



ESTD. 1957

**AGRAWAL P.G. COLLEGE**

Affiliated to University of Rajasthan

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**AGRASEN JOURNAL OF  
MULTI-DISCIPLINARY RESEARCH  
(AJMR)**

**An annual Journal published in English/Hindi. Available online /offline**

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**Volume 1**

**Issue 1**

**Oct-Dec 2025**

**(A Peer Reviewed Journal of Multidisciplinary Research)**

Available online at: Website: [www.agrasenjournalofmultidisciplinaryresearch.com](http://www.agrasenjournalofmultidisciplinaryresearch.com)

**AGRAWAL P.G. COLLEGE**  
**Agrasen Journal of Multi-Disciplinary Research**

College Website- [www.agrawalpgcollege.in](http://www.agrawalpgcollege.in)

Journal Website: [www.agrasenjournalofmultidisciplinaryresearch.com](http://www.agrasenjournalofmultidisciplinaryresearch.com)

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**Aims and Scope**

Agrasen Journal of Multi-Disciplinary Research, a National journal Published by Agrawal P.G. College, Jaipur, provides a forum for an in-depth analysis of problems related to various disciplines and encourages scholarly dialogue on a broad range of topics in the domain of Humanities, Commerce, Management, Physics, Life-Sciences, Mathematics, Computer Science, Hospitality and Sports. The Journal encourages inter-disciplinary research papers that will be accessible to a wide group of scholars in India.

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**A PROFILE**

Agrawal P.G. College is one of the premier institutions of Rajasthan managed by Shri Agrawal Shiksha Samiti, Jaipur. The Samiti laid the foundation stone of the Agrawal Pathshala in 1918.

In 1957 it was transformed into Agrawal Inter-College. in a short span of 7 years, the Inter-College was certified as a degree college with all three streams Science, Humanities and Commerce. The college is situated in the heart of the city at Agrasen Katla, Maharaja Agrasen Marg, Agra Road, Jaipur. Being one of the oldest & leading colleges in the city, it attracts students from all around. The college is well connected with all the parts of the city by public transport. About 50,000 square yards of the college campus is surrounded by sprawling lawns and gardens. A well-maintained botanical garden and nursery. The institute has now enhanced its scope of education more specialized and professional courses. Various courses of skill development, enabling our students to seek better career opportunities as they step out in the competitive world. The college is committed to educating its students to be reflective and resourceful individuals who are ready to live, adapt and lead in an interconnected world. The college also offers various certificate courses to groom the student's personality. The institute, through its experienced and qualified faculty continuously innovates education to ensure that we meet the needs of our students in an ever-changing world. These are only a few attributes of the many, which make our campus a place that fosters personal and academic growth.

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# अफगानिस्तान संकट और भारत की भूमिका

## डॉ. बाबूलाल देवन्दा

### प्रस्तावना

तालिबान को 20 साल पहले सत्ता से बेदखल करने के लिए अमेरिका ने अफगानिस्तान पर हमला किया था लेकिन आज अमेरिका ने जैसे थाल में सजाकर तालिवान को अफगानिस्तान सौंप दिया है। अफगान नेशनल डिफेंस एंड सिक्योरिटी फोर्स ताश के पत्तों की तरह ढह गई है तालिबान ने एक भी गोली चलाए विना काबुल को अपने कब्जे में ले लिया है। हेरात और कुछ अन्य जगह को छोड़ दें तो तालिबान को बहुत कम विरोध का सामना करना पड़ा। पहली बार पंजशीर को भी तालिवान ने अपने कब्जे में कर लिया। तालिवान में इस्लामिक अमीरात ऑफ अफगानिस्तान की 33 सदस्यों वाली कार्यवाहक सरकार का ऐलान 7 सितंबर 2021 को कर दिया, जिसमें एक भी महिला सदस्य नहीं है। तालिवानी सरकार में मुल्ला मोहम्मद हसन अबुंद प्रधानमंत्री तथा मुल्ला अब्दुल गनी बरादर को उप प्रधानमंत्री बनाया गया हैं। हैवतुल्ला अबुंदजादा को सरकार में संरक्षक के रूप में रखा गया है। बाकी अंतरराष्ट्रीय समुदाय की तरह भारत भी अफगान के नेतृत्व वाले और अफगान नियंत्रित शांति प्रक्रिया की बात करता रहा है। लेकिन वह सब अतीत हो चुका है। अब सत्ता तालिवान के हाथ में है। देखना होगा कि भारत तालिबान सरकार के साथ किस तरह पेश आता है। मोदी सरकार की अफगानिस्तान नीति की काफी आलोचना होती रही है, आलोचक इस बात को लेकर नाखुश है कि भारत का 3 अरब डॉलर का निवेश बेकार चला जाएगा। कुछ लोगों की नाराजगी अफगान शांति प्रक्रिया में नई दिल्ली की न्यूनतम भूमिका को लेकर भी है। हालात स्थिर होने के बाद अफगानिस्तान में निश्चित ही विकास केंद्र बिंदु बनेगा, तब

भारत को अपनी चाल चलनी चाहिए । अफगानिस्तान में भारत की विकास परियोजनाओं ने वहां के लोगों का दिल जीता है क्योंकि इनसे उनका जीवन बेहतर हुआ है।

काबुल पर तालिबान के नियंत्रण के बाद मध्य एशियाई देशों की सुरक्षा चिंता बढ़ गई है। अफगानिस्तान में तालिबान की वापसी के बाद मध्य एशिया में चरमपंथी गुटों के नए ठिकाने की संभावनाओं ने इन देशों की चिंता बढ़ा दी है। हालांकि तालिबान द्वारा बार-बार यह कहा जा रहा है कि अफगानिस्तान की धरती का इस्तेमाल आतंकियों को पनाह देने या दूसरे देशों को धमकाने के लिए नहीं किया जाएगा लेकिन इसके बावजूद मध्य एशियाई देश इस संभावना से इंकार नहीं कर रहे हैं कि अफगानिस्तान अन्य देशों के लिए चरमपंथी हमलों का केंद्र नहीं बनेगा। इनका मानना है कि चरमपंथी गुट इस पूरे क्षेत्र में अपना प्रभाव बढ़ाने के लिए हिंसा और आतंकवाद का सहारा ले सकते हैं। काबुल में हुए सीरियल बम धमाकों के बाद यह आशंकाएं सच साबित हो रही है। मध्य एशिया में सबसे ज्यादा चिंताजनक स्थिति ताजिकिस्तान की है। ताजिकिस्तान अफगानिस्तान के साथ 1344 किलोमीटर लंबी सीमा साझा करता है। कहा जा रहा है कि ताजिकिस्तान

सीमा से लगता अफगानिस्तान का पूरा इलाका अब तालिबान के कब्जे में आ गया है। ऐसे में अगर अफगानिस्तान में अस्थिरता बढ़ती है तो इसका सीधा असर ताजिकिस्तान की सुरक्षा व्यवस्था पर पड़ेगा। अफगानिस्तान में पश्तून, उजबेक और हजारा के साथ-साथ ताजिक मूल के लोग बड़ी संख्या में रहते हैं। ताजिकिस्तान चाहता है कि तालिबान सरकार ताजिक मूल के लोगों के भविष्य की गारंटी दे।

## अफगानिस्तान एक परिचय

मध्य एशिया, दक्षिण एशिया तथा मध्य पूर्व के द्वार पर स्थित अफगानिस्तान एक इस्लामिक देश है। अफगानिस्तान की सीमाएं पूर्व में पाकिस्तान पश्चिम में ईरान उत्तर में तुर्कमेनिस्तान, उज्जेकिस्तान तथा ताजिकिस्तान से लगती है। उत्तर पूर्व में अफगानिस्तान की सीमा चीन तथा पाक अधिकृत गिलगित बाल्टिस्तान से मिलती है, जिस पर भारत भी दावा करता है। अफगानिस्तान का क्षेत्रफल 652000 वर्ग किलोमीटर तथा जनसंख्या 3 करोड़ 46 लाख है जो इस्लाम धर्म को मानती है।

अफगानिस्तान एक भूमि आवद्ध राज्य है तथा अफगानिस्तान में पश्तून, उज्वेक, ताजिक एवं हजारा नामक नृजातीय समूह का निवास है। अफगानिस्तान समाज अभी भी कबायली है तथा यहां आर्थिक विकास का अभाव है। स्वतंत्र भारतीय विदेश नीति में गुटनिरपेक्षता की नीति अपनाई गई तथा अफगानिस्तान के शासक जहीर शाह ने भी गुटनिरपेक्षता की नीति अपनाई फलस्वरूप भारत और अफगानिस्तान के मध्य क्षेत्रीय एवं वैश्विक मुद्दों पर मित्रता पूर्ण संबंध बने रहे। इस दौरान अफगानिस्तान एक शांतिप्रिय देश था। यह बिंदु उल्लेखनीय है कि अफगानिस्तान एवं पाकिस्तान के मध्य प्रारंभ से ही 'झूरंड रेखा' को लेकर विवाद कायम था झूरंड रेखा भारत एवं अफगानिस्तान के बीच सीमा विभाजित करने वाली रेखा थी, परंतु भारत के विभाजन के बाद झूरंड रेखा पाकिस्तान एवं अफगानिस्तान के बीच विभाजित रेखा बन गई। अफगानिस्तान के अनुसार, 'पाकिस्तान, एक नया राज्य है, ब्रिटिश साम्राज्य का

उत्तराधिकारी नहीं।' इसलिए पाकिस्तान और अफगानिस्तान के मध्य सीमा रेखा का पुनर्निर्धारण होना चाहिए।

प्रारंभ में अफगानिस्तान में राजतंत्रीय शासन था। वर्ष 1973 में अफगानिस्तान में राजतंत्र समाप्त हो गया तथा मोहम्मद दाऊद नए प्रधानमंत्री बने, जिन्होंने झूरंड रेखा के मुद्दे पर आक्रामक दृष्टिकोण अपनाया। वर्ष 1978 में प्रधानमंत्री दाऊद को मार्क्सवादी नेता मोहम्मद नूर तराकी के द्वारा सत्ता से हटा दिया गया और उन्होंने शासन पर नियंत्रण कर लिया। पाकिस्तान के द्वारा नूर तराकी का समर्थन नहीं किया गया और शीत युद्ध के दौरान पाकिस्तान, अमेरिका के सैनिक गठबंधन का सदस्य था। इसलिए अफगानिस्तान में पाकिस्तान और अमेरिका के बढ़ते प्रभाव को रोकने के लिए सोवियत संघ के द्वारा अफगानिस्तान में सेना भेजी गई, जिसके लिए प्रधानमंत्री मोहम्मद नूर तराकी ने सोवियत संघ से अनुरोध किया था। मोहम्मद नूर तराकी और मोहम्मद आमिन के बीच शासन सत्ता के बीच संघर्ष होने लगा और तराकी के शासन को बचाने के लिए सोवियत संघ ने सैनिक हस्तक्षेप किया। सोवियत संघ के द्वारा अफगानिस्तान में सैनिक हस्तक्षेप के दौरान भारतीय विदेश नीति के समक्ष चुनौती उत्पन्न हो गई। अफगानिस्तान, भारत का परंपरागत मित्र रहा है। इसलिए भारत के द्वारा अफगानिस्तान की एकता एवं अखंडता का समर्थन किया गया, परंतु भारत के द्वारा सोवियत संघ के सैनिक हस्तक्षेप का विरोध नहीं किया गया, क्योंकि अफगानिस्तान में सोवियत संघ की उपस्थिति भारत के हितों के प्रतिकूल नहीं थी। वर्ष 1971 में भारत और सोवियत संघ के बीच मित्रता एवं शांति के समझौते पर हस्ताक्षर हो चुके थे। इसलिए भारत - सोवियत संघ संबंध अत्यधिक मधुर और मित्रतापूर्ण थे।

सोवियत संघ के अफगानिस्तान में सैनिक हस्तक्षेप को संतुलित करने के लिए अमेरिका के द्वारा पाकिस्तान का प्रयोग फ्रंटलाइन राज्य के रूप में किया गया। पाकिस्तान के तत्कालीन शासक जनरल जिया उल हक को अमेरिका के द्वारा बड़ी आर्थिक और सैनिक सहायता प्राप्त हुई तथा पाकिस्तान का समर्थन चीन और सऊदी अरब के द्वारा भी किया

गया। पाकिस्तान ने मुजाहिदीनों को प्रशिक्षित करके सोवियत संघ की सेनाओं के विरुद्ध अफगानिस्तान में तैनात किया। इस दौरान सोवियत संघ ने मोहम्मद नजीबुल्ला को अफगानिस्तान का राष्ट्रपति बना दिया। अफगानियों के द्वारा सोवियत सेनाओं के विरुद्ध गोरिल्ला युद्ध का प्रयोग किया गया। सोवियत संघ की आर्थिक स्थिति बदहाल होने के कारण वर्ष 1988 के जिनेवा समझौते के द्वारा सोवियत संघ की सेनाओं को अफगानिस्तान से वापस आने का निर्देश दिया गया, परंतु अफगानिस्तान में शांति स्थापना नहीं हो सकी।

सोवियत सेनाओं की अफगानिस्तान से वापसी के बाद अफगानिस्तान के विभिन्न नृजातीय समूह के बीच आपस में संघर्ष होने लगे और नजीबुल्ला सरकार को शासन से हटा दिया गया। मुजाहिदीनों ने बुरहानुद्दीन रब्बानी के नेतृत्व में एक आंतरिक सरकार का निर्माण किया। अब्दुल रशीद दोस्तम के द्वारा उत्तरी गठबंधन का नेतृत्व किया गया, जिसे भारत और अन्य देशों के द्वारा समर्थन दिया गया। परिणाम स्वरूप मुजाहिदीनों और उत्तरी गठबंधनों के बीच संघर्ष शुरू हो गया, जिसमें मुजाहिदीनों को सफलता प्राप्त हुई और अफगानिस्तान में वर्ष 1996 में तालिबान शासन की स्थापना हुई।

## तालिबान का उदय

तालिबान इस्लामी छात्रों का एक राजनीतिक आंदोलन था और ये अफगानिस्तान में इस्लाम के अनुसार शासन व्यवस्था, अर्थव्यवस्था तथा समाज को संचालित करना चाहता था। तालिबान के द्वारा महिलाओं की शिक्षा का विरोध किया गया तथा महिलाओं के सार्वजनिक जीवन पर भी अनेक प्रतिबंध लगाए गए। इनके द्वारा उन महिलाओं को दंडित किया गया, जो सार्वजनिक रूप में पुरुषों के साथ दिखाई देती थी। तालिबान के प्रभावी होने से अफगानिस्तान में पाकिस्तान का प्रभाव बढ़ गया, क्योंकि तालिबान पाकिस्तान और उसकी खुफिया एजेंसी आईएसआई के द्वारा समर्थित शासक था। तालिबान के द्वारा कश्मीर में सीमा पर आतंकवाद को बढ़ावा दिया गया और तालिबान सरकार को मान्यता देने वाले

दुनिया में केवल 3 राज्यों ( पाकिस्तान, सऊदी अरब तथा संयुक्त अरब अमीरात) के द्वारा किया गया। भारत के द्वारा तालिबान सरकार को मान्यता नहीं दी गई। तालिबान के नेता मुल्ला उमर के शासन के दौरान भारत अफगानिस्तान के बीच सर्वाधिक प्रतिकूल संबंध थे। वर्ष 1999 में इंडियन एयरलाइंस के विमान आईसी 814 को काठमांडू से अपहरणकरके कंधार ले जाया गया तथा भारत को मसूद अजहर जैसे आतंकवादी को रिहा करना पड़ा इस दौरान तालिबानी नेता म\*\*\* उमर और अलकायदा के मुखिया ओसामा बिन लादेन के बीच प्रगाढ़ संबंध बन गए और ओसामा बिन लादेन अफगानिस्तान आ गया और अलकायदा के द्वारा सितंबर 2001 में अमेरिका की विश्व व्यापार केंद्र पर आतंकवादी हमला किया गया सितंबर 2001 में विश्व व्यापार केंद्र पर आतंकवादी हमले के पश्चात अमेरिका ने तालिबान के विरुद्ध ऑपरेशन प्रारंभ किया जिसका समर्थन उतरी गठबंधन और भारत ने भी किया अमेरिका के द्वारा गठबंधन सेनाओं का प्रयोग करते हुए अफगानिस्तान पर हमला किया गया और अमेरिका ने इस हमले को आतंक के विरुद्ध युद्ध का नाम दिया इस दौरान अमेरिका ने पाकिस्तान का भी सहयोग लिया जोकि पाकिस्तान के लिए अत्यधिक चुनौतीपूर्ण था क्योंकि पाकिस्तान को तालिबानियों के विरुद्ध हमले का समर्थन करना पड़ा जबकि पाकिस्तान तालिबानियों का सबसे बड़ा समर्थक था इस हमले के बाद वर्ष 2001 में तालिबानी शासन का अंत हो गया।

