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Jan.- June 2024



**Peer-Reviewed Research Journal**

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## *Editorial*

Yoga is not just an exercise system; it is a lifestyle that leads a person to perfection. With its regular practice, a person is empowered physically, mentally and spiritually. The practice of yoga teaches us that the true source of balance and peace lies within us. Therefore, by making yoga an integral part of our lives, we can not only improve ourselves but also bring positive change in the society. The need of the hour is to spread the message of yoga everywhere so that every person can achieve physical, mental and spiritual balance. Yoga teaches us what health and happiness truly mean. Thus, yoga provides a holistic and inclusive approach, which inspires to live life with completeness and balance.

International Yoga Day is celebrated every year on 21 June. The celebration of International Yoga Day on 21 June started in 2015. The purpose of this day is to spread the benefits of yoga to the people and promote the feeling of health, balance and peace. India's ancient heritage Yoga has made its mark all over the world today and has turned people's lives in a healthy and positive direction. Yoga is an important part of the ancient heritage. It is an ancient Indian method which is useful for physical, mental and spiritual development. Yoga originated in India thousands of years ago and is described in the Vedas, Upanishads and other ancient texts. Yoga has been described in detail in Patanjali Yoga Sutra, Bhagavad Gita, Hatha Yoga Pradeepika etc. The main parts of yoga are asanas, pranayama, meditation, samadhi. Ancient yoga traditions hold an important place in Indian culture, including Ashtanga Yoga: Yoga based on eight parts propounded by Patanjali. Hatha Yoga: Practice of asanas and pranayama to purify the body and life. Raja Yoga: The highest method of mental and spiritual yoga. Karmayoga, Bhakti Yoga, and Gyan Yoga, all three are described in the Gita and provide different paths of spiritual advancement to a person.

In the modern era, yoga has made a global identity. Various yoga teachers and gurus have played a vital role in spreading yoga all over the world. The ancient heritage of yoga is still relevant today and helps in bringing balance and prosperity in various aspects of life. Various yoga asanas and pranayama techniques make the body flexible, strong and healthy. Regular yoga practice maintains muscle balance, improves blood circulation, and energizes the body. Yoga is not just a physical exercise, but it is also a means of mental peace and stability. Mental stress, anxiety and depression can be reduced through meditation and pranayama. The practice of yoga creates a sense of peace and balance in the mind. Yoga leads a person to connect with the soul and spiritual awareness. It is a path to self-realization, which helps in understanding the deeper meaning of life. Yoga asanas and pranayama increase physical strength, flexibility and endurance. Meditation and pranayama improve mental peace, stress management and concentration. Yoga practice leads to enlightenment and spiritual advancement. Globally, India has also organized yoga programs in various countries of the world and made International Yoga Day a

global celebration. Indian embassies in various countries also organized yoga practices on a large scale. International Yoga Day has increased awareness about yoga not only in India but all over the world and has inspired people towards health and fitness. This initiative of India has given global recognition to yoga and established it as an important health and cultural heritage.

When we interpret yoga from a social perspective, we find that yoga helps in bringing positive changes in the society. Yoga provides various physical and mental health benefits. Regular practice improves physical fitness, such as increased flexibility, strength and stamina. Along with this, yoga also improves mental health, such as reducing stress, improving mental peace and ability to concentrate. In this way, yoga is also beneficial for those who are deprived of access to health services. Social prosperity also comes through yoga. Creating yoga centers in prosperous communities can help in social prosperity, where people are health conscious and practice yoga together. This strengthens the unity and cooperation of the community. Through yoga, people also become active in volunteer work. By organizing yoga camps and classes, the community can be made aware about education and health services. Apart from this, yoga helps in spiritual advancement and makes a person more sensitive towards his society. Yoga plays an important role in the personal and social development of an individual. It helps in improving his health, mental state, and personality, so that he can take more active participation in society. Apart from this, yoga promotes social justice, equality, and cooperation in his life. Through all these aspects, yoga plays an important role in bringing positive change in the society and helps in the development of the individual and the community.



