन्न प्रांतातील शाखांशी आपसात सहकार्य राहिल, त्यांचा एकमेकांशी संपर्क राहिल. ही संघटीत संस्था केवळ शेतकऱ्यांच्या समस्या सोडवण्याकडे लक्ष देणार नाही तर त्या सोबतच शेतकऱ्यांना साक्षर करण्यासाठी सुद्धा लक्ष देईल. भारतातील एकूण साक्षरता १६ टक्के आहे. परंतु ग्रामीण भागात याचे प्रमाण केवळ १० टक्के आहे. शेतकऱ्यांच्या स्थितीत सुधारणा घडवून आणावयाची असेल तर त्यावर एकच उपाय आहे. तो म्हणजे त्यांना शिक्षित करणे होय.¹ या भाषणात डॉ. पंजाबराव देशमुख यांनी संस्थेच्या विषाल व्याप्तीची कल्पना स्पष्ट केली होती.

शेतकऱ्यांची संघटना नसल्यामुळे प्रत्येक शेतकऱ्यांशी वा त्यांच्या लहान लहान गटाशी चर्चा करून संपूर्ण भारतातील शेतकऱ्यांचे सहकार्य मिळवणे हे अत्यंत कठिन कार्य आहे. याची जाणीव सरकारला झाली होती. केंद्र सरकार शेतकऱ्यांसाठी अनेक प्रकारच्या योजना सुरू करू इच्छित होते. पण अखिल भारतीय संघटनेच्या अभावी सरकारचे प्रयत्न तोडके पडणार होते. म्हणून डॉ. पंजाबराव देशमुखांनी सर्व राज्यातील कृषी, सहकार व पशुपालन या खात्याचे मंत्री, कृषी तज्ज्ञ व भारतीय कृषकांचे प्रतिनिधी यांचा एक मोठा मेळावा १५ व १६ जुलै १९५४ ला श्रीनगर येथे घेतला.² त्या मेळाव्यात त्यांनी अत्यंत हृदयस्पर्शी भाषण करून भारतीय कृषकांच्या हिताच्या विविध योजना त्यांच्या प्रतिनिधीसमोर मांडल्या. त्यावेळी डॉ. पंजाबराव देशमुख म्हणाले होते की, "सर्व विकसीत देशांमध्ये शेतकऱ्यांच्या संघटित शक्तीशाली संस्था आहेत. इंग्लंड हा उद्योगप्रधान देश असूनही तेथे शेतकऱ्यांच्या शक्तीशाली अशा दोन संघटना आहेत. 'National Farmer's Union' आणि 'National Farmer's Union of Scotland' या संघटना शेतकऱ्यांनी एकत्रित येऊन बनविल्या व शेतकऱ्यांच्या हिताकरिता त्या राबतात. शेतकऱ्यांना भेडसावणाऱ्या प्रश्नांचाच विचार करून ते प्रश्न सोडवितात. अमेरिकेतही अशाप्रकारच्या संस्था म्हणजे 'The American Farm Bureau Federation', 'The National Farmer's Union' आणि 'The Grange' ह्या सर्व संस्था तेथील शेतकऱ्यांचे आर्थिक, सामाजिक व शैक्षणिक हीत जोपासतात. जेथे जेथे अशा संस्था आहेत तेथे ह्या संस्था शेतकऱ्यांचे हितच केवळ न जोपासता त्यांच्या सामाजिक, शैक्षणिक आणि सांस्कृतिक प्रगतीची काळजी वाहतात. कॅनडा या देशात अशा प्रकारची सुस्थितीत असलेली 'Farm Forum Organization' ही संघटना असून तेथील सरकार तथा संस्थेवर आपल्या उत्पन्नाचा ५० टक्के भाग खर्च करते.³ उपस्थित प्रतिनिधींना यावर जिवाळयाने विचार करून अखिल भारतीय कृषक संघटना निर्माण करावी अशी डॉ. पंजाबराव देशमुख यांनी आग्रहाची सूचना केली. डॉ. पंजाबराव देशमुख यांच्या या कळकळीच्या आव्हानाचा योग्य तो परिणाम होऊन त्याच अधिवेशनात 'भारत कृषक समाज'ची स्थापना करण्यासंबंधीचा ठराव एकमताने संमत करण्यात आला.