## **भारत - अफगानिस्तान नवीन संबंधों की शुरूआत**

तालिबानी शासन समाप्त होने के बाद भारत के द्वारा पुनः अफगानिस्तान के साथ प्रगाढ़ संबंधों का विकास किया गया। अफगानिस्तान में शांति एवं लोकतांत्रिक सरकार के निर्माण के लिए दिसंबर, 2001 में जर्मनी में 'बोन समझौता' हुआ, जिसके द्वारा अफगानिस्तान में एक अंतरिम सरकार का निर्माण किया गया, जिसके चेयरमैन हामिद करजई थे। वर्ष 2004 में अफगानिस्तान में पहला राष्ट्रपति चुनाव हुआ एवं

हामिद करजई राष्ट्रपति के रूप में निर्वाचित हुए। भारत अफगानिस्तान संबंधों को नई सुदृढ़ता प्राप्त हुई तथा अफगानिस्तान के साथ द्विपक्षीय क्षेत्रीय मुद्दों पर संबंधों में प्रगाढ़ता उत्पन्न हुई। 14वें दक्षेस सम्मेलन के दौरान 2007 में अफगानिस्तान को दक्षेस का 8वां सदस्य भी बना दिया गया। भारत अफगानिस्तान में आधारभूत संरचना के विकास में सक्रिय भूमिका का निर्वहन कर रहा है। अफगानिस्तान के पुनर्निर्माण के लिए संयुक्त राष्ट्र संघ द्वारा प्रायोजित 21 देशों का सम्मेलन न्यूयॉर्क में हुआ, जिसमें भारत की भूमिका उल्लेखनीय थी। भारत के द्वारा अफगानिस्तान की आधारभूत संरचना के विकास तथा क्षमता निर्माण कार्यक्रम में महत्वपूर्ण सहयोग दिया गया।

अफगानिस्तान में ज़्यदा से ज्यादा निवेश आकर्षित करने के लिए वर्ष 2012 में नई दिल्ली में एक निवेश सम्मलेन भी आयोजित किया गया। सबसे महत्वपूर्ण बात यह है की भारत में किसी अन्य देश के लिये आयोजित किया जाने वाला यह पहला शिखर सम्मलेन है। भारतीय व्यवसाय समूह द्वारा इस कार्यक्रम के प्रति सकारात्मक प्रक्रिया दिखाना अपने एक जैसे पड़ोसी देश के साथ हमारी घनिष्ठता और एकजुटता का प्रतिक है। जिसके साथ हमारे लम्बे ऐतिहासिक एवं सभ्यतामूलक सम्बन्ध रहे हैं। वर्ष 2014 में नाटो (NATO) के सैनिकों की वापसी और आंतकवाद के कारण हो रही जनहानि को देखते हुए अफगानिस्तान पर एक बड़ा निवेश सम्मेलन आयोजित करना अपने आप में अभूतपूर्व कदम था, क्योंकि अफगानिस्तान पिछले तीन दशक से हिंसा और संघर्ष से परेशान रहा है। इसलिए अफगानिस्तान की भलाई के लिए यह कदम पड़ोसी देशों और सम्पूर्ण विश्व की सुरक्षा के लिए आवश्यक है। भारत द्वारा अफगानिस्तान में क्षमता निर्माण का कार्य महत्वपूर्ण रहा जिसके तहत "इंदिरा गाँधी शिशु स्वास्थ्य केंद्र" का निर्माण और काबुल में हबीबी स्कूल की स्थापना की गई। इसके अतिरिक्त कृषि, बैंकिंग तथा कंप्यूटर के क्षेत्रों में भी महत्वपूर्ण योगदान किया गया। अफगानिस्तान के स्थाई विकास के लिए भारत द्वारा सहायता कार्यक्रम चलाया जा रहा है। भारत सरकार

ने अन्य महत्वपूर्ण क्षेत्रों के अतिरिक्त कृषि, खनन और स्वास्थ्य क्षेत्रों में सहयोग करने के लिए प्रतिबद्धता व्यक्त की है। भारत द्वारा बुनियादी स्तर पर विकास के लिए निर्माणाधीन लघु विकास परियोजना के विस्तार के लिए भी सहमति भी व्यक्त की गई है। भारत द्वारा अफगानिस्तान की जरूरत के अनुसार भारत में चिकित्सा, इंजीनियरिंग और प्रबंध संस्थानों में छात्र और व्यक्तियों की संख्या बढ़ाने पर सहमति व्यक्त की गई है तथा दोनों देश स्कूल, विश्वविद्यालय स्तर पर छात्रों के वार्षिक आवागमन कार्यक्रमों को बढ़ावा देंगे तथा भारत कार्यपालिका, न्यायपालिका एवं विधायिका के विभिन्न विभागों को तकनीकी, प्रशिक्षण एवं अन्य प्रकार से क्षमता निर्माण में सहायता करता रहेगा।

भारत अफगानिस्तान के बीच संबंधों को बढ़ाने के लिए मीडिया, शैक्षणिक, सांस्कृतिक, बौद्धिक एवं धार्मिक व संसदीय हस्तियों के बीच संबंधों को बढ़ाने की प्रतिबद्धता व्यक्त की गई है। भारत अफगानिस्तान फाउंडेशन के द्वारा दोनों देश कला, साहित्य, कविता इत्यादि क्रियाकलापों के द्वारा सामाजिक एवं सांस्कृतिक संबंधों को बढ़ाने और एक दूसरे की सांस्कृतिक विरासत को बढ़ावा देने के लिए सहमत हुए हैं। भारत अफगानिस्तान संसदीय शिष्टमंडलों का दौरा आयोजित करने और संसदीय मैत्री समूह स्थापित करके संसदीय ज्ञान के आदान प्रदान पर भी सहमत हुई है।

## अफगानिस्तान का परिवर्तन

वर्ष 2001 के बाद समूचे वैश्विक समुदाय के द्वारा अफगानिस्तान के सामाजिक आर्थिक विकास के लिए बड़ी मात्रा में आर्थिक सहायता प्रदान की गई। वर्ष 2012 में टोक्यो संबंध के द्वारा विश्व समुदाय ने आश्वासन दिया कि वर्ष 2016 तक अफगानिस्तान को 16 बिलियन डॉलर की आर्थिक सहायता प्रदान की जाएगी। इस सहायता के कारण अफगानिस्तान में शिक्षा, स्वास्थ्य एवं संचार की बेहतर सुविधा

उपलब्ध हुई है तथा आधारभूत संरचना का विकास हुआ है। अफगानिस्तान में बेहतर सड़कें तथा बिजली की सुविधा भी प्रदान की गई है और लोकतांत्रिक संस्थाओं की भी स्थापना हुई है। इसलिए अफगानिस्तान में यह परिवर्तन अत्यधिक सकारात्मक थे, जिससे अफगानियों को सीधे आर्थिक लाभ प्राप्त हुआ है। इसके साथ यह भी सत्य है कि अफगानिस्तान में सामाजिक एवं आर्थिक विषमताएं अत्यधिक गहरी हैं और धार्मिक कटूरवाद अभी भी बना हुआ है, जिसका लाभतालिबानियों को प्राप्त होता है। वर्तमान में अफगानिस्तान में तालिबानी पुनः प्रभावशाली बन कर उभर रहे हैं। वर्ष 2014 में अमेरिकी सेनाओं की अफगानिस्तान से वापसी प्रारंभ हुई और अमेरिकी सेनाओं की अफगानिस्तान में युद्ध की भूमिका समाप्त हो गई। परिणामस्वरूप तालिबानी अफगानिस्तान में अपना प्रभाव स्थापित कर रहे हैं। तालिबानियों के द्वारा अमेरिका को साम्राज्यवादी माना जाता है और इनके अनुसार, अच्छा तालिबान और बुरा तालिबान जैसा कोई विचार नहीं है, तालिबान के द्वारा अफगानिस्तान के वर्तमान संविधान एवं लोकतांत्रिक शासन का भी विरोध किया जा रहा है। इनके अनुसार शासन व्यवस्था इस्लाम धर्म के आधार पर संचालित होनी चाहिए। तालिबानियों से वार्ता के बिना अफगानिस्तान में शांति एवं स्थायित्व संभव नहीं है। तालिबान पर अभी भी पाकिस्तान का नियंत्रण बना हुआ है और वास्तविक रूप में तालिबान, पाकिस्तान की ही उपज है। तालिबानी लोकतांत्रिक शासन व्यवस्था के विरोधी है इसलिए उन्होंने अफगानिस्तान के निर्वाचन केंद्र पर भी हमला किया।

अफगानिस्तान में तालिबानियों के पुनरुत्थान का कारण आंतरिक और घरेलू भी है, जो निम्नलिखित है -

1. तालिबान के प्रभावी होने का बड़ा कारण प्रशासन में व्यापक भ्रष्टाचार का पाया जाना है।
2. आम जनता के समक्ष दोहरी समस्या, क्योंकि वे सरकार से असंतुष्ट हैं तथा तालिबान के भी समर्थक नहीं हैं।
3. भ्रष्ट अधिकारियों की सहायता से अभी भी अफीम की खेती की जाती है।

4. औद्योगीकरण का अभाव, आर्थिक पिछड़ेपन और बेरोजगारी के कारण लोग अफीम के अवैध व्यापार में संलिप्त हैं।

## अमेरिका, भारत एवं अफगानिस्तान

अफगानिस्तान में वर्ष 2001 में अमेरिका के 'आतंक के विरुद्ध युद्ध' के हमले के बाद अफगानिस्तान में नाटो के नेतृत्व में अंतरराष्ट्रीय सैनिकों को तैनात किया गया था, जिनके द्वारा अफगानिस्तान में विद्यमान आतंकवादी संगठनों के विरुद्ध सैनिक कार्यवाही की गई। अमेरिका के द्वारा इन संगठनों पर ड्रोन विमानों से हमले किए गए और भारत की अफगानिस्तान में कोई सैनिक भूमिका नहीं थी, बल्कि भारत के द्वारा अफगानिस्तान में आधारभूत संरचना का विकास किया गया तथा क्षमता निर्माण कार्यक्रम में योगदान किया गया। अमेरिकी सैनिक पश्चिम एशिया में आईएसआईएस के विरुद्ध तैनात किए गए हैं एक अत्यधिक महत्वपूर्ण निर्णय के अंतर्गत वर्ष 2014 से युद्ध में अमेरिकी सेनाओं की भूमिका अफगानिस्तान से समाप्त हो गई है तथा अब अमेरिकी सैनिक केवल अफगानी सेनाओं को प्रशिक्षण देंगे तथा आतंक विरोधी गतिविधियों में अफगानी सेनाओं की सहायता करेंगे। अमेरिकी सेनाओं की वापसी के बाद तालिबानी अफगानिस्तान में पुनः अपना प्रभाव बढ़ाने का प्रयत्न कर रहे हैं तथा पाकिस्तान के द्वारा फिर से अफगानिस्तान में अपनी भूमिका को शक्तिशाली करने का प्रयत्न किया जा रहा है जबकि भारत के द्वारा अफगानिस्तान के साथ प्रभावी आर्थिक और सामरिक संबंधों को बनाए रखने पर बल दिया गया है। अशरफ गनी ने 19 सितंबर, 2014 को अफगानिस्तान के नए राष्ट्रपति के रूप में शपथ ग्रहण की। भारत के द्वारा अफगानी सेना एवं पुलिस को प्रशिक्षण दिया जा रहा है दोनों के बीच सामरिक सहभागिता का भी समझौता हो चुका है। वर्ष 2016 में भारतीय प्रधानमंत्री नरेन्द्र मोदी ने अफगानिस्तान की यात्रा की। भारत के द्वारा अफगानिस्तान को दो हेलीकॉप्टर दिए गए और पहली बार भारत ने अफगानिस्तान को मारक हथियार प्रदान किए हैं, जिससे यह प्रतीत

होता है कि भारत अफगानिस्तान सम्बन्ध द्विपक्षीय राष्ट्रीय हितों पर आधारित है, जो सरकार के परिवर्तन के साथ परिवर्तित नहीं होंगे।

अफगानिस्तान, एक भूमि आवद्ध देश है। इसलिए व्यापार हेतु पाकिस्तान पर निर्भर है। पाकिस्तान, अफगानिस्तान में प्रवेश के लिए पारगमन मार्ग प्रदान नहीं कर रहा है। परिणाम स्वरूप भारत ईरान के चाबहार पत्तन का प्रयोग करते हुए अफगानिस्तान में प्रवेश कर रहा है। अफगानिस्तान में भारत की उपस्थिति से पाकिस्तान पर दबाव पड़ता है क्योंकि पाकिस्तान, भारत और अफगानिस्तान के मध्य स्थित है। अफगानिस्तान में बेहतर स्थिति के परिणामस्वरूप कश्मीर में आतंकवाद पर भी नियंत्रण किया जा सकता है। यह भी उल्लेखनीय है कि पाकिस्तान एवं अफगानिस्तान के बीच संबंध प्रतिकूल है। इसीलिए अफगानिस्तान में भारत की उपस्थिति का पाकिस्तान विरोध करता है।

अमेरिका के राष्ट्रपति बराक ओबामा के द्वारा अफगानिस्तान और पाकिस्तान के संबंध में नीति का निर्माण किया गया जिसे 'अफ-पाक नीति' का नाम भी दिया गया। उन्होंने अफगानिस्तान में एक लोकतांत्रिक एवं स्थाई सरकार बनाने का प्रयत्न किया। अफगानी सैनिकों को प्रशिक्षित करके अफगानिस्तान की सुरक्षा का दायित्व अफगानिस्तान के सैनिकों को सौंपा जाए और क्रमिक रूप में अमेरिकी सेनाओं को अफगानिस्तान से वापस बुलाया जाए। इस नीति के अंतर्गत अमेरिका के द्वारा वर्ष 2014 में अफगानिस्तान से अमेरिकी सेनाओं को वापस बुलाने का निर्देश दिया और अमेरिका के द्वारा तालिबान के साथ बातचीत प्रारंभ की गई। अमेरिका के लिए तालिबान समस्या नहीं है, बल्कि वह अलकायदा को अपना दुश्मन मानता है और अफगानिस्तान में आतंकवाद को सीमित करने के लिए अमेरिका के द्वारा पाकिस्तान को बड़ी मात्रा में सैनिक एवं आर्थिक सहायता प्रदान की जा रही है। अमेरिका, अफगानिस्तान में शांति बहाली के लिए भारत और पाकिस्तान

के बीच सहयोग स्थापित करने का भी दबाव बना रहा है तथा अमेरिका के द्वारा अभी भी अफगानिस्तान की सेना को प्रशिक्षित किया जा रहा है।

अमेरिका के राष्ट्रपति डोनाल्ड ट्रंप ने नई अफ-पाक नीति को अफ पाक- इंडिया नीति में परिवर्तित कर दिया जिसमें भारत को महत्वपूर्ण स्थान देते हुए इसका दायरा संपूर्ण दक्षिण एशिया तक बढ़ा दिया गया। ट्रंप ने पाकिस्तान को आतंकियों की सुरक्षित पनाहगाह घोषित किया जो अफगानिस्तान में अराजकता फैला रहे हैं। इस नीति के प्रमुख बिंदु निम्नलिखित हैं--