**Professor Akhilesh Shukla**  
Chief Editor

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## **Changing Occupational Structure in Madhya Pradesh**

• Akhilesh Shukla

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**Abstract-** *The changing occupational structure in Madhya Pradesh (MP) has significant implications for social stratification, impacting traditional caste hierarchies, economic disparities, and social mobility. The shift from agriculture to industrial and service sectors, along with urbanization and improved access to education, has led to notable changes in the social landscape of the state. Social stratification in India is a complex and multifaceted system influenced by various socio-economic, cultural, and political factors. This stratification is particularly pronounced in the state of Madhya Pradesh (MP), which exhibits unique characteristics due to its diverse population, varied geography, and historical context.*

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**Keywords-** *Occupational Structure, Social stratification, Population, Service Sectors.*

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The changing occupational structure in Madhya Pradesh reflects a transition from a predominantly agrarian economy to one characterized by industrialization, service sector growth, and rural entrepreneurship. While these shifts present opportunities for economic development and job creation, addressing challenges such as skill mismatches, infrastructure deficits, and socio-economic disparities is crucial. By fostering inclusive growth, promoting sustainable practices, and investing in human capital, MP can harness its economic potential and improve livelihoods for its diverse population.

**Decline in Agricultural Employment-** Although agriculture still employs a large portion of the population, its contribution to the state's GDP has declined. Many people are moving away from farming due to factors like low profitability, fragmented landholdings, and erratic climatic conditions. There has been significant rural-to-urban migration as people seek better employment opportunities in cities. Urban centers like Bhopal, Indore, and Jabalpur have seen rapid growth.

**Growth in Industrial and Service Sectors-** MP has seen growth in industries such as automobile manufacturing, textiles, pharmaceuticals, and cement. Industrial belts have developed around cities, providing employment to a significant number of people. The service sector, including IT, retail, finance, and hospitality, has expanded, creating diverse job opportunities. This sector is particularly attractive to the educated youth. The

growth in the industrial and service sectors in Madhya Pradesh (MP) has been significant over the past few decades, contributing to the state's economic development and changing its socio-economic landscape. This growth has implications for employment, income distribution, and social stratification in the state.

**Industrial Sector Growth in Madhya Pradesh-** MP has become a hub for automobile manufacturing with major companies setting up plants in the state. The pharmaceutical industry has seen substantial growth, with numerous manufacturing units in cities like Indore and Dewas. Textile manufacturing, including spinning, weaving, and garment production, is a significant industry, particularly in cities like Ujjain and Burhanpur. MP is rich in mineral resources, leading to a thriving cement industry and other mineral-based industries. The development of industrial areas and parks, such as Pithampur near Indore, has attracted significant investment. **Special Economic Zones (SEZs)** have been established to promote exports and attract foreign investment. Examples include SEZs in Indore and Jabalpur.

The state government has implemented policies to improve the business environment, including single-window clearance systems and tax incentives. Investments in infrastructure, such as roads, power supply, and logistics, have supported industrial growth. The industrial sector has created numerous jobs, both directly in manufacturing and indirectly in related services such as logistics, retail, and maintenance.

The growth in industrial and service sectors has provided new opportunities for economic mobility, particularly for educated and skilled individuals. Traditional caste-based occupational roles are becoming less rigid as people move into new industries and services. While economic growth has increased overall wealth, it has also led to disparities. The benefits of growth are often concentrated in urban areas and among those with higher education and skills. Rural and less-educated populations may not experience the same level of economic benefits, leading to persistent income inequality. The development of industries and services in urban areas has widened the urban-rural divide, with urban areas experiencing more rapid economic growth and better living standards. Rural areas may lag in terms of access to quality education, healthcare, and employment opportunities. There has been an increase in female participation in the workforce, particularly in the service sector. This shift is contributing to changing gender roles and greater gender equity. However, women still face challenges such as wage gaps, underrepresentation in higher positions, and balancing work and family responsibilities. Tribal and marginalized communities in MP often remain on the periphery of industrial and service sector growth. Efforts to include these communities in economic development need to be strengthened. Government policies aimed at improving education, healthcare, and employment opportunities for these communities are crucial for inclusive growth. The growth in the industrial and service sectors in Madhya Pradesh has been a driving force behind the state's economic transformation. This growth has created new opportunities and challenges, impacting social stratification in various ways. While