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डॉ. पंजाबराव देशमुख यांचीच भारत कृषक समाजाचे अध्यक्ष म्हणून एकमुखाने निवड करण्यात आली.⁴ डॉ. पंजाबराव देशमुख यांनी स्वतः भारत कृषक समाजाची घटना तयार केली. ७ फेब्रुवारी १९५५ ला भारत कृषक समाजाची नोंदणी करण्यात आली."⁵

भारत कृषक समाजाच्यावतीने ३ एप्रिल १९५५ ला भारतीय कृषकांचे दिल्लीतील 'तालकोटरा' येथे एक अधिवेशन आयोजित करण्यात आले. या अधिवेशनाचे उद्घाटन पंतप्रधान पंडित जवाहरलाल नेहरू यांनी केले. ते आपल्या उद्घाटनपर भाषणात म्हणाले होते, "शेतकऱ्यांनी त्याचे जीवनमान उंचावण्यासाठी पारंपारिक शेतीतंत्रात सुधारणा करून उत्पादन वाढविले पाहिजे. त्यामुळे राष्ट्रीय संपत्तीत वाढ होईल व देशाचे दारिद्र्य मिटेल."⁶ अशी अपेक्षा त्यांनी व्यक्त केली. तसेच ते पुढे बोलतांना म्हणतात, "शेती व्यवसाय हा गतीहीन नसून गतीशील आहे. कृषी संशोधन हे शेतात रावणाऱ्या शेतकऱ्यांपर्यंत पोहचले पाहिजे, शेतकऱ्याला किफायतशीर शेती कशी करता येईल याची जाणीव निर्माण करून देणे आवश्यक आहे. भारत कृषक समाज विशाल दृष्टीकोन समोर ठेऊन देशातील सर्व शेतकऱ्यांच्या हितासाठी काम करून त्याला सुज्ञ नागरिक बनवण्याचा प्रयत्न करेल त्यांच्या समस्येवर चर्चा घडवून आणून सरकारसमोर ते प्रश्न प्रभावीपणे मांडून सोडविण्याचा प्रयत्न करेल. शेतकऱ्यात विश्वास निर्माण करेल. सरकारला शेतकऱ्यांचे प्रश्न विचारात घ्यावे लागतील"⁷ भारतातील लहान मोठ्या सोळा राज्यातून ४५० पेक्षा अधिक कृषक प्रतिनिधी या अधिवेशनाकरीता अगत्याने उपस्थित होते. ३ एप्रिल १९५५ ला भारत कृषक समाजाच्यावतीने भारतीय कृषकांचे एक अधिवेशन आयोजित करण्यात आले होते. म्हणून ३ एप्रिल हा दिवस 'राष्ट्रीय कृषक दिन' म्हणून भारत कृषक समाज दरवर्षी संपूर्ण भारतभर साजरा करते.⁸ भारत कृषक समाजाच्या प्रत्येक राज्यात शाखा स्थापन करण्यात आल्या होत्या. भारत कृषक समाजाच्या प्रांतीय व जिल्हा शाखांच्यावतीने शेतकऱ्यांपर्यंत पोहचण्याचे कार्य भारत कृषक समाज करते. भारत कृषक समाजाच्यावतीने शेतकऱ्यांना शेतीचा अभ्यास करण्यासाठी विदेशात पाठवण्यात येत असे. इ. स. १९५५ पासून भारत कृषक समाजे मुखपत्र म्हणून 'कृषक समाचार' मासिक स्वरूपात प्रकाशित करण्यात येऊ लागले. भारत कृषक समाजाच्यावतीने वेगवेगळ्या परिषदा आयोजित केल्या जातात. अभ्यासवर्ग घेतले जातात. वार्षिक अधिवेशनं घेतली जातात, त्या सर्वांची सविस्तर माहिती 'कृषक समाचार' मासिक पत्रात आजही दिली जाते. भारत कृषक समाजे कार्य आजही चांगल्या प्रकारे सुरू आहे.