1. यह नीति अब केवल अफगानिस्तान एवं पाकिस्तान तक ही सीमित नहीं है, बल्कि इसमें संपूर्ण दक्षिण एशिया को शामिल कर लिया गया है तथा तालिबान, अल कायदा, आई. एस. आई. एस. के अतिरिक्त लश्कर-ए-तैयबा जैश-ए-मोहम्मद, हक्कानी नेटवर्क इत्यादि को भी सम्मिलित किया गया।
2. इस नीति में अमेरिकी सेनाओं की समयबद्ध वापसी को अस्वीकार कर दिया गया तथा कहा गया कि अमेरिकी सेनाओं की वापसी अफगानिस्तान की स्थिति पर निर्भर करेगी। ट्रंप प्रशासन ने अफगानिस्तान में और अधिक सेनाओं की नियुक्ति की जो पूर्व की ओबामा प्रशासन की नीति के विरोध में है।
3. इस नीति में तालिबान जैसे आतंकवादी संगठनों से किसी भी प्रकार की वार्ता का विरोध किया गया है तथा अच्छे बुरे तालिबान के विभेद को अस्वीकार किया गया है।
4. ट्रंप प्रशासन ने कहा है कि पाकिस्तान में स्थित आतंकवादियों से निपटने के लिए अमेरिका अब पाकिस्तान के साथ सूचना साझा नहीं करेगा तथा आवश्यकता पड़ने पर पाकिस्तान की अनुमति के बिना पाकिस्तान में स्थित आतंकवादी ठिकानों पर हमला करेगा।
5. इस नीति में अफगानिस्तान के विकास तथा स्थायीत्व में भारत की विशेष भूमिका की आकांक्षा की गई है।

अमेरिका में 20 जनवरी 2021 को जो बाइडन ने राष्ट्रपति के रूप में सत्ता संभाली तथा बाइडन ने कहा की अमेरिका पहले से ज्यादा मजबूत होगा मैं लोकतंत्र और हर अमेरिकी नागरिक की रक्षा करने का वादा करता हूं। अंतरराष्ट्रीय समुदाय को अपने संदेश में बाइडन ने कहा कि पिछले 4 वर्षों में तहस-नहस कर दिए गए गठबंधनों का वह पुनर्निर्माण करेंगे। बाइडन ने कहा कि हमने 20 साल तक अफगानिस्तान के साथ काम किया है अब हमारी सेना 31 अगस्त 2021 तक यहां से अमेरिका की सेना वापस आ जाएंगी। सोवियत सेना के निकलने के बाद दूसरी महाशक्ति अमेरिका का प्रवेश हुआ 11 सितंबर 2001 की आतंकी वारदात के बाद अमेरिका ने तालिबान को बेदखल करने के लिए हमला किया जिसने अलकायदा के नेता ओसामा बिन लादेन को पनाह दे रखी थी अमेरिका ने 2011 में लादेन को मार गिराया करीब 20 साल बाद अमेरिका ने अफगानिस्तान में युद्ध खत्म किया और अपने सैनिकों की वापसी की पीछे रह गई अमेरिका समर्थित सरकार जो भ्रष्टाचार में दूबी उर्दू में बैठी थी ठहरी हुई शांति वार्ता के बीच वह तालिवान लड़ाकों को रोकने में नाकाम रही राष्ट्रपति अशरफ घनी कि 15 अगस्त 2021 को देश से भागने के बाद तालिबान ने काबुल पर कब्जा कर लिया इसी के साथ दो दशक के उस अभियान का भी अंत हुआ जिसमें अमेरिका और उसके सहयोगियों ने अफगानिस्तान को बदलने की कोशिश की थी अब 15 अगस्त 2021 के बाद तालिबान अपनी नई सरकार के गठन का प्रयास कर रहा है अमेरिकी सेनाएं 31 अगस्त 2021 को अफगानिस्तान से जा चुकी है और अफगानिस्तान में नई सरकार तालिबान के द्वारा 7 सितंबर 2021 को गठित की जा चुकी है। 33 सदस्यों बाली कार्यवाहक सरकार में मुल्ला मोहम्मद हसन अबुंद प्रधानमंत्री तथा मुल्लाह अब्दुल गनी बरादर उप प्रधानमंत्री, मुल्ला याकूब को रक्षा मंत्री, सिराजुद्दीन हक्कानी गृहमंत्री तथा हैबतुल्ला अबुंदजादा सरकार के संरक्षक बनाए गए हैं। अब तालिबान अफगानिस्तान में शासन व्यवस्था का संचालन किस तरह करेगा यह विश्व समुदाय के समक्ष एक प्रमुख चुनौती है।

## निश्कर्ष

अफगानिस्तान को लेकर 'रूस चीन पाकिस्तान' का जो त्रिकोणात्मक सहयोगी गुट बन रहा है उससे कूटनीतिक स्तर पर भारत के समक्ष भविष्य में असहज माहौल बन सकता है जिसका तोड़ ढुंढने के प्रयास अभी से शुरू हो जाने चाहिए और इस क्षेत्र में भारत की भूमिका का निर्धारण अंतरराष्ट्रीय स्तर पर रूस और चीन के साथ संबंधों को देखते हुए प्रभावकारी ढंग से होना चाहिए। एशियाई व दक्षिण एशियाई क्षेत्र से लेकर भारतीय उपमहाद्वीप की वृहद सुरक्षा का इससे पहले जब भी सवाल उठा है तो 'भारत-रूस- चीन' के सुरक्षा कवच का जिक्र हुआ है। परंतु अफगानिस्तान की ताजा स्थिति ने इस समीकरण को इस तरह बदला है कि भारत की जगह पाकिस्तान आ गया है। यहीं चिंता की सबसे बड़ी बात है जिससे भारतीय उपमहाद्वीप में भारत की निर्विवाद शिखर स्थिति प्रभावित हो रही है। इसकी असली वजह अफगानिस्तान के तालिबान है जिनके हाथों में अमेरिका वहां का प्रशासन सौंप कर वापस आ रहा है। कुछ कूटनीति विशेषज्ञों का मानना है कि विगत वर्ष अमेरिका और तालिबान के बीच कतर के दोहा में समझौता हो जाने के बाद भारत को तालिबान नेताओं के साथ बातचीत का रास्ता खोल देना चाहिए था जिससे अमेरिका वापस जाने के बाद तालिबान पर भारत का प्रभाव रहे।

इस संदर्भ में हमें ध्यान रखना चाहिए कि रूस ने भी अफगानिस्तान में 1980 से लेकर 1989 तक अपनी सेना की मदद से मन माफिक शासन स्थापित करने की कोशिश की थी मगर वह असफल रहा था और उसे अफगानिस्तान छोड़ना पड़ा था। इसी समय रूस में 'गोरवाचोव' के नेतृत्व में सोवियत संघ के विघटन की प्रक्रिया शुरू हुई थी। उस समय सोवियत संघ का विरोध मुजाहिदीन कर रहे थे जिन्हें अमेरिका का पूरा समर्थन प्राप्त था। इन्हीं मुजाहिदीनों का बाद में नाम बदलकर तालिबान पड़ा और इन्हीं में से ओसामा बिन लादेन भी निकला और उसका आतंकवादी संगठन अलकायदा भी निकला जिसने सीधे अमेरिका को ही निशाने पर तब लिया जब अफगानिस्तान में सोवियत संघ के जाने के बाद तालिबान की तास्सुवी जेहादी वह आतंकी कार्रवाइयों ने पूरी दुनिया का ध्यान खींचना शुरू किया और 1996 में इन्होंने

अपनी ही सरकार का गठन कर लिया। यह सरकार 2001 तक नाजायज तौर पर उस हालत में चलती रही जबकि इसे पाकिस्तान के अलावा किसी दूसरे देश ने मान्यता देना उचित नहीं समझा।

2001 में अलकायदा ने न्यूयॉर्क में वर्ल्ड टावर पर हमला किया और इसके बाद अमेरिका ने पाकिस्तान को अपना सहयोगी बनाते हुए नाटो देशों की फौजों के साथ काबुल में प्रवेश किया। अमेरिका ने आतंकवाद खत्म करने के नाम पर पाकिस्तान को नाटो संगठन में पर्यवेक्षक का दर्जा देकर तय किया कि वह अफगानिस्तान में आतंक का शासन समाप्त करने के लिए पाकिस्तान को अपने साथ रखना जरूरी मानता है। पाकिस्तान में सोवियत हमले के बाद जी अफगानी शरणार्थी केटा में लेकर पेशावर तक लाखों की संख्या में आये थे उनमें ही तहरीक-ए-तालिबान पाकिस्तान संगठन का उदय हुआ और इस्लामाबाद के हुक्मरानों की हर संभव कोशिश रही कि वे तालिबान का उदार चेहरा पेश करते हुए उन्हें अफगानिस्तान के स्वदेशी शासन में स्थापित करें। इसी के चलते 2012 में कतर की राजधानी दोहा में तालिबान संगठन का कार्यालय स्थापित हुआ और तभी तकालीन अमेरिकी राष्ट्रपति बराक ओबामा ने अच्छे और बुरे तालिबान का फलसफा पेश किया

जाहिर तौर पर रूस व चीन की निगाह इस घटनाक्रम पर थी जिसकी वजह से रूस ने विगत वर्षों में तालिबान नेताओं को मास्को में बुलाकर वात भी की थी। इसकी एक वजह यह भी कही जा सकती है 2002 से 2021 तक अमेरिकी साये में जितनी भी सरकारें अफगानिस्तान में बनी उनकी अपील पूरे देश में नहीं थी। रूस इस मामले में भुक्तभोगी था अतः उसने अमेरिकी वापसी की पृष्ठभूमि में सबसे पहले अवसर पाने का प्रयास किया जिस से चीन ने प्रेरणा लेते हुए तालिबानियों को स्थान देना शुरू किया और जुलाई महीने में चीनी विदेश मंत्री ने तालिबानी नेता मुल्ला बरादर के साथ आए प्रतिनिधिमंडल से बातचीत की। लेकिन पाकिस्तान की भूमिका के साथ इन देशों ने कोई छेड़छाड़ करने की कोशिश नहीं की अलबत्ता रूस की तरफ से भारत के लिए ऐसे संकेत जरूर भेजें गये कि वह तालिबानों पर प्रभाव डालने की कोशिश करें। असल में रूस चीन पाकिस्तान को त्रिकोण इसी मोड़ पर आकर बनता है जिसकी

काट भारत को ढूंढ़नी है। वास्तविकता तो यह है कि गत 15 अगस्त 2021 के दिन जब तालिबान अफगानिस्तान में काबिज हुए तो उसे 4 दिन पहले ही 11 अगस्त को रूस, चीन, पाकिस्तान और अमेरिका के प्रतिनिधि दोहा में मिले मगर भारत उसमें शामिल नहीं हो सका था। इसकी वजह तालिबान पर भारत का कोई प्रभाव ना होना बताया गया। मगर दो दिन पहले ही तालिबान के शीर्ष नेताओं में मे एक शेर मोहम्मद अब्बास ने जिस तरह एक बयान जारी कर कहा कि भारत उपमहाद्वीप में बहुत महत्वपूर्ण है और उसके साथ अफगानिस्तान के त्रिकोण की सन्तुलनकारी शक्ति भारत हो सकता है। सुरक्षा परिषद के संबंध बहुत मायने रखते हैं। उम्मीद निकलती है कि रूम चीन-पाकिस्तान अध्यक्ष होने के नाते भारत चाहता तो काबुल में संयुक्त राष्ट्र की शांति सेना भिजवा सकता था लेकिन यह मौका उसने खो दिया हालांकि यह मौका तो अभी भी है भारत चाहे तो तालिवान से सीधा संवाद करके उन्हें लोकतांत्रिक मार्ग पर चलने के लिए भी प्रेरित कर सकता है। भारत में प्रधानमंत्री नरेंद्र मोदी के नेतृत्व में शीर्ष स्तर पर चली सघन कूटनीति का सकारात्मक परिणाम 8 सितंबर 2021 को भारत ने अफगानिस्तान के पेचीदा मुद्दे पर अमेरिका और रूस को एक जमीन पर ला खड़ा किया। काबुल में तालिवान पर नकेल कसने, आतंकवाद के खिलाफ उनसे प्रतिवद्धता हासिल करने और कानून का शासन बहाल करने की चुनौती को साकार करने की भारतीय प्रयासों के तहत अमेरिकी खुफिया एजेंसी सीआईए के प्रमुख विलियम बर्स और रूसी सुरक्षा परिषद के प्रमुख निकोलाई पत्रुशेव को एक साथ नई दिल्ली बुला लिया गया। इसे अंतरराष्ट्रीय राजनीति में भारत के मास्टर स्ट्रोक के रूप में देखा जा रहा है। सीआईए चीफ की भारत यात्रा को गोपनीयता के पर्दे में रखा गया। रूसी विदेश मंत्रालय के सूत्रों ने बताया कि पतरूशेव की भारत यात्रा 24 अगस्त 2021 को प्रधानमंत्री नरेंद्र मोदी और रूसी राष्ट्रपति ल्वादीमीर पुतिन के बीच फोन पर हुई बातचीत के फॉलो अप के तौर पर हुई है। पत्रुशेव 8 सितंबर 2021 को प्रधानमंत्री नरेंद्र मोदी, विदेश मंत्री एस जयशंकर और एनएसए अजीत डोभाल से मिले। दूसरी ओर विदेश मंत्रालय के सूत्रों के अनुसार विदेश मंत्री एस जयशंकर और अमेरिकी विदेश मंत्री बिलिंकेन के बीच वार्ता से सीआईए की हाई प्रोफाइल टीम की भारत यात्रा का रोड मैप तैयार हुआ। इस प्रकार भारत ने अफगानिस्तान संकट पर अमेरिका और रूस के बीच सेतु का कार्य किया है।

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**Quality Analysis and Treatment  
of Water in Sanganer Area of Jaipur  
Dr. Anil Bansal**

**Abstract:**

This research paper presents a chemical examination of the ground water quality in Sanganer, Jaipur, and Rajasthan. It's essential to determine the quality of a water source before it can be used for drinking or irrigation. In both urban and rural areas; groundwater serves as a primary supply of drinking and irrigation water. Humans, animals, and other organisms can ingest or absorb toxic compounds found in industrial waste. A rise in population means an increase in waste. To keep up with population growth and economic expansion, water consumption has increased in metropolitan areas. Jaipur has conducted geochemical tests on the underground water in both urban and rural areas to determine its appropriateness for home use. As a result, they were compared to standard limits set by Bureau of Indian Standards and World Health Organization (WHO). All across the city of Jaipur, water samples were collected. Parameters such as pH and temperature were measured as well as dissolving oxygen and total

hardness as well as BOD and COD as well as sodium and potassium as well as calcium, magnesium, chloride, fluoride,

**Keywords:** Water Quality in the Ground, An evaluation of the local. Analytical Chemistry, Hydrogen physicochemical characteristics are

### **Introduction:**

A vital natural resource, water is crucial to all living organisms. Pure water has a variety of physico-chemical characteristics. The term "contaminant" refers to contaminants present in water, which can be either natural or anthropogenic they influence water quality because to their large organic content (high organic content), wide pH range, presence of heavy metals and other pollutants (Daly and Warren 1994). Located 20 kilometers from Jaipur, the town of Sanganer is known for its dyeing and printing industry, as well as each lock and screen-printing equipment has a capacity of around 1 Textile industries use a variety of azo dyes. Dyes and other chemicals are dumped in the Amani shah drain, or on the land adjacent to the dying plants (Khan et al., 1995).

Water of acceptable drinking quality is essential to human health, and its availability is critical to human survival. Use of statistical techniques is employed to investigate groundwater physiochemical characteristics at three locations within the Sanganer Tehsil of Jaipur district, Rajasthan. To conduct the research during the course of a year, groundwater samples were obtained before, during, and after the monsoon.