economic development has facilitated upward mobility for many, it has also highlighted and, in some cases, exacerbated existing inequalities. Continued efforts to promote inclusive growth, improve education and skills, and address regional disparities are essential to ensure that the benefits of economic growth are widely shared across all segments of the population in Madhya Pradesh.

**Informal to Formal Employment-** There has been an increase in formal employment due to the establishment of new industries and services, which offer better job security, wages, and social benefits compared to informal jobs. Despite this growth, a large segment of the workforce remains in the informal sector, which includes small-scale industries, construction, and casual labour. The transition from informal to formal employment in Madhya Pradesh (MP) has significant implications for economic development, social security, and overall well-being of the workforce. This shift, driven by various factors including policy initiatives, economic growth, and industrialization, aims to enhance job security, increase wages, and improve working conditions. The transition from informal to formal employment in Madhya Pradesh is crucial for the state's socio-economic development. While significant progress has been made, continued efforts are necessary to overcome the challenges and ensure inclusive growth. By fostering a conducive environment for formal employment through policy reforms, skill development, and infrastructure investment, MP can enhance job security, improve living standards, and achieve sustainable economic growth.

**Rise in Skilled Jobs-** Improved access to education has led to a more skilled workforce. Technical and vocational training institutions have expanded, producing a workforce suited for modern industrial and service sector jobs. The adoption of new technologies in various sectors has created demand for skilled labour, reshaping the job market. The rise in skilled jobs in Madhya Pradesh (MP) reflects the state's efforts to align its workforce with the demands of modern industries and services. This shift towards skilled employment is driven by various factors including economic growth, technological advancements, government initiatives, and educational reforms. Here's an overview of the rise in skilled jobs in MP. The rise in skilled jobs in Madhya Pradesh is pivotal for its economic development and social progress. By focusing on skill development, educational reforms, and fostering an environment conducive to innovation and entrepreneurship, MP can capitalize on its demographic dividend and emerge as a hub of skilled employment in central India. Continued investment in human capital, infrastructure, and policy support will be crucial in sustaining this growth trajectory and ensuring inclusive and sustainable development across the state.

### **Impact on Social Stratification**

**Caste Dynamics-** The shift from agriculture to industrial and service sectors has diminished the importance of traditional caste-based occupations. This has somewhat weakened the rigid caste hierarchies, although caste remains a significant social determinant. Opportunities in new industries and services

have provided pathways for upward mobility for individuals from lower castes, particularly through education and skill development. The traditional caste system divides society into hierarchical groups based on hereditary occupation and social status. The main categories include Brahmins, Kshatriyas, Vaishyas, and Shudras, along with Dalits (formerly "untouchables") and numerous sub-castes. Despite legal prohibitions, caste-based discrimination persists, affecting access to education, employment, and social mobility. Caste dynamics in Madhya Pradesh (MP) are deeply rooted in its social fabric, influencing various aspects of life including politics, economics, education, and social interactions. Understanding caste dynamics in MP involves examining historical contexts, socio-economic indicators, political implications, and contemporary issues related to caste identities. Caste dynamics in Madhya Pradesh continue to shape socio-economic and political landscapes, influencing opportunities and challenges faced by different caste groups. While affirmative action policies have made strides in promoting social justice, addressing persistent caste-based discrimination and disparities requires sustained efforts in education, economic empowerment, legal protection, and social integration. Building a more equitable and inclusive society in MP necessitates comprehensive strategies that prioritize social reform, policy interventions, and community empowerment to mitigate the impact of historical caste divisions and promote harmonious coexistence.