शेतात काम करणाऱ्या युवकांच्या उत्साहाचा राष्ट्रीय कार्यासाठी उपयोग करण्यासाठी डॉ. पंजाबराव देशमुख यांनी इ. स. १९५६ मध्ये 'युवक कृषक समाजाची स्थापना केली.'⁹ इ. स. १९६१ मध्ये कृषक युवकांचा (Youth Farmer's Forum) एक प्रातिनिधिक मेळा दिल्ली येथे भरविण्यात आला. निर्मलेन्दु बसू या परिषदेचे चिटणीस म्हणून निवडले गेले. या संघटने तर्फे इ. स. १९६२ च्या मार्चमध्ये आंतरराष्ट्रीय युवकांची बैठक भरली. दुसरी बैठक फेब्रुवारी १९६४ मध्ये मलयातील कौलालम्पुर येथे

ISSN No. 2231-4362

भारती, या आंतरराष्ट्रीय अभिवेशनाचे अध्यक्ष डॉ. पंजाबराव देशमुख होते. ऑस्ट्रेलियात जागतिक कृषी व अन्नप्राप्त्य संशोधनाच्या अभिवेशनात डॉ. पंजाबराव देशमुखांच्या प्रयत्नाने या अभिवेशनाबरोबरच युवक कृषकांचीही परिचय घेण्यात आली.

डॉ. पंजाबराव देशमुखांचे 'कृषक विकास' हेच जीवनाचे एकमेव सूत्र होते. शेतकऱ्यांची सर्वांगीण प्रगती झाली पाहिजे या भावनेतून ते सतत कार्य करीत होते. डॉ. पंजाबराव देशमुखांनी शेती व शेतकऱ्यांच्या विकासासाठी विविध राष्ट्रीय व आंतरराष्ट्रीय संस्था स्थापन केल्या. अनेक संस्थेचे ते सदस्य होते. तर काही संस्थेचे ते अध्यक्ष होते. या संस्थांच्या माध्यमातून त्यांनी शेती विकासाला चालना दिली. यामध्ये भारत कृषक समाजाचे कार्य महत्वाचे आहे. भारत कृषक समाजाच्यावतीने दिल्ली येथे त्यांनी जागतिक कृषी प्रदर्शनीचे आयोजन केले होते. त्याला विविध राष्ट्रांच्या प्रमुखांनी भेटी दिल्या होत्या. त्या जागतिक कृषी प्रदर्शनामुळे संपूर्ण देशभर त्यांचे नाव झाले. तसेच भारतीय शेतकऱ्यांना त्यांनी शेतीचा अभ्यास करण्यासाठी विदेशात पाठवले.

संदर्भ :

1. केंद्रीय कृषीमंत्री के परिषदको का सारांश, खाद्य और कृषी मंत्रालय, भारत सरकार, १९६०, पृ. क्र. ८०.
2. R. B. Deshpande (Pub.), Bharat Krishak Samaj, Years Book, September, 1964, P. No. 122
3. केंद्रीय कृषीमंत्री के परिषदको का सारांश, खाद्य और कृषी मंत्रालय, भारत सरकार, १९६०, पृ. क्र. ७६.
4. सावरकर, सुदान आणि रा. श्री सूर्यकर, भाऊसाहेब डॉ. पंजाबराव देशमुख जीवन व कार्य, खंड २, अमरावती, श्री शिवाजी शिक्षण संस्था, १९६४ पृ. क्र. ८७
5. R. B. Deshpande Year Book, September, 1964, (Pub.), Bharat Krushak Samaj, P. No. 122.
6. Deshpande R. B., Bharat Krishak Samaj, Years Book, September, 1964, P. No. 126.
7. Deshpande R. B., Bharat Krishak Samaj, Years Book, September, 1964, P. No. 10.
8. Dr. Pongjabao Deshmukh and team of workers, Bharat Kushak samaj Tamilnadu Branch, P. No. 24.
9. Young Farmers Association Know- All, P. No. 3.