Water is essential to all life on Earth because of the important substances it contains. It provides ecological resources for our planet's flora, and it is essential to all life without a suitably Urbanization and industrialization in Jaipur are accelerating at an alarming rate, making it one of the fastest-growing Ammonia, arsenic and phenol are among the chemical pollutants released by businesses, as are copper, cadmium and zinc as well as chromium. In addition to these, oil and grease and carbonate and bicarbonate nitrite phosphoric acid are other significant pollution sources. Agriculture, forestry, cattle and fisheries, trade and industry-producing human activity is practically impossible. The chemical, physical, and microbiological characteristics of the This makes it an excellent choice for municipal water supply as well as commercial, industrial, and agricultural uses. As a result of increasing

depletion of the groundwater supplies, Jaipur's groundwater quality has degraded. In Jaipur, water samples were taken to determine parameters such as total hardness (TH), pH, electro-conductivity (EC), carbonation and biocarbonation, sulphate ( $\text{SO}_4^{2-}$ ), ( $\text{HCO}_3^-$ ), chloride ( $\text{Cl}^-$ ), nitrate ( $\text{NO}_3^-$ ), iron ( $\text{Fe}^{3+}$ ), calcium ( $\text{Ca}^{2+}$ ), magnesium ( $\text{Mg}^{2+}$ ), sodium ( $\text{Na}^+$ ) and potassium ( $\text{K}^+$ ) as well as silicon dioxide. To name a few of the significant contributors to water pollution, there are discharges from sewage treatment plants, fertiliser and pesticide runoff, oil and radioactive spills, as well as agricultural and industrial waste and irrigation. The environment is harmed when dust falls. Arsenic, lead, nickel, chromium, and cadmium are just a few of the heavy metals found in high concentrations in dust (Cd). Water for franking and other household duties is primarily obtained from wells in the region surrounding the facility. [1]

### **Research Methodology:**

as it was done in accordance with the standard procedure for collecting water samples at the international level (APHA procedure) by collecting water samples from a variety of sources, including tube wells and hand-pump systems in densely populated areas, well as commercial, agricultural and residential colonies at various depths. Jaipur industrial

region ground water samples were analysed before and after the rainy season. A 2.5-liter bottle of high-quality polyethylene was used to capture the water sample, which was cleaned, dried, and Calcium ( $2^{+}$ ), magnesium ( $Mg^{2+}$ ), sodium ( $Na^{+}$ ), and potassium ( $K^{+}$ ) concentrations in the sample were measured using an ELICO-CL-220 flame photometer (APHA [2] et al, 1985) The Tri An Atomic Adsorption Spectrophotometer was used to detect trace elements in metals such as Ni, Pb, and Br

employing anion Chloride ( $Cl^{-}$ ), Carbonate ( $CO_3^{2-}$ ), and Bicarbonate ( $HCO_3^{-}$ ). A digital portable water analysis kit was used to evaluate pH, TH, and TDS on-site. The following is how the Richard equation yielded the total hardness (TH): $TH=2.497 Ca^{2+} + 4.115 Mg^{2+}$  By the Bureau of Indian Standards (BIS), the WHO, and the Indian Council of Medical Research (ICMR), the recommended standard level is determined (WHO4).

## Result and Discussion:

Analyzed and compared all samples to the drinking water standard

**Table 1: Methods of water disinfection (Table 1) The pH ranged from 7.40 to 8.5.**

S.no.	Parameters	WHO: 2003	BIS: 1999	ICMR: 1975
01.	TDS	600	2000	500
02.	pH	6.5-	6.5	7.0
03.	Na <sup>+</sup>	-	-	-
04.	K <sup>+</sup>	-	-	-
05.	Ca <sup>2+</sup>	100	-	-
06.	Mg <sup>2+</sup>	150	-	-
07.	Cl <sup>-</sup>	250	-	-
08.	CO <sub>3</sub> <sup>2-</sup>	-	-	-
09.	SO <sub>4</sub> <sup>2-</sup>	250	400	200
10.	NO <sub>3</sub> <sup>-</sup>	50	100	50
11.	TH	500	600	600

**Table 2: WHO, ICMR, and BIS have established drinking water standard limits.**

Characteristics	Unit	WHO		ICMR		BIS	
		HDL	MPL	HDL	MPL	HDL	MPL
pH	-						
E.C.	m mho/cm	-	-	-	-	-	-
TDS	mg/l	500	1000	500	1500	500	2000
Total Alkalinity	mg/l	120	250	120	250	200	600
Calcium hardness	mg/l	75	200	75	200	75	200
Magnesium hardness	mg/l	30	50	50	200	-	-
Total hardness	mg/l	100	500	200	600	200	600
Chloride	mg/l	200	600	200	1000	250	1000
DO	mg/l	-	-	-	-	-	-
COD	mg/l	-	-	-	-	-	-
Coliform	Coliform/100ml	Nil	10	Nil	10	Nil	10

WHO: World health Organisation [3]

ICMR: Indian Council of Medical Research

BIS: Bureau of Indian Standards [4]

HDL: Highest desirable limits

MPL: Maximum permissible limits.

**Table 3: According to BIS guidelines, the maximum permissible limit of physico-chemical parameters is**

S. No.	Parameters	Permissible limit as per BIS standards
1.	pH	6.5-8.5
2.	Total Hardness	600
3.	TDS	2000
4.	Fluoride	1.5
5.	Nitrate	100
6.	Sulphate	400
7.	Calcium	200
8.	Alkalinity	600
9.	Magnesium	100
10.	Chloride	1000

Chloride (Cl<sup>-</sup>): In the case of irrigation water, it's anions Evaporation and precipitation have a substantial impact on the chloride concentration of water. A maximum of 250 mg/L of chloride is advised. 32.49 to 624.81 mg/L is the range of chloride concentrations. [5-6].

Fluoride: In human diet, it is crucial for the growth of bones. Fluoride in groundwater can cause tooth mounting, skeletal fluorosis, and knee joint deformity. Salts containing fluoride are widely employed in the steel and aluminum industries as well as the brick as the fluoride value ranged between 0.6. Total Dissolved Solid (TDS): Dissolved Solid Total (TDS) is a critical metric in determining the quality of There is a maximum of 500 mg/L for TDS (ICMR). Water samples that have been evaporated to dryness are used to assess the quantity of residue that remains. The water will taste sour and have lower TDS (I've seen numbers as low as 239.60) if you add more than the recommended quantity.

Sulphate ( $\text{SO}_4^{2-}$ ): When natural water is exposed to sunlight, the Sulphate ion is one of Increased Sulphate levels can lead to digestive problems. The majority of samples had sulphate values below 200 mg/L. It ranged from 8.55 mg/L to 112.5 mg/L. Nitrate ( $\text{NO}_3^-$ ): "Methamoglobinemia" or "BLUE BABY" is an illness caused by high levels of nitrate in water. It has a negative impact on plant nutrition and is mildly poisonous. It is also possible that consuming large amounts of nitrates on a regular basis can lead to any type of biological or chemical interaction can lead to cancer. The pH of the water system has a direct effect on the nitrate concentration. Tuberculosis and

corrosion can occur at lower pH levels, whereas incrustation, silt accumulation, and chlorination problems can occur at higher pH levels (ICMR).

**Alkalinity:** The total alkalinity should not exceed 200 mg/L. (ICMR). Since carbonates and bicarbonates are the primary sources of groundwater alkalinity, the range of values that may be obtained from a single sample is somewhat wide.

**Total Hardness (TH):** A water's hardness is a significant component in determining its suitability for use in residential, drinking, and It is estimated that the total humic acid (TH) content of a water sample For overall hardness, a limit of 300 mg/L is (ICMR). Hard water is a result of the soil containing high levels of calcium and magnesium. It is a (ICMR: 1975). The city's groundwater contains calcium levels ranging from 21 to 222 mg/L before and after the rainy season.

**Magnesium ( $Mg^{2+}$ ):** There should be no more than 200 mg/L of magnesium in a person's drinking water (BIS: 1999). Groundwater in Jaipur can range from 2.9 mg/L to 133 mg/L throughout the pre- and post-monsoon seasons.

**Carbonate ( $CO_3^{2-}$ ) and Bicarbonate:** As a result of the presence of carbonates and hardness, pipes are prone to in Sodium ( $Na^+$ ): for

concentrations ranging from 20.67 mg/L to 200 mg, high sodium levels are unsuitable due to plants and crops' sodium sensitivity.

Potassium ( $K^+$ ): All living creatures, including people and plants, require iodine as a critical nutrient. Due to the weathering of the potash silicate mineral, potash fertilisers and surface water consumption are both commonplace. Mineralized feldspar is more common in sedimentary rocks, but mica and other clay minerals also include Feldspar. According to the European Economic Community (EEC, 1980), potassium is not included in the drinking water standard of the BIS. Higher quality water has been determined to have been contaminated.

Electrical Conductivity (EC): From 345 micro-Siemens/cm to 2550 micro-Siemens/cm, groundwater (WHO, 2003).

Calcium ( $Ca^{2+}$ ): It is recommended that drinking water have no more than 100 milligrams of calcium (WHO), 200 milligrams of calcium (BIS:1999), and 200 milligrams of bicarbonate ( $HCO_3^-$ ). Due to their large volume, bicarbonates are the most common form of carbonate, which is created when carbonates react with the soil's you can find

carbonate values ranging from 6 to 42 milligrams per liter (mg/L) and bicarbonate values ranging.

Using water quality to assess salinity and alkalinity in irrigation systems: Water quality is an important issue when assessing salinity or alkalinity in an irrigation system. An excellent soil and water management plan can lead to the utilisation of good quality water. To determine if groundwater is suitable for irrigation purposes, here are some guidelines:

1. Salinity
2. Proportion of Sodium to other Cations (SAR)
3. Residual Sodium Carbonate (RSC)
4. Boron

Salinity: For irrigation purposes, groundwater with a high salt level is not suitable. There is a close correlation between saturation and conductivity (TDS) (EC). If irrigation water has high TDS and EC concentrations, this might cause the plant to suffer. There is also an impact on soil drainage and aeration, which has an impact on plant growth because of the salt content in water. Through the roots, soil water is absorbed by the plant due to osmotic pressure. Plants have a harder time overcoming osmotic pressure, which allows their root membrane to better absorb water and nutrients. In order to maintain a

stable concentration of dissolved solids, the root zone must be properly drained. [7-8]

Proportion of Sodium to other Cations (SAR): If you want to know if utilising water that is rich in sodium or high in alkali would result in saline soil, you should know what is known as the "Sodium Absorption Ratio" (SAR). Alkali dangers are greater when sodium is present in significant concentrations, while calcium and magnesium are less likely to be alkaline-active constituents. Soil salt absorption is closely related to irrigation water's SAR value. Due to the high salt concentration of irrigation water, it might lead to the cations exchange complex malfunctioning. It's because of this that the sodium adsorption ratio is a tool for determining how dangerous high sodium water is (Richards, 1954).

For example, there is less danger from sodium in groundwater with a lower SAR (2 to 10) than with a medium SAR (7 to 18) or a Pre-monsoon value of SAR (0.44-0.31).

#### Residual Sodium Carbonate:

Carbonate and bicarbonate ions found in groundwater tend to precipitate calcium and magnesium. Decreased soil permeability occurs as a result of increased sodium concentration. Water suitable

for irrigation can be affected by alkaline earth, as well as the amount of bicarbonate and carbonate that exceeds sodium carbonate residue (RSC).:  $RSC = (HCO_3^- + CO_3^{2-}) - (Ca^{2+} + Mg^{2+})$

It is inappropriate for irrigation and the soil structure weakens when the RSC level exceeds 2.5 ppm. All you need to know is that it is safe to use water with less than 1.25 parts per million (ppm). [9]

Boron: When the concentration is relatively low, it is needed for the regular growth of all plants, but if it is exceeded Boron is a necessary component for plant growth, however it can be harmful in irrigation water if it exceeds 2 mill. Because of its low concentration, it has no effect on the soil's physical and chemical properties, but a large concentration effects. [10]

## **Conclusion:**

As evaluated in groundwater samples taken from Pratap Nagar, practically every physicochemical parameter met or surpassed World Health Organization standards. In the wake of these findings, groundwater fluoride levels have risen to frighteningly high levels while

nitrate levels have above BIS permissible limits in 52% of the region, according to the findings (IS 10500: 2012). Additionally, 57% of the region has TDS levels that are above the permitted limit. Chloride concentrations in some portions of the study region are over the World Health Organization's allowable standard, which implies that groundwater may only be utilised following treatment, such as DE fluoridation and softening of the water. [11]

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## **A Study of the Mughal Empire: It's Contribution to the Art and Architecture**

**Dr. Shippy Pareek**

### **Abstract**

Mughal design flourished with "The Indian subcontinent" when the standard of "The Mughal Empire (1526-1858)", with the Indo-Islamic-Persian style being the most remarkable and noticeable component. This recent fad emerged from a combination of parts of Islamic craftsmanship and design brought to India by the Turkish invaders (1192-1398), which made significant structures, for example, the Qutub Minar, which incorporate Persian workmanship and engineering. Mughal landmarks are for the most part situated in north India, in spite of the fact that there are likewise a few vestiges in Pakistan. Mughal structures are embellished with moving plants and blossoms, jewellery and crowns in green, blue and gold. The essential objective of the study is just to clarify the magnificence of Mughal dynasty's design and how it upgraded India's compositional area. Mughal Empire, Indo-Islamic, Culture, and Architecture are a portion of the terms used to depict the Mughal Empire.

**Keywords: Mughal design, Culture, Architecture, Indo-Islamic-**

**Persian style.**

## **Introduction:**

The Mughal tradition was made after Babur's triumph in the Panipat War in 1526. The Mughal Dynasty ruled from the sixteenth to the eighteenth hundreds of years, showing a wide scope of artistic expressions and engineering styles that thrived during the period. The Mughal line was made after Babur's triumph in the Panipat War in 1526. As prominent as their reign and power in the Indian Subcontinent, the rulers' association in the improvement of workmanship, culture, and engineering is similarly significant. The Mughal Dynasty administered from the sixteenth to the eighteenth hundreds of years, showing a wide scope of fine arts and design styles that prospered during the period, portraying a blend of Islamic and Indian impacts. The example and engineering are as yet being explored. India, Pakistan, Afghanistan, Nepal, and Bangladesh all have examples of these styles.

## **Review of Literature:**

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Ahmad, Tabqat-i-Akbar, 3 Vols. Bib. Ind., Calcutta 1927-35 is also a very important work on the history of Akbar's period.

### **Objective of study:**

1. To examine the craftsmen' ingenuity and innovation throughout the Mughal era.
2. To investigate the effect and extent of Mughal royal tendencies.
3. To look at the possibilities for improving production and productivity under the influence of Mughal culture.

### **Methodology:**

Secondary data was gathered for this study from a variety of websites, research papers published in journals, and books.

### **Hypothesis:**

A hypothesis is a precise prediction statement. Not all research includes or should include a hypothesis. By its very nature, this research is basic, pure, or fundamental. Typically, researchers in such studies are attempting to investigate a subject issue for the first time. The goal of these investigations is to come up with a theory that can be tested in the future via more in-depth study. As a result, formulating a hypothesis in this investigation is tough. As a result, efforts are being undertaken to formulate some predictions that this research could deliver at its conclusion.

### **Mughal Emperor's Establishment:**

#### **The very first Mughal Ruler, Babur:**

Mughal implies Mangol or Mangolian in Arabic and Persian. The Mughal Empire was established by Zahiruddin Muhammad Babur, a

Chagatai Turkic ruler. In 1483, he was brought into the world in Central Asia into the supreme tradition of the minor nation Fargana.

On his father's side, he was a descendent of Turkic champion Timurlane, and on his mother's side, he was a relative of Mongol ruler Genghis Khan. Babur crushed Sultan of Delhi Ibrahim Lodi in the principal skirmish of Panipat in 1526, laying out his strength over quite a bit of Northern India. The Empire he laid out was a complex society based on strict resistance.

### **The second Mughal Emperor, Humayun**

When Babur expired in 1530, his child Humayun, just owing "The age of 23 years", ascended to the king. He suddenly originate himself battling his foes on two opposing facades. "In the west", the ruler of "Gujarat", Bahadur Shah, and in the east, he was challenged by Afghan chieftains led by "Sher Khan Sur (known as Sher Shah)".

Humayun was trapped in uncharted terrain after taking Gaur in 1539, and after he attempted to evacuate his men near "Agra" Sher Khan cut off his relations then destroyed Sher Shah at "Chausa on the Ganges" Both the soldiers saw over at "Kanauj" in 1540, then in this war Mughals were discouraged that they fled in despair as Sher Khan approached. Humayun was deported to Persia. Humayun saw the death of Sher Khan in 1554 as a chance to reclaim his kingdom from the grasp of the Afghans. By 1555, he had finally succeeded in regaining the lost dominion. As a result, Humayun's whole life is defined by intense fighting.