**Economic Inequality-** Economic diversification has led to the emergence of a new middle class, which includes individuals from diverse caste backgrounds. This class benefits from improved job opportunities and higher incomes. Despite economic growth, significant portions of the population, particularly in rural and tribal areas, remain poor. Economic inequality is marked by a gap between urban and rural areas, as well as between different social groups. Economic disparities are significant, with a large gap between the wealthy and the poor. Economic stratification is influenced by factors like land ownership, access to education, and employment opportunities. Rapid economic growth has led to the emergence of a substantial middle class, but poverty remains a critical issue, especially in rural areas. Economic inequality in Madhya Pradesh (MP) reflects disparities in income, wealth distribution, and access to opportunities among its population. Understanding economic inequality involves examining factors such as income levels, employment patterns, educational attainment, and regional disparities within the state. Economic inequality in Madhya Pradesh is a multifaceted challenge rooted in historical, social, and economic factors. While government policies and initiatives aim to mitigate disparities and promote inclusive growth, sustained efforts are needed to address structural barriers, improve infrastructure, enhance educational opportunities, and create more equitable economic pathways for all residents of the state. By focusing on inclusive development strategies and reducing regional disparities, MP can achieve more balanced economic growth and improve the quality of life for its diverse population.

**Urban-Rural Divide-** Urban areas in MP offer better access to education, healthcare, and employment opportunities, leading to higher living standards compared to rural areas. This divide contributes to differing social and economic statuses between urban and rural populations. Rapid urbanization has led to the growth of slums, where new migrants often live in poor conditions. Social stratification in these areas is influenced more by economic status than caste. Urban areas generally offer better access to education, healthcare, and employment opportunities compared to rural regions. This divide contributes to differing social and economic statuses between urban and rural populations. The urban-rural divide in Madhya Pradesh (MP) is characterized by significant disparities in socio-economic indicators, infrastructure development, access to basic services, and opportunities. Understanding this divide involves examining various factors that shape the contrasting realities between urban centers and rural areas within the state. The urban-rural divide in Madhya Pradesh presents a complex socio-economic challenge that requires comprehensive strategies for inclusive development. Bridging this gap involves improving rural infrastructure, enhancing access to quality education and healthcare, promoting sustainable agriculture practices, and creating employment opportunities in rural areas. Simultaneously, urban development efforts should focus on sustainable urban planning, infrastructure upgrades, and inclusive growth to ensure balanced regional development and improve the overall quality of life for all residents of MP.

**Gender Dynamics-** There has been a rise in female participation in the workforce, particularly in the service sector. This has contributed to changes in traditional gender roles and increased gender equity. Despite progress, women still face barriers such as wage gaps, underrepresentation in higher positions, and balancing work and family responsibilities. Gender dynamics in Madhya Pradesh (MP) reflect a complex interplay of socio-cultural norms, economic factors, and political representation that influence the lives of women across urban and rural areas. Understanding gender dynamics in MP involves examining various aspects such as education, employment, healthcare, political participation, and issues related to gender-based violence. Addressing gender dynamics in Madhya Pradesh necessitates a multi-dimensional approach that includes legal reforms, economic empowerment, healthcare improvements, educational opportunities, and societal change through awareness and advocacy. By promoting women's rights, enhancing their socio-economic opportunities, and ensuring their meaningful participation in decision-making processes, MP can strive towards achieving gender equality and creating a more inclusive society where women can realize their full potential.