During Humayun's rule, which lasted until the middle of the sixteenth century, a diverse image of Mughal architecture flourished. The Timurid style may be observed in virtually entirely imported works.

## Akbar, known as 'The Great'

In 1556, at the demise of his dad, "Humayun", Akbar procured the privileged position in 1556 after he stayed at 13 years old. During his rule, Akbar figured out how to control practically all pieces of India, for certain areas becoming feeder states. In the meantime, Bengal turned into a basic and center piece of the realm in 1576. Other than his tactical triumphs, he acquainted a progression of changes to collect the strength. Akbar rehearsed resistance and he focused on strengthening the relation of both the communities (Hindus & Muslims) through the presentation of another religion called *Din-I-Ilahi*. Akbar turned out to be sick and passed on from slow harming on October 27, 1605. Mughal design began acquiring significance during the standard of Akbar. He constructed incredibly and the style was uncommon. The greater part of Akbar's structures is worked with red sandstone, saved now and again by marble trim. "Fatehpur Sikri" found "26 miles west of Agra", was developed in the last part of the 1500s and develops proof to the time of his regal legacy. "In Gujarat" and numerous different spots, the existence of a grace, which is a combination of "Hindu-Muslim" trademark highlights of design dismiss. The incredible mosque is one such encapsulation of structural brightness which dismiss be unequalled in class and greatness is "The Tomb of Akbar's father Humayun".

Akbar's burial chamber at Sikandra are a few different instances of such best works of design eminence which features the Mughal engineering. The burial chamber set in a nursery at Delhi has a mind-boggling milled strategy with octagonal spaces at focus, which is merged by a richly exterior entrance, conquered by domes and booths.

## **Jahangir:**

Prince Salim, Akbar's sole surviving son, ascended to the throne on November 3, 1605, as Jahangir, and governed India until his passing on "October 28, 1627". During his reign, the expansion of Mughal ground originated to a halt, and the Mughals faced a major blow with the fall of Qandahar. Despite possessing immense imposing incomes, no meaningful effort was completed to transport parts of the Deccan's large besides unconquered territories under the empire's control. Jahangir adopted Akbar's mindset, lavishly subsidizing the drawings, image, design, thinking, and poetry while ignoring armed victory. The reign of Jahangir as Sovereign is regarded as the most prosperous in Mughal history. Academics from India and the West have lauded this time as the "Age of Mughal Glory." Jahangir preferred drawings of events and experiences from his own life over pictorial fiction.

## **Shah Jahan, (the king well known for his architecture):**

The rule of "Shah Jahan", which kept going after his promotion of the lofty position on "Feb 6, 1628 to 1658" is measured as the time of the best magnificence of the Supreme Mughals. The domain saw an incredible proportion of interior harmony what's more the ruler carved out enough of a chance to fulfil his preference for social pursuits and the Mughal armed forces had the option to go to the extension of the domain. It was "Shah Jahan" who provided flawlessness to the Mughal design. "Shah Jahan" started a progression of amazing, astonishing, and fantastic compositional activities in Delhi. The actual city was encircled by a mass of sixty feet. In the city he worked for himself a brilliant castle alongside the structures that were related with supreme

organization inside the "Red Fort". Other than the structures, he worked for himself an exceptional privileged position, "The Peacock" simhasan (Throne), ended of gold and precious metals, canvassed in uncommon gems which would cost worth of 5,000,000 dollars.

### **Aurangazib:**

At the time of Shahjahan's serious illness in sept 1657, it turned into a sign for a battle of progression to achieve the throne amongst his four children "Dara Shiko, Suja, Aurangazeb and Murad".

Aurangazeb was the third one and he was brought into the world on oct 24, 1618. He climbed the lofty position on 21st July, 1658. Aurangazeb controlled over the greater part of the Indian subcontinent. He ruled for a considerable length of time since "1658" pending his decease in "1707". However, Aurangazeb was a striking colonising like his ancestors and throughout his rule, "The Mughal Empire", briefly, arrived at its most prominent degree, Throughout the rule of the standard Aurangazeb, here was a decay of the expressions. At that time, the Mughal institute was scattered. Numerous craftsmen at that point, began to be a part of Rajput courts, which exhibited Hindu art and architecture.

### **The contribution of Mughals in architecture**

#### **Fort Building**

The structure of posts and burial chambers under the support of Mughal rulers bore an amazing comparability to Islamic engineering.

1. Sensitive ornamentation with curves, enhancing areas with fine mathematical plans and engravings were significant features of the

strongholds, which were set in a walled planted nook with unmistakable vaults, smooth pinnacles at corners, and wonderful lobbies in the middle upheld by support points and wide passageways.

2. Trooper military quarters, private and public gathering rooms, pony and elephant pens, and section gardens were completely remembered for the posts. The Red Fort, worked by Shah Jahan, is a model.
1. The Emperors' eminent specifying and taste can be seen in the utilization of shaded tiles, painted themes on dividers and roofs, and elaborately cut entryways.
2. Red sandstone and white marbles are utilized broadly in each of the designs during the period.

## **Palace Building**

The rulers lived in royal residences that were a staggering blend of immaculate workmanship and Indo-Persian traditions.

1. There were excellent green nurseries with conveniently managed trees and minimal square structures for water bowls at the castles' passages.
2. The castles are based on a raised stage with oppositely cut steps and passages driving in different headings.
3. The royal residence ways are wide, with slim minarets supporting the arches and roofs with minute subtleties and engravings.
4. Semi-valuable stone in an assortment of tones was used on the royal residence dividers, and the windows were perfectly built with stone plans.

5. The central entrances and offices of the royal residences had borders with engravings that were painstakingly intended to consider normal light and great ventilation.

## **Mausoleums**

A few Mausoleums, like the Humayun burial chamber and the Taj Mahal, were worked during the Mughal Empire. The blend of inventive capacities and deliberately imagined structures shows the design works of art's attributes and nuances.

1. The Mughal impact was found in the design's points of support, pillars, and lintels, as well as a blend of Rajasthani engineering in the fancy sections, overhangs, embellishments, and chatari or booth type developments.
2. The curves in the top community make overhangs or perception places, and the passage chamber vault is of significant stature with point-by-point work with balanced themes within.
3. The Mausoleums, similar to the royal residences, include an enormous green scene with walking ways and water courses at their doors.
4. Inscription on the dividers, flawless flower plans on the stone, and marbles or stonesscratch into fine cross section spring the landmarks its most individual trademark.
5. "Burial Chambers" use "Pietra Dura", or the strategy for utilizing slice cleaned stones to make pictures and twin Cenotaphs. Entombments were organized with the end goal that the top of the expired confronted Mecca.

## Development of Mughal Paintings

The Mughals disparaged Persian specialists and were especially intrigued by works that depicted an Indo-Persian combination. Artworks thrived during the residency of the most prominent Mughal rulers like Akbar, Jahangir, and Shah Jahan, and date back to the Turkish-Afghan Delhi Sultanate. Mughal painting filled in notoriety over the course of time and advanced into sensible representation.

1. Mughal compositions contain subjects from Persian writing and Hindu folklore, which eventually gave way to more reasonable points like imperial pictures, court exercises and subtleties, natural life and hunting scenes, and war drawings.
2. Humayun's openness to Persian little work of art pushed him to coexist with talented Persian painters, Sayyid Ali and Abdus Samad, and excellent drawing with calligraphic message portrayals on the line work on the magnificence of the fine art. Akbar acquired Humayun's library and he broadened the workmanship by focusing entirely on its creation.
3. "Khamsa of Nizami", his own bonus, incorporates 36 enlightened sheets with unmistakable graces of numerous specialists. "The Tutinama" ("Tales of a Parrot"), "The Gulistan, The Khamsa of Nizami, Darab Nama, and Hindu stories of Ramayana and Mahabharata" were among the best things of beauty of the period.
4. From 1570 to 1585 AD, Akbar drew in an enormous number of specialists to make and advance the Mughal way of painting.

1. Jahangir's imaginative affinity further superior the Mughal works of art, and oil paints were presented. He asked European painters to utilize a solitary point viewpoint, and artistic creations developed more reasonable. His life account, the *Jahangirnama*, incorporated various craftsmanship.
2. During Shah Jahan's rule, Mughal artistic creations advanced, yet they stayed moderate, with subjects like couples in cozy stances, melodic social occasions, etc.

## **Development of Literature**

During the Mughal time frame, writing partook in a lift. As indicated by key source books, this time saw the development of numerous dialects like as Persian and Hindi, as well as adding to Bengali and Punjabi writing.

1. On account of Akbar's tolerant demeanor, the time saw tremendous artistic turn of events, from Turki's 'Tuzak-I-Baburi' (Memories of Babur) through Gulabadan Begum's 'Humayunnama,' a history of Humayun. The extraordinary scholarly goliaths of his court, the 'Navratans' (Nine Jewels), made critical commitments.
2. The 'Akbarnama' and 'Ain-I-Akbari' were composed by Abul Fazal (an antiquarian, rationalist, and researcher of the time). The 'Muntakhab-ul-Tawarikh' was composed by Badauni. With his book 'Tabaqat-I-Akbari,' Nizam-ud-Din (noted antiquarian) contributed, "Arthava Veda, Ramayana, and Mahabharat" were converted into Persian. Hindu verse prospered all through the Mughal Empire, on account of Akbar's energetic help. During this period, Sur Das composed Sursagar, Tulsidas composed Ramcharitamanas, and the Persian-Sanskrit word reference 'Parsi Prakash' was composed.

- During the Era, Jahangir composed his self-portrayal, 'Tuzuk-1-Jahangiri,' as well as another striking abstract everything like as "Iqbalanam-I-Jahangir" and "Masir-I-Jahangir."
- During Aurangzeb's rule, the 'Fatwa-I-Alamgiri,' an abstract of Muslim regulation, was distributed. Other critical works incorporate Khafi Khan's 'Muntakhab-al-lubab', a famous history, and Bhimsen's 'Nuskha-I-Dilkusha.'

## **Conclusion:**

The entire Mughal period has widely added a glorious and outstanding engineering, artistic and social historical evidence to India. Indian legacy has an extraordinary spot for Mughal engineering in India. The greater part of "The Mughals" were extraordinary developers who liked craftsmanship and inventiveness and Indian design prospered under the Mughal domain. They had assembled landmarks of flashy plans, elaborate wonder and great height. The most wonderful illustration of "Mughal" engineering is "TajMahal", and the white-marbled sepulchre and the "Humayun's burial" chamber are instances of the blend of "Mughal" design and Persian design enhanced to the magnificence in the ground of engineering in India.

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# Exploring the utility of Plant Based Dressings for the Treatment of Bacterial Wounds in Human

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## ABSTRACT

Wound infection is a major problem and important causes of mortality and morbidity worldwide. A wound is damage in the normal tissue and inside the infected site of the wound, primarily the bacteria survive in the form of biofilm. The bacteria also prevent the wound healing process and are the process in which the skin/tissue repairs them. The most common bacteria that causes infection in wound as *Pseudomonas* spp., *Escherichia coli*, *Staphylococcus aureus*, *Klebsilla* spp., *Streptococcus pyogens*. Antibiotics as Amoxicillin-clavulanant, Cephalexin, Clindamycin, Dicloxacillin, Vanamycin, Trimethoprim-sulfamethoxazole are used for treatment of wound infection. They must be substituted by innovative dressing providing favorable environment to enable the wound healing process. The bacteriostatic/bactericidal wound dressings are used to reduce the wound infection by natural treatment exhibits anti-inflammatory, antibacterial, antioxidant activity and help wound repair. Economically viable, easily available for quick recovery and the medicinal plant plays a major role in treatment of wound infection.

**Keywords:** Wound, healing, antibiotics, plant-based wound dressings.

## 1. INTRODUCTION

Wound is damage in the normal tissue, it causes break in the skin and mucous membrane. Wounds may be superficial or deep resulting accidentally or of planned surgery. Wound infection is usually a localized defect of the skin and the underlying soft tissue that is invaded by pathogenic organism at the tissue surrounding the wound. It provides a nutritious and conductive environment for the growth of microorganism. Wound infection is chronic when colonized with infection [1,21].

**1.1 Causes:** The bacteria and microorganism can cause an infection in wound, such as *Streptococcus pyogenes*, *Staphylococcus aures* and *Enterococci*. The following ways that a microorganism can cause a wound infection as a foreign object such as splinter, a piece of glass, and a clothing fragment can remain hidden in a wound that later cause infection. Poor surgical technique, operating time longer than two hour and a hypothermia. The contaminated hands of nurse and surgeons. Direct contact of wound with surgical equipment. The dirt particle and air borne microorganism can cause wound infection [2,33].

**1.2 Symptoms:** Damage of skin (injury/surgery) allows bacteria to penetrate and proliferate in the body during this time the different kinds of symptoms are shown as felling of fatigue as a common sign of wound infection. It's a felling of tiredness, lack of energy and its common after surgery. High grade fever, redness, tenderness, and swelling at the wound are appearing red because of the natural

inflammatory process of healing [38]. Redness reduces in 5-7 days followed by swelling at the beginning stages of infection. Heat or inflammation at the site of wound at the time of infection, the wound

feel warm it may lead to other wound infection symptoms, Increasing or continual pain [30] from wound is indicative of the infection. Green, purulent fluid discharge at the wound of slightly yellow exudate, is the clear indication of infection severity [3,4,34,35,36].

**1.3 Diagnosis:** After accident get wounded, the doctor asks about medical history, and reason for wound. Recognizing the symptoms are the best ways for diagnose an infection. But they also suggest for certain test, including Blood Test -Blood test is common for identify any disease and an infection. A wound culture -A wound culture is a tissue and fluid test that determine what type of infection and identify the bacterial pathogen present in wounds. This test is necessary before prescribes a drug for treatment. MRI Scanner X-ray- This test is used for examining the tissue and bones of the wounded area [5,21,28].

**1.4Wound types:** These are classified on the basis of severity of infection as acute/chronic, it can also be open and closed. Acute type of the wound is triggered through the external destruction in the intact skin or it may be associated with burns, minor-cuts, surgical wound, etc. It heals quickly; it should be cleaned/ disinfected to remove dirt/debris to prevent development of infection. Chronic wound caused by endogenous mechanism like leg ulcers, foot ulcers, metabolic disease etc. It may heal slowly, very painful, appear as round/irregularly shaped and results into ulcers [6,30,33].

### **1.5 Types of wound infection**

3. **Surgical wound infection:** At the time of surgery, the surgical wound is created because the surgeon makes a cut or incision

with the help of surgical instrument are called scalpel. The size of surgical wound is depending upon the location on the body and procedure. The causes of surgical wound infection are presence of the germ on the skin and from the organ on which the surgery was performed. And the germs which are already present inside the body they also cause infection. In such wounds the risk factors for the infection is often associated with their susceptibility to infection from microbes as contamination [7,41,42]. Clean surgeries have 1-5 % of risk of post-operative infection, whereas dirty surgery carries 27% risk of infection. Symptoms as increased pain, redness, wound, pus, delayed healing, foul smell etc. [8,20,38].

4. **Bite wound infection:** The bite wound is caused by the human bite and animal bite like dog, cat etc. The animal contains bacteria in the mouth and when they bite, they enter the wound begin growing and cause infection. The symptoms of bite wound infection are warmth, swelling, redness, continue pain beyond 24-hour, drainage from the wound [9,28].
5. **Burn wound infection:** The exposed burn tissue is contaminated by the microorganism from the upper respiratory tract and gastro intestinal tract. The pathogen that infects the burn wound is primarily gram positive and gram-negative bacteria as *S. aureus*, *P. aeruginosa*. The symptoms of the burn wound infection are change in colour of the burnt area, swelling and purplish discoloration, greenish discharge, fever, pus and change in thickness of the burn [21].

## **1.6 Different Stages and Biofilm formation In Wound Infection:**

Wound infection is occurred between the host and the pathogen. The wounded sites are contaminated with a range of microbes and the bacteria are present most frequently. The number of bacteria is low there is no impairment of wound healing [38]. And the number of bacteria is rise infection also rapidly spread. The different developmental stages of wound infection are:

6. **Contamination-** Wound contamination is due to the incidence and penetration of non-proliferating microbes. The bacteria are gift on the floor of wound but do not multiply and do now not purpose an immune response. All open wounds are infected with microbes. The continual wound becomes contaminated from endogenous secretion and exogenous microbial source inclusive of negative hand-hygiene practised by healthcare clinicians and environmental exposure.
7. **Colonization-**It is referred to the occurrence microorganism at the wounded site that goes through restricted proliferation. Bacteria behind schedule the wound healing process. Microbial growth arises at a non-essential degree. A normal recuperation wound is colonized with microorganism.
8. **Infection-** The wound infection arises when microorganism and different microbes are under is going deeper into the wound tissue and proliferate. They harm the wound tissue and disrupting the wound recuperation. Microorganisms proliferate and exhibits symptoms around the wounded border.

## **1.7 Treatment:** Treatment is based on what type of infection, its location and whether other areas are affected. The sign of symptoms also helps in treatment.

9. **Medicine**- The medicines are used for treating the infection and decrease the swelling and pain.
10. **Wound care**- The wound is cleaned all pathogenic organism and dead cell debris; dust particle removes from the wound [10,21].
11. **Hyperbaric oxygen therapy**- This therapy is used to get more oxygen to the tissue to help in repairing the wound.
12. **Surgery**- It may be used for removing the microorganism and other foreign object.

- **Table1: Types of wound dressing**

Type of Dressing	Composition	Advantages
<b>Inert/Passive</b>	Gauze	Manufactured as sponges, bandages, stockings, plaster, provide moist at the site of the wound.
<b>Bioactive</b>	Hydrocolloids	Detach from the site of the wound without much problem by simply applying saline and serve as semipermeable as solid wafers.
	Alginates	Helpful in sloughing wound debridement and highly haemostatic and absorbent.
	Collagens	They offer a humid environment to wound or absorb exudates. And non-pyrogen, non-immunogenic and easily apply.
	Hydrofibers	Ribbon dressing or soft non-woven pad and absorb exudates. And also reduced the risk of skin maceration or provide moist environment to the deep wound.
<b>Interactive</b>	Hydrogels	Moist absorbent wound dressing rehydrates dry wound and high capacity to accumulate [31].
	Semi-permeable films	Highly elastic, waterproof and permeable to oxygen.

Semi-permeable foams	Hydrophobic, open cell and soft. Made up of polyurethane sheets.
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13. **Used of antibiotics-** Antibiotics are used for treatment of the wound infection as Amoxicillin-Clavulanate, Cephalexin, Clindamycin, Dicloxacillin, Doxycycline, Trimethoprim-sulfamethoxazole etc.

14. **Wound dressing-** The different form of wound dressing is developed for protect the wound from contamination. The traditional wound dressing like bandages of wool, cotton, are used for wound safety. And they have been substituted by innovative dressing those provided the favourable environmental condition that facilitates the distribution of active ingredients for speeding the process of wound healing [38]. The dressing absorbs the wound fluids and maintains the optimal temperature at the affected site to enhance the blood flow at the site of the wound. On the characteristic of the wound-dressing nature, they are divided in various categories as inert/passive, bioactive, interactive (Table 1) respectively.

15. **Antibiotics within wound dressing-** The dressing contains antimicrobial [11,27] antibacterial agents and help for spreading the infection or for treating the uninfected wound beds. The bacteriostatic and bactericidal antibiotics are used to reduce the wound infection. Antibiotics are effective against infection producing microorganism. The antibiotics such as aminoglycosides, cephalosporins, quinolones, and tetracyclines are present within wound dressing (Table 2).

16. **Natural mechanism occurring reduce a wound infection-** The first step of treatment of wound infection is stop the bleeding.

The bleeding is stop by compressing the bleeding area with your hand minimum 3-5 minutes. And remove the dirt particle for stop the further infection. The peroxide, alcohol is not used for removing the dirt particle because the damage the cell and tissue [34,35].

**Table 2: Antibiotics within wound dressing**

Name	Wound dressing material	Tested strains
Amoxillin	Flexible sponges from bacterial cellulose	<i>S. aureus</i> , <i>E.coli</i>
Ciprofloxacin	Hydrogels [31]	<i>S. aureus</i>
Tetracycline	Cotton fabric-coated impregnated with Chitosan-Poly Vinyl Pyrrolidone (PVP), Polyethylene Glycol (PEG)	<i>S. aureus</i> , <i>E.coli</i>
Doxycycline	Mats of nano-fibre impregnated with polyacrylic acid	<i>S. aureus</i> , <i>Streptococcus</i>
Kanamycin	Nano-fibres made with the composite of Polyethylene oxide and Hyaluronic acid	<i>Listeria</i> , <i>P. aeruginosa</i>
Cefuroxime	Bio-compatible nano-structured composite derived from the naturally developed from the polymer of chitin+sodium-alginate	<i>E.coli</i> , <i>S.aureus</i>

Other natural treatments are used for treating the wound infection and they also help in wound healing.

17. **Honey**-Contain different properties like anti-inflammatory, antibacterial, antioxidant they help in treat the wound infection [43].

18. **Garlic-** Allicin, is an antimicrobial agent present in garlic they reduce the risk of wound infection [27].
19. **Plantain leaves-** The juice of these leaves is applying on the wound area and clean the wound.
20. **Vitamin C**-Immune-system booster and repairing the wound infection injury [24].
21. **Bromelain-** It contain anti-inflammatory properties that reduce the pain [30], tenderness, bruising etc.
22. **Turmeric-** contain a yellow pigment is called curcumin that exerts potent anti-inflammatory and antioxidant effect.
23. **Chlorella** - It is used to clean the skin and it's also improved the wound healing ability of body.

These all are the natural method are not more expensive and easily available at home and other places, so we treat the infection quickly.

#### **Role of Medical plant [35,36] in wound healing (Table 3):**

24. **Aloe vera (Liliaceae):** Indigenous medical plant ubiquitously present across India possesses astringent, antidiabetic, antiseptic, anti ulcer, ant-inflammatory, anticancer, antioxidant and wound healing properties. Its mucilage content (leaves) as the gel is used as a medical application [22,25,32].

**Table 3: Plants used for their parts and extracts used for the wound healing activity**

<b>Botanical and common name (Family)</b>	<b>Part of the plant used</b>	<b>Solvent used</b>	<b>Mechanism of wound healing</b>
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<i>Acorus calamus</i> /Bach plant (Acoraceae)	Leaves	Ethanol	Incision and Excision
<i>Adhatodavasica</i> N./Adalsa (Acanthaceae)	Leaves	Methanolic chloroform	Excision
<i>Allium sativum</i> L./Garlic (liliaceae)	Bulbs	Aqueous and Ethanolic	Incision and Excision
<i>Alternanthera brasiliiana</i> Kuntz./Gudaari saag (Amaranthaceae)	Leaves	Methanolic	Incision and Excision
<i>Andrographis paniculata</i> /Kal megh (Acanthaceae)	Whole Plant	Pet ether	Excision
<i>Arecac atechu</i> L./Betelnut (Arecaceae)	Areca nut	Ethanolic	Burn wound
<i>Butea monosperma</i> Lam./palash (Fabaceae)	Stem bark	Ethanolic	Incision and Excision
<i>Caesa fistula</i> L./Amaltas (Caesalpinoideae)	Leaves	Ethanolic	Incision
<i>Carica papaya</i> L./ Papita (caricaceae)	Fruit latex	Dried latex	Burn wound
<i>Catharanthus roseus</i> L./Vinca rosea (Apocynaceae)	Flower	Ethanolic	Incision and Excision
<i>Desmodium triquetrum</i> L./Balolia (Fabaceae)	Leaves	Ethanol	Incision and Excision
<i>Embeliaribesburm.</i> /Vaya vida nga (Myrsinaceae)	Leaves	Hydroalcoholic	Incision and Excision
<i>Ficus religiosa</i> /Peepal (Moraceae)	Rhizomes	Alcohol & petroleum ether	Incision and Excision
<i>Gentian lutea</i> Linn/Gentian (Gentianaceae)	Root	Aqueous	Excision

<i>Glycyrrhiza glabra</i> L./mulhatti (Leguminosae)	Leaves, stem	n-butanol	In-vitro model
<i>Gymnema sylvestre</i> /Gurmar (Asclepiadaceae)	Whole plant	Pet ether, ethyl acetate	Excision and Incision
<i>Heliotropium</i> <i>indicum</i> /Siriyari	Whole	Juice of	Excision
70			
(Boraginaceae)	Plant	Leaves	
<i>Indigofera enneaphylla</i> L/Latahai (Leguminosae)	Juice of leaves	Alcoholic	Dead space and excision
<i>Lycopodium serratum</i> Thunb./club moss (Huperziaceae)	Leaves	Ethanolic	Excision and burn wound
<i>Michelia</i> champaca/Champaca (Magnoliaceae)	Tuberous root	Hydroethanolic	Excision
<i>Mimosa pudica</i> L./Chuimui (Fabaceae)	Stem bark	Methanolic	Excision and dead space
<i>Mimusop selengi</i> L./Mulsari, bakula (Sapotaceae)	Flower	Ethanolic	Excision and incision
<i>Mirabilis jalapa</i> L./Gulabakshi (Nyctaginaceae)	Leaves and stem bark	Ethanolic	Excision
<i>Piper betle</i> L./Pan (Piperaceae)	Leaves	Ethanolic	Excision, incision, and dead space
<i>Quercus infectoria</i> G. Oliver/ Majuphal (Fagaceae)	Root	Ethanolic	Excision
<i>Rubiacordifolia</i> /Manjistha (Rubiaceae)	Sesamum seeds	Ethanolic	Excision, incision, and dead space
<i>Sesamum indicum</i> L./Sesame (Pedaliaceae)	Seed and oil	Methanolic	Excision, incision
<i>Sida acuta</i> Jangalimethi (Malvaceae)	Whole plant	Ethanolic	Excision and dead space

Terminalia chebula Retz./Harit aki (Combretaceae)	Fruit	Ethanolic	Excision and incision
Tridax procumbens L./Ghamra (Asteraceae)	Whole plant	Ethanolic	Excision, incision, and dead space
Weddelia chinensis Merrill/Bhringraj (Asteraceae)	Leaves	Ethanolic	Excision
Ziziphus nummularia L/Jharber, BeriRhamnaceae)	Leaves	Ethanolic	Excision, incision, and dead space

- **Asparagus racemosus (Liliaceae):** Climber medicinal plant indigenous in origin observed across India, its extract possesses wound healing enhancing the levels of hexasamine, hydroxyproline, hexuronic acid found to be associated with granular tissue [37].
- **Azadirachta indica (Meliaceae):** Versatile plant of India, its different active constituent as oil from their seeds and kernel (Nimbidine, nimbin, nimbolide) exhibit antipyretic, antibacterial, and antiinflammatory characters.
- **Bryophyllum pinnatum (Crassulaceae):** Phytochemical constituent present in plant (alkaloids, glycosides, saponins, coumarins) exhibits antibacterial, disinfectant capabilities utilized in case of wounds as burn, insect bite and swelling.
- **Calotropis gigantea (Asclepiadaceae):** The common name of this plant is Sweta Arka. The main constituent isolated from plant are phenolic compounds, tannins, triterpenoids,

flavonoids, fatty acid and esters of calotropeols. These are used for the treatment of wound infection.

- ***Jatropha curcas* (Euphorbiaceae):** It is commonly known as arandi. The extract of this plant is applied for the as a medication for the inflammation associated with the cuts, burn and wound. The leaf extract of this plant is used in making ointment and it was detected as a useful wound-healing invention [39, 40].
- ***Lantana camara* (Verbenaceae):** It is a flowering ornamental plant and known as lantana, Spanish flag etc. The leaves of this plant are used as a remedy against ulcer, cuts, swelling and wound healing.
- ***Ocimum sanctum* (Labiaceae):** The common name of this plant is "Tulsi", and it is widely distributed plant throughout India, possesses analgesic, anti-inflammatory, antimicrobial activity and free radical scavenging activity facilitating wound healing activity [29].

**Table 4: List of phytoconstituents and their wound healing**

### Function

Phyto-constituents	Role
Tannins	Stimulate wound-healing (manifestationas free radical scavenging, antimicrobial,
Flavonoids	astringentactivity

Sterols	Exhibit various activities as astringent, antimicrobial, free-radical scavenging (antioxidant) activity
Saponins	
Triterpenoids	Free radical scavenging, antioxidant activity [29] Antioxidant, anti-microbial activity [27] Astringent, antimicrobial activity

**Properties of medical plant used in wound infection:** Antioxidant activity of the plants (Table 3) by the production of numerous antioxidative composites for the counter action of the reactive oxygen species (ROS) for the survival. Antimicrobial activity [27] against microorganism perform a substantial function in the recovery of chronic types of the wound. As the physiological response of the analgesic activity, the pain in the wounded site evolves leading to the damage in the tissue and the malfunctioning of the nervous system. Dysregulating in the immune function and neuro endocrine participate as a crucial functionality among the mechanism of the repair in the wound [35,36,39,40]. The herbal preparations possessing anti-inflammatory and analgesic activities they help in managing the pain at the wound site. Phyto-constituents facilitates healing the wound as polysaccharides from *Opuntia ficus-indica*, *Terminalia arjuna* (tannins), *Centella asiatica* (asiatic acid, madecassic acid) and *Curcuma longa* (curcumin) (Table 4).

## 2.0 Literature Review

### 2.1 Role of Microbes in the wound infection:

Study [1] of the causal organism of the wound infection and their antibiotic sensitivity profile were reported. Among the gram-positiveS.

*aureus* (91.26%) occur predominantly subsequently followed by *Enterococcus* sp. as 6.7% and *Staphylococcus* sp. (1.9%). On the contrary, among the gram-negative, *E.coli* with 34.69% prevalence was highest thereby followed by *Klebsiella* sp. (28.57%) and *Pseudomonas* sp. (15.30%). Out of all the antibiotics tested vanomycin (Gram-positive) and imipenem (Gram-negative) reported to be highly efficient medication for the target microbes. Whereas [2] reported that wound is a type of injury in which skin is cut, torn or punctured were contaminated with various bacteria isolates as in their decreasing order of frequency of occurrence of the bacteria *Staphylococcus aureus* 19 (62.7%), Coagulase negative *Staphylococcus* species 16 (52.8%) and *Pseudomonas aeruginosa* 7 (23.1%). In males, the isolated bacteria have high frequency of occurrence of *Staphylococcus aureus* 11 (36.3%), Coagulase negative *Staphylococcus* species 9 (29.7%) and *Pseudomonas aeruginosa* 3(9.9%) in male patients. Whereas, in female patients it was recorded as *Staphylococcus aureus* 8 (26.4%), Coagulase negative *Staphylococcus* species 7 (23.1%) and *Pseudomonas aeruginosa* 4 (13.2%). Another study reported that the skin of human is essential for protection against infection, thermoregulation, preservation of body fluid homeostasis. Burn injury less of wound damage the skin barrier and delaying the process healing. They demonstrate the microbial profile of burn wound with predominant organism isolated as in decreasing order of frequency of occurrence of bacteria *Acinetobacter* sp. (20.9%), *Proteus mirabilis* (2.3%), *Pseudomonas* species (30.2%) and *Staphylococcus aureus* (2.3%) reported by Forson (2017) respectively.

Report on the surgical site infection (SSIS) to be frequently reported nosocomial infection. Surgical site infection rates are range from 25-

41%. They studied the bacteriological profile of post-operative burn wound infection. And their result showed that maximum infection in case of the SSI was indicative as *Psuedomonas aeruginosa* (29.31%). and *E.coli* (25.86%) [3,20]. Another study suggested that various kinds of bacteria from patients encountered with pus along with its discharge from the wound. And their result showed that the most predominant bacteria were *Staphylococcus aureus* (34%), *Klebsiella* sp. (13%), and 12% coagulase negative *Staphylococci* sp.[4]. Study the antibiogram [23] and spectrum of the isolated bacteria from patient. Their result showed that the bacterial growth was observed is highest in wound swab (94.4%). Commonly associated organism was reported to be 16% of *Staphylococcus aureus* subsequently trailed with coliforms as *Enterococcus* spp. (12.5%). *S.aureus* occurs prevalently from trauma-wound and surgical-site infections (20.6%), on the contrary in 36.4% of the cases *Enterococcus* spp. was observed from diabetic wound [5]. Study group reported [6] that the surgical site infection is a major problem in health care center. They collect the thirty-wound sample from the patient who had suffer from infection.ERIC-PCR was carried out to determine the identity between the isolated clones. And their result indicated the presence of bacterial pathogen at the surgical-site infection was *S. aureus*

(56.7%), *E. coli* (30%), *Klebsiella* sp. (6.7%), *Enterobacter* sp., and *Acitinobactor* sp. (3.3%). ERIC-PCR typing of *S. aureus* and *E.coli* showed 50% similarity level.

Report that postsurgical wound infection is a major problem and important causes of mortality worldwide. They studied the microorganism responsible for wound infection and sepsis [35,36] was due to gram positive cocci (*Staphylococcus aureus*, *Erthrococci*, gram negative aerobic *Staphylococci*, Betahaemolytic); rods (*Enterobacter* sp., *E.coli*, *Klebsiela* sp.); fungi (*Aspergillus*, Yeast);

anaerobes (*Clostridium, Bacteroides*) respectively [7]. Report that wound infection is aggravated and caused by the invasion of pathogenic organism in patient with wounds, collect a wound sample using sterile-swabstick and then proceeded for the isolation of the bacteria. Their result showed that the predominant bacteria were gram positive *Staphylococci* (46.2%) followed *Streptococci* (23.1%), gram negative *Proteus* (10.4%), *Pseudomonas* (15.4%) [8]. Ananth (2014) worked on isolation and screening of pathogenic bacteria from wound infection due to *Staphylococcus aureus* (37.2%) as the predominant bacteria followed by *Pseudomonas aeruginosa* (18.6%), *Streptococcus pyogenes* was the second most. Report that gram-negative bacterial infection is a foremost cause of morbidity in burn wound. Their findings are *Pseudomonas aeruginosa*, *Acinetobacter baumannii*, *Klebsiella pneumoniae*, *Proteus* sp., *Enterobacter* sp., *E.coli* as the frequently occurring gram negative burn-wound pathogen. So, they demonstrate that the major cause of burn wound infection is gram-negative bacteria [9].

Report [4] that infections remain a major problem of wounds with substantial growth morbidity and capacity mortality. Prevalently wound sites were contaminated with numerous microorganisms like *Klebsiella* spp. *Escherichia coli*, *Staphylococcus aureus*, and *Pseudomonas aeruginosa*. Maximum utilization of antibiotics as amoxicillin, gentamicin, and ceftriaxone are used for the remedy of wound contamination. Group of scientists stated that surgical wound infection is a common problem in patient who goes through operation [10]. The nosocomial infection plays essential position in wound contamination. They studied the incidence of pathogens in put up operative wound contamination. Their result showed that *Citrobacter* sp. become foremost bacteria remoted from surgical site infection [20].

## 2.2 Antibiotics Resistance:

Study the bacterial infection in wound and their resistance drug. The *Pseudomonas* sp. showed resistance level to gentamicin, ciprofloxacin, cotrimoxazole. They reported a careful selection of antibiotics is used to control the wound infection to reduce morbidity and mortality [11]. Performed the antibiotic susceptibility test to those bacteria are present in surgical site infection of burn wound. The gram negative bacilli exhibited highest sensitivity towards carbapenemes and piparacillin-tazobactum but *Staphylococcus aureus* showed resistance to methicillin [3, 42]. Study the dry susceptibility pattern of different kinds of bacteria present in pus and wound discharge, their result showed that the decreasing order of frequency the occurrence of bacteria resistance to antibiotics. Gram-positive

bacteria resistance to 86.4% ampicillin, 83% amoxicillin, 81.3% penicillin, 74.6% oxacillin and 59.4% tetracycline [4]. On the contrary, gram-negative bacteria are resistance to 97.4% amoxicillin, 94.8% ampicillin, 72.7% tetracycline, 66% trimethoprim and 54.5% chloramphenicol. Study the pathogen (bacteria) and performs their antibiotics resistance test. *E.coli* showed high resistance to against 64.7% norfloxacin and 58.5% ciprofloxacin, whereas *S. aureus* exhibited resistance to 55.6% nalidixic acid and methicillin (33.3%) [6].

Study the pattern of antibiotics sensitivity and resistance. They reported that the bacterial pathogen were beta-hemolytic *Streptococci*, *E.coli*, *S. aureus*, *Klebsilla*, *Clostridium*, *Bacterioides* pathogens are susceptible to vanomycin and ciprofloxacin (36.3%) and (33.40%) [7]. Study [41,42] the pattern of the drug-susceptibility of the bacteria from the surgical site (post-operative) infection using disk diffusion method. The *E.coli* (24.3%), *S. aureus* (24.4%), *Enterobacter* spp. (9.9%), coagulase negative *Staphylococci* (19.8%) were dominant

isolates and resistance to vanomycin and methicillin. They demonstrate that high level of multi drug resistance and recommended that the antibiotics sensitivity test should be carried out before suggesting the chemotherapy. Report onwounds from the post-operativesite due to the bacterial infestation followed by analyzing the antibiotics suseptibility test indicated that *S. aureus* was predominantly resistant to 89.58% of rifampicin, 60.42% of levofloxacin and 54.17% ofvanomycin. *P. aeruginosa* was reported to be susceptible to 83.78% of ciprofloxacin followed bymeropenm 51.35%), gatifloxacin (51.35%). *E.coli* was detected to be suseptible to levofloxacin, *K. pneumoniae* sensitive to levofloxacin (63.16%) followed by linezolid (56.52%). *Proteusmirabilis* was found to be susceptible to 75% of ciprofloxacin[12,20].

Study on the transmission of bacteria by stethoscopes used in health-care center and their result showed that the out of 107 stethoscopes were examined,84(79%) were bacterial contaminated. Isolated bacteria are 54% *Staphylococcus aureus* followed by 19% *Pseudomonas aeruginosa*, 14% *Enterococcus faecalis*, and13% *E. coli*[13].

### **2.3 Treatment:**

Demonstration of thewound recovery, their treatment is a complex and collaborative mechanism that included wound pre-cleaning, healing, prevention of infection, germ treatment and strategy. Wound dressing significantly affects healing and prevention of infection. Various types of wound dressing as antibacterial, moist, and silver-containing hydrophilicfiber dressing are used [14] Reportthat the leaves of *Acanthus polystachyus* as ointment for the treating of wound infection. The crude methanolic extract of leaves (with 80% methanol+5-10% ointment) was prepared. It reduces the duration of epithelialization, enhanced wound-contraction rate as well as its tensile strength. Ten

percent ointment proved to be most effective in the wound healing process [15].

Study suggested that the antimicrobial processes like antibiotics and antiseptics have been used for decades inside the treatment of inflamed wounds, ulcer, and burns. Antimicrobials labored in opposition to the pathogenic organism. A new era, micropore particle generation (MPPT) isn't always an antimicrobial but as an alternative act as a passive immunotherapy that disrupts the microorganism and fungi use to inhibit the immune gadget. They reveal that MPPT gets rid of wound contamination 60% faster than antibiotics and antiseptics and additionally promotes the recovery of persistent wounds [16].

Group studied vitamin C role in wound restoration system, in water responsible for the generation of collagen[17]. Enhances the protecting immune response mechanism and its resistance against contamination [24].Reported that wound contamination is the most possible trouble if a wound is not treated nicely with wound contamination is *Staphylococcus aureus* [18]. They studied the uses of honeybee and espresso for the remedy of wound infection. Their result showed that the wound recovery time in espresso powder (2 weeks) changed into faster with respect to honey institution (3-4 weeks) [43].

Study reported that the usage of nitric oxide producing nanoparticle for the remedy from *Acinetobacter baumannii* with in the infection in the wound. They demonstrate that the therapy with nanoparticles appreciably elevated restoration of the infected wounds and reduce supportive infection, reduced microbial-burden, and decreased degradation of the collagen tissue [19].

## 2. CONCLUSION

Wound natural or artificial develops in four stages are hemostasis, inflammatory, proliferative, and remodeling. Wound infection is described by the incidence of clinical sign of infection (tenderness, pain, heat, erythema, redness, abscess of pus and cellulites, In the infected wound bacteria proliferates as biofilm. The adhesive, moist, proteinaceous surface of the wound represent the optimal environment for the development of the biofilm. The objective of the healing process is stopping the bleeding and closed the wound by clotting. Biofilm infections deals with closure of wound and its chronicity, is controlled using antiseptic dressing. The cell repair them and wound to be closed. Routine culture should be performed whenever there is a wound and when infection develops; antimicrobial sensitivity test should be used to guide the choice of antibiotics. And proper hygiene must be maintained to reduce the infection. The different form of wound dressing is developed for protect the wound from contamination. The traditional wound dressing like bandages of wool, cotton, are used for wound safety. Antibiotics are efficient against infection generating micro-organism(aminoglycosides, cephalosporins, quinolones, tetracyclines) are present within wound dressing. The wound infection is also reduced by natural treatment such as honey, garlic, turmeric, bromelain, *Chlorella Aloe vera*, *Asparagus racemosus*, *Calotropis gigantea*, *Bryophyllum pinnatum* etc. These all are the natural method contain different properties like anti-inflammatory, antibacterial, antioxidant they help in treatment of wound infection and are not expansive, easily treats the infection quickly. The dressing absorbs the wound fluids and maintains the suitable tissue-temperature to increase the blood-flow for speedy recovery. Dressing

contains antimicrobial / antibacterial agents and help for spreading the infection or for treating the uninfected wound beds. The medical plant also plays significant role for treating the infection of the wound, and they also possess astringent, antidiabetic, antiseptic, antiulcer, anti-inflammatory, anticancer, antioxidant and wound healing properties.

## **CONFLICT OF INTEREST**

Disclosure of no potential conflicts of interest during the study conduct among the authors and study conduct. Study is performed as per the compliance with Ethical Standards.

## **ACKNOWLEDGEMENT**

Authors extend acknowledge Agrawal P. G. College, Jaipur and Banasthali Vidyapith, Banasthali for the infrastructure and financial support for the study.

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## Vocal For Local: Government Initiatives

Dr. Divya Agrawal

**Abstract:** During the outbreak of COVID-19, requirement of swadeshi (local) product was strongly felt. PM Modi has given a slogan Local for Vocal to make India self reliant. Now Vocal for local has become our goal for Atmanirbhar Bharat. PM Modi and government of India launched the campaign to boost economy during and after COVID-19 pandemic when each country is struggling to save the economy of their country and the life of citizens. In This research article various Initiative taken by government.

**Keywords:** Local for Vocal Atamnirbhar Bharat, Government Initiative

### Introduction:

"The first and for most requirement for being Aatamnirbhar Bharat is being proud on things of nation & on the product develop or manufacture by people of own country. India will not become self reliance (Aatamnirbhar) not only by manufacturing large product but small unit like cloths, handicraft and electronics will also contribute in this context." Narendra Modi.

The call for self-reliance or **The swadeshi movement** played a momentous role in **freedom struggle** of India's fight from the **British. Boycott of cheap, machine-made British goods was called by** Freedom fighters in order to create self-reliance among Indian people and Indian way of living.

PM NarendraModi launched '**Aatmanirbhar Bharat**' and '**Make in India**' movement for revival of swadeshi movement, after 77 years of independence. With the coronavirus pandemic, being '**vocal for local**' has also gained momentum. This campaign initiated to boost the economy and the vision of a developed India by 2047.

With brand vocalizing about their Indian Roots and consumer seeking out home grown brand Swadeshi movement has been sparked after PM Modi's call for vocal for local campaign throughout the country.

Indian Roots are proudly highlighting and promoting by the Indian Manufactures the with a strong message of Made in India, with the slogan of vocal for local.

We India again need to propagate the Swadeshi Movement and make our country self-reliant in almost every walk.

To boost economy during and after COVID-19 pandemic when each country is struggling to save the economy of their country and the life of citizens. This campaign is started (popularized) by PM and government of India to fight with COVID-19 effectively and realized the truth that country should always come first and local product prove life saver during this time.

Atamnirbhar Bharat Abhiyan (Self Reliant India campaign) was announced by Hon'ble Prime minister Mr. Narendra Modi in his report to nation on May 12th 2020 with and distinct fiscal and inclusive platform of INR 20 lakh Crore comparable to 10% of Indian GDP to round COVID-19.

## **GOVERNMENT POLICIES**

To encourage manufacturing in India, the government has recently adopted various policies and launched various schemes, which are discussed below:

### **6. Digital India:**

On July 1, 2025 India celebrated 10 years of the digital India Journey. India is main importer of electronic goods, the popular of which are smartphones and gadgets. The maximum of imports come from China, so to reduce imports and balance trade, India needed to escalation electronic gadget manufacturing in the country, which would not only help to decrease our reliance on imports but also provide job opportunities for Indian youth. Only the digital economy, according to analysts, has the potential to increase GDP by \$1 trillion by 2025. Local

industries will have a massive opportunity to tap this market, thanks to indigenous manufacturing and patriotic feelings.

Mahatma Gandhi once said. "*India lives in its villages.*" Digital India will empower a large population of people living in rural India and assist them in cooperating with the rest of the world. It will also promote digital literacy among village residents and will aid in the development of excellent human capital, which will draw foreign investment and promote industrial production.

With 915 million cellular subscribers and nearly 259 million broadband users, India has the world's second-largest mobile industry and third-largest Internet market. Since tele density is only 45 percent in rural India, where more than 65 percent of the population lives, there is still a huge economic opportunity in India. Rural areas are projected to drive future growth in the telecommunications industry in terms of subscriber numbers, as urban areas are saturated with a tele density of more than 160 percent. Small indigenous businesses will play a critical role in attracting customers.

All government records will be digitalized under phase II of the Digital India initiative, with an emphasis on enabling individuals to register companies and firms online, which will aid in the fight against corruption and give India a competitive advantage as our ease of doing business ranking improves and indigenous manufacturing increases.

## 7. Start-up India:

Government of India has initiated Startup India as Flagship Programme, intentional to catalyse startup culture and build a strong and inclusive ecosystem for entrepreneurship and innovation in India. This move is critical because, even though local products are promoted, customers will not buy them due to a lack of predilection and value. To be popular in the market, Indian businesses must transform to keep their products competitive, which is why the start-up India program is so relevant. Indian businesses will benefit from Fast Tracking and an 80% drop in patent registration fees under the start-up India Legal Support program.

Analysts have discovered that in India, people from villages and backward areas, despite having relevant skill sets, are unable to start manufacturing due to a lack of information about how to register

businesses, and the legal system involved makes it much more difficult for them to do so. The policies enacted under this scheme would fix and overcome this issue.

Government is also providing online platform through GeM (Government e-Marketplace ) "GeM" on condition that operational fair entree to under-served suppliers strengthened the "Atmanirbhar Bharat", "Vocal for Local", "Make in India" enterprises.

The "GeM" stand has certified current and continuous execution of the Style in India programme and the Public Locating Strategy for Predilection to "Micro and Small" creativities. In order to afford an energy to "The Make in India" creativity as part of the image of "Aatmanirbhar Bharat", and to sponsor indigenous foods concluded the "Vocal for Local" enterprise, The Government has completed it needed for all suppliers on "GeM" to list "The Country of Origin" while process new produces.

"GeM" is a enthusiastic stand for Start-up's to list their state-of-the-artmerchandises under 10 globally predictable Start-ups subsectors was sprang on 15th November 2019. At present-day more then "10,000 Startups" registered on "GeM" and "87" of these Startups have enumerated their state-of-the-artproduces on StartupLanding field.

Starting a business with productive funding and rewards at multiple levels, India will help improve entrepreneurship and economic growth by guaranteeing that people with the ability to innovate and, start their own company, are stimulating many young minds, who want to start their own company don't have the financial means to do so. As a result, their innovations, creativity, and skills go untapped, resulting in a loss of income, economic development, and jobs for the nation.

## **OTHER INITIATIVES**

8. To encourage local manufacturing and encourage engineering and construction of possessions and amenities in India, the Centre issued the Public Obtaining" (Favourite to Make in India)"Edict, 2017 to grow income and employment. All ministries, agencies, and autonomous bodies controlled by the Indian government, as well as government-promoted indigenous contribution to development programs under the businesses, are mandated to take measures to

encourage terms of the order. For example, the Ministry of Road Transport is required to build roads using indigenous materials and vehicles.

9. The Department of Telecommunications (DoT) has set out guidelines for promoting locally made telecom products and local manufacturers in the department's procurement of telecom equipment. All government-purchased equipment for use in government offices must contain at least 50% indigenously produced components.
10. The government also launched the Production Linked Incentive (PLI) scheme in 2020 to boost India's industrial aptitudes and exports. The scheme was created to entice foreign companies to set up manufacturing operations in India. The Scheme of PLI, which was created to minimize India's dependence on electronic equipment imports, was later expanded to include ten other high-value industries. Companies that sell their goods outside of the country can receive discounts as well as tax exemptions under this arrangement.

## **OUTCOMES FOR VOCAL FOR LOCAL**

11. Manufacturing has increased, with the demand for local products such as smartphones manufactured in India, Indian cosmetics, and so on. It is one of the best results that the Vocal for local movement can have. Demand for local goods and small business sales would rise, ultimately leading to an increase in manufacturing.
12. Increased manufacturing activity would provide financial incentives for local businesses to hire more workers, resulting in more job opportunities for local youth. For example, the establishment of a manufacturing plant by Tata in Durgapur, West Bengal, has resulted in a significant increase in local youth jobs.
13. Human resource development: India currently has a large population, especially among the young. The establishment of local industries would aid in human resource growth by providing more job opportunities and raising educational income levels; in addition, income generation skills will become more important, and small local industries will benefit.
14. Cultural and social implications: Indigenous culture will gain prominence around the world, as a result of local production and

export. For example, Indian textiles and handicrafts have a lot of potentials to compete with their western counterparts, and with large-scale production and a global texture, they can tap into a huge global market. Increased manufacturing activity (as seen in western countries during the industrial revolution) would aid in the war against social evils.

15. India is a net importer of products, which means that we are importing more than we are exporting. India's imports include electronics, heavy machinery, crude oil, and other products, and India has significant trade imbalances with countries like China. To address these, we must increase our exports.

## **CONCLUSION**

Vocal for Local is a program aimed at increasing domestic manufacturing and usage, for which numerous government policies and plans such as "Make in India, Start-up India, and Digital India" have been created. Companies that manufacture their goods locally were also given tax breaks and other incentives.

Local brands, start-ups and MSMEs are empowered by this initiative of government of India Local for Vocal. New brands are coming up with light and aid assist of new ideas. Programmes like Make in India and Self-reliance will make the country for hard competition in the world-widestreamfetter. It will not only growtheffectiveness in severalareas but also confirmsuperiority. The centralopinion of the impression is to make the nation self-reliant by boosting "Make in India", with more focus on limitedconstructers and service workers, it will support the reduced, progress the usual of existing and most significantlyprogress the trade discrepancy and the exchequer stability of the nation. "Vocal for Local" can create China like start-upssystem. Manufacture the country self-sufficient in all ranges- from engineering to delivering "Vocal for Local" will be a change maker.

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## विजय रणनीति : महाभारत से

### डॉ. स्वाति शर्मा

#### रूपरेखा :

वेदव्यास द्वारा रचित महाभारत विश्व के महानतम ग्रंथों में से एक है इसमें कोई संदेह नहीं। रणनीति की हर एक समझ लिए हुए यह ग्रन्थ आज भी उतना ही प्रासंगिक है जितना की द्वापर युग में। यह ग्रन्थ उन सभी समस्याओं का उल्लेख करता है जिनसे हम किसी न किसी रूप में घिरे हुए हैं, साथ ही उन समस्याओं के समाधान भी इस ग्रन्थ में दिए हुए हैं। इस महान गाथा की शुरुआत होती है एक युद्ध से, जो कौरवों और पाण्डवों के मध्य लड़ा गया। प्रश्न यह है कि क्यों पाण्डव पाँच होने के बाद भी जीत गये और कौरव सौ होने के बाद भी हार गये? इसका कारण यह रहा कि पाण्डवों के पास एक निश्चित ध्येय था, एक दूसरे पर भरोसा साथ ही महान नेतृत्व। उनके पास कृष्ण जैसा एक महान गुरु था, जिसने कभी उन्हें मार्ग से भटकने नहीं दिया। ये सब कौरवों की हार के कारण बने। इस ग्रन्थ की मान्यताएँ शिक्षा में भी लागू होती हैं। इसी तरह विद्यार्थी का भी अगर अपना एक निश्चित उद्देश्य, खुद पर भरोसा और एक आदर्श गुरु है तो वह सफलता के मार्ग से कभी नहीं भटक सकता।

**शब्दावली :** नेतृत्व, संगठन, कर्म, ध्येय।

**भूमिका :** इस धरती पर ऐसा कोई मानव मात्र नहीं है, जो कि महाभारत की काव्यात्मकता पर पर प्रश्न चिह्न लगा सके। लगभग 1,10,000 श्लोकों में लिखा गया यह ग्रन्थ इतिहास की एक शाखा है। सबसे दिलचस्प बात यह है कि हालांकि यह ग्रन्थ 3000 ई. पू. लिखा गया, परन्तु इस ग्रन्थ में उठाये गये मुद्दे आज भी प्रासंगिक हैं। इस ग्रन्थ के प्रथम पर्व में उल्लेखित एक श्लोक के अनुसार

**“जो यहाँ (महाभारत) में है, वह आपको संसार में कही न कही अवश्य मिल जायेगा, परन्तु जो यहाँ नहीं है, वह आपको संसार में अन्यत्र कही नहीं मिलेगा।”**

## उद्देश्य :

यह ग्रन्थ निश्चित रूप से भारतीय समाज की भावी पीढ़ियों के लिए एक सबक है, परन्तु दुर्भाग्य से आज भी हम इस महान काव्य के ज्ञान रूपी मोती को परखने में नाकाम रहे हैं। इस शोध कार्य का प्रमुख उद्देश्य उस रणनीति को समझना रहा है, जो कि पांडवों की विजय रथ की सारथि बनी। असफलता से धिरे हताश व्यक्ति के लिए यह ग्रन्थ निःसंदेह ही एक मार्गदर्शक साबित होगा, जो कि सफलता के मार्ग का रास्ता दिखायेगा ।

## साहित्य समीक्षा :

**The Alchemy of Desire 2006**: तरुण तेजपाल के अनुसार "महाभारत कलाकार के जीवन में खुशी का गीत है, जो कि निरंकुश बातों के के खिलाफ़ रोष प्रकट करता है" ।

**Mahabharat 1965**: कमला सुब्रह्मण्यम के अनुसार "महाभारत एक मात्र महाकाव्य नहीं बल्कि अपने आप में एक संपन्न साहित्य है" ।

**Mahabharata The Greatest Spiritual Epic of All Time 2005**: इस पुस्तक में लेखक ने महाभारत के जटिल कहानी के महत्वपूर्ण तथ्यों के साथ पूरा न्याय किया है।

## शोध कार्य :

महाभारत कौरवों और पाण्डवों के मध्य लगातार 18 दिनों तक चल रहे युद्ध का परिणाम था, जिसका अंत पाण्डवों की विजय से हुआ ? जहाँ अर्जुन, भीम. युधिष्ठिर, अभिमन्यु, पाण्डवों के साथ रहे, वही भीष्म, द्रोण, कर्ण कौरवों के लिए लड़े । पाण्डवों की विजय के रणनीति ने ही उनकी विजय की कहानी लिखी। साथ ही इस संसार में

कुछ ऐसे लोग भी हैं, जो इस नीति की पगड़ंडी के साथ सफलता के पार चलते चले गये : **(समूह भावना)** कौरवों में समूह भावना का अभाव था । वे सभी वैक्तिगत लड़ाई लड़ रहे थे । भीष्म हस्तिनापुर के लिए तो कर्ण अर्जुन से अपनी शीर्षता साबित करने के लिए लड़ा । वही पाण्डवों का पूरा दल कृष्ण के नेतृत्व में कार्यरत था । उन सभी के लिए वह एक सामूहिक लड़ाई थी ।

विकासशील राष्ट्रों में डायरिया से मरने वाले बच्चों की संख्या लगातार संख्या बढ़ती जा रही है । टूटी पाइप लाइन में से जल का वितरण इस बीमारी का प्रमुख कारण है । **EPA 2012-13** पुरस्कार से सम्मानित स्टैनफोर्ड यूनिवर्सिटी की तीन विद्यार्थियों के समूह ने कम बज़ट में एक ऐसा उपकरण (Chlorinator) बनाया है, जो कि बिना बिजली के उन टूटी पाइप लाइन में लग कर ना केवल क्लोरीन के मात्रा रोकेगा बल्कि शुद्ध पेयजल भी देगा । **अतः जहाँ व्यक्तिगत प्रयास निरर्थक साबित होते हैं, वहाँ समूह भावना हमेशा सार्थक रहती है ।**

**(योजना)** जहाँ एक तरफ कर्ण विभिन्न राज्यों से युद्ध कर अपने लिए शत्रुओं की संख्या बढ़ा रहा था, वही दूसरी ओर युधिष्ठिर पहले जिस द्युत क्रीड़ा में अपना सर्वस्व गवां चुका था उसी को गन्धर्व छत्रसेन से

कर्मणयेवाधिकारस्ते मा फलेषु कदाचन ।

सीख कर उसने फिर कौरवों को ललकारा । अर्जुन भी दिव्यास्त्र की खोज में निकल गया ।

आकाश में उड़ते हुए पक्षी को देखकर इन्सान को उड़ते हुए सोचने का विचार शायद पहले कभी किसी को आया होगा, परन्तु ऐसा ही एक विचार और उस पर बनायी योजना ने **राइट ब्रोदरस** को विश्व का सबसे सफल और पहला हवाईजहाज बनाने के राह दिखायी । ऑरंविल और विलबर ने १७ दिसंबर १९०३ को संसार की सबसे पहले मानवीय उड़ान भरी । अपने कमजोरियों को अपनी ताकत में बदलने की योजना हमेशा फलीभूत होती है ।

**(उद्देश्य)** पाण्डवों का एक सामान उद्देश्य था । अपने अधिकार के लिए वे एक अस्त के तरह लड़े । दुर्योधन का निजी स्वार्थ ही इस भयावह युद्ध का कारण बना। कौरवों का उद्देश्य केवल पाण्डवों को नीचा दिखाना था ।

पाकिस्तान की स्वात घाटी में तालिबान द्वारा लड़कियों की स्कूली शिक्षा के खिलाफ आवाज़ उठाने वाली पाकिस्तानी लड़की मलाला युसुफजई हालांकि इस आतंक की कई बार शिकार बनी लेकिन अंत में अपने उद्देश्य में वह सफल रही। उसके हौसले को सम्मानित करते हुए मलाला को अंतर राष्ट्रीय बाल शांति पुरस्कार २०१३ और राष्ट्र संघ के मानवाधिकार पुरस्कार २०१३ से सम्मानित किया गया। सही उद्देश्य को लेकर किया गया कार्य हमेशा सफल परिणाम देने वाला होता है।

**(कर्म प्रधान)** कर्म को प्रधान मानते हुए कृष्ण ने कहा- बिना फलकी इच्छा के, भाग्य के अधीन न रहते हुए निष्काम कर्म करो ।

अपने हाथ में भाग्य रेखा ना होने पर गुरु द्वारा एक बच्चे को गुरुकुल से निकल दिया गया। पास ही के कुँए में से रस्सी से पत्थर पर पड़े निशाँ को देख कर उस बच्चे को समझ आया के बार-बार अभ्यास किये जाने पर ऐसा कोई कार्य नहीं जो मुश्किल हो, रामचरितमानस का वह प्रकांड विद्वान तुलसीदास कहलाया। भाग्य के सोचे बिना अगर कर्म किया जाये तो सफलता के मार्ग को कोई अवरुद्ध नहीं कर सकता

**(पृष्ठभूमि)** जहाँ 13 साल वनवास भोग रहे पांडव आर्थिक रूप से कमजोर थे वहीं इंद्रप्रस्थ से लेकर हस्तिनापुर के शक्ति समाहित किये कौरव शक्ति संपन्न थे। इसके बाद भी पांडव अंत तक लड़े ।

एक बच्चा अपने पिता के साथ खेत पर काम करता रहा। एक साल भी विद्यालय ना जाने के कारण उसने खुद ही पढ़ना लिखना लिखा। काफी संघर्ष के बाद वह एक सफल वकील बना और धीरे-धीरे राजनीति में आया। १८०९ में जन्मा वह बच्चा संयुक्त राज्य अमेरिका के राष्ट्रपति अब्राहम लिंकन के रूप में विख्यात हुआ। पृष्ठभूमि भले ही कैसी हो अगर विजय की सोच मन में हर पल दौड़ रही हो तो सफलता आपसे दूर नहीं भाग सकती ।

**(आदर्श गुरु)** अर्जुन का द्रोण के प्रति सम्मान और एकलव्य की भक्ति की मिसाल जगज़ाहिर है। गुरु द्रोण ने पांडवों और कौरवों को शास्त्र ज्ञान के साथ व्यवहारिक ज्ञान भी दिया।

ईसाइयों के जीसस क्राइस्ट ने बाइबल में संसार को प्रेम का मार्ग दिखाया :-

"... Let my joy remain in you, and let your joy be full! This is My commandment, that you love one another as I have loved you!" (John 15:11-12)

"... You shall love your neighbor as yourself!..." (Matt 22:39)

वही गीता में कृष्ण ने कर्म का मार्ग दिखाया :-

कर्मफलहेतुर्भूर्मा ते सङ्गोऽस्त्वकर्मणि । (भगवत् गीता)

बिना किसी आदर्श गुरु के पथ की पहचान और सही ज्ञान प्राप्त नहीं किया जा सकता।

**खोज :**

16. जहाँ व्यक्तिगत प्रयास निरर्थक साबित होते हैं, वहाँ समूह भावना हमेशा सार्थक रहती है।
17. अपने कमजोरियों को अपनी ताकत में बदलने की योजना हमेशा फलीभूत होती है।
18. सही उद्देश्य को लेकर किया गया कार्य हमेशा सफल परिणाम देने वाला होता है।
19. भाग्य के सोचे बिना अगर कर्म किया जाये तो सफलता के मार्ग को कोई अवरुद्ध नहीं कर सकता।
20. पृष्ठभूमि भले ही कैसी हो अगर विजय की सोच मन में हर पल दौड़ रही हो तो सफलता आपसे दूर नहीं भाग सकती।

21. बिना किसी आदर्श गुरु के पथ की पहचान और सही ज्ञान प्राप्त नहीं किया जा सकता ।

### निष्कर्ष :

वेदव्यास द्वारा लिखी महाभारत में पुरुषार्थ की जितनी व्याख्या हुई वह अन्यत्र देखने को नहीं मिली। दुर्भाग्य से आज का युवा महाभारत को केवल पुराने वर्ग से जोड़ता है। यदि वे इसके छिपे हुए रहस्यों की वास्तविकता को जान लें और इसके सिद्धांतों को व्यावहारिक जीवन में उतार लें तो वे स्वयं को ना केवल एक अच्छे मनुष्य की रूप में देख पाएंगे बल्कि सफलता के सर्वोच्च शिखिर को छू लेंगे। आत्म-सयम, धैर्य, सहिष्णुता से गुँथी महाभारत की एक महान कड़ी भगवत गीता है

जो ज्ञान का सागर है। भगवन कृष्ण ने गीता में अर्जुन के जरिए ऐसे बहुत से कर्तव्य विद्यार्थियों को बताये हैं, जिनके प्रासंगिकता आज भी बनी हुई है कि किस तरह अपनी इंद्रियों पर नियंत्रण रख कर अपने उद्देश्य को प्राप्त किया जा सकता है, यही गीता है

।

उम्मीद है हमारी भावी पीढ़ी इस महान ग्रन्थ कि सही मायने और गहराई समझ पायेंगी ।

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