**Tribal Communities-** Tribal communities, which form a significant part of MP's population, often remain marginalized despite various development programs. They face challenges in accessing education, healthcare, and employment opportunities. Government programs aimed at improving the socio-economic status of tribal communities include the establishment of Tribal Sub-Plan areas and targeted development schemes. However,

effective implementation remains a challenge. Tribal communities in Madhya Pradesh (MP) represent a significant portion of the state's population and contribute to its cultural diversity. Understanding the dynamics of tribal communities involves examining their socio-economic conditions, cultural heritage, challenges they face, and government initiatives aimed at their development. Enhancing the socio-economic conditions of tribal communities in Madhya Pradesh requires comprehensive strategies that prioritize their rights, livelihoods, education, healthcare, and cultural preservation. Government policies focusing on inclusive development, sustainable resource management, and empowerment through community participation are essential for addressing the challenges faced by tribal communities and promoting their socio-economic well-being. By recognizing their cultural diversity and traditional knowledge, MP can ensure inclusive growth and create opportunities for tribal communities to thrive while preserving their rich cultural heritage.

**Education and Employment-** Access to quality education is uneven, with rural and tribal areas lagging behind urban centres. Educational attainment is crucial for social mobility, but disparities in access perpetuate stratification. Employment opportunities are concentrated in urban areas, leading to migration from rural to urban regions. The informal sector employs a large portion of the workforce, often with poor working conditions and low wages. Education and employment are critical facets of socio-economic development in Madhya Pradesh (MP), influencing opportunities and outcomes for its population. Understanding the current landscape involves examining educational attainment levels, challenges in the education sector, employment patterns, and initiatives aimed at enhancing education and employment opportunities. Education and employment are integral to Madhya Pradesh's development agenda, driving economic growth, social mobility, and inclusivity. Addressing challenges in education quality, enhancing skill development initiatives, promoting entrepreneurship, and ensuring equitable access to opportunities are essential for fostering a skilled workforce and reducing socio-economic disparities across the state. By investing in education reforms, skill enhancement programs, and supportive policies, MP can empower its youth, enhance productivity, and promote sustainable development in both urban and rural areas.

### **Government Initiatives and Policies**

**1.Affirmative Action-** Reservation policies provide quotas for SCs, STs, and Other Backward Classes (OBCs) in education, employment, and political representation. These measures aim to address historical injustices and promote social mobility.

**2.Development Programs-** Various state and central government programs target poverty alleviation, rural development, and infrastructure improvement. Programs like the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) aim to provide employment and improve rural livelihoods.

**3.Educational Reforms-** Initiatives to improve educational access and quality include schemes like Sarva Shiksha Abhiyan (SSA) and the Right to

Education Act. These programs focus on universalizing primary education and reducing dropout rates.

**4. Women's Empowerment Initiatives** - Programs promoting female education, health, and economic participation include Beti Bachao Beti Padhao (Save the daughter, Educate the daughter) and various state-specific schemes. Women's self-help groups and microfinance initiatives also aim to enhance economic independence. Women's empowerment initiatives in Madhya Pradesh (MP) encompass a range of programs and policies aimed at enhancing gender equality, improving socio-economic status, promoting leadership roles, and addressing challenges faced by women across urban and rural areas. These initiatives focus on education, healthcare, economic empowerment, legal rights, and social inclusion. Here are some key initiatives and their impact. Women's empowerment initiatives in Madhya Pradesh are crucial for fostering inclusive development and reducing gender disparities across various sectors. By prioritizing education, economic opportunities, healthcare, legal rights, and social support, MP can create an enabling environment where women can thrive, contribute to economic growth, and lead fulfilling lives. Continued commitment to gender equality and empowerment will be essential in achieving sustainable development goals and creating a more equitable society in Madhya Pradesh.

**Conclusion-** The changing occupational structure in Madhya Pradesh is reshaping social stratification, offering new opportunities for social mobility while also presenting challenges. The decline in agricultural employment, growth in industrial and service sectors, and urbanization are key drivers of this transformation. These changes are gradually weakening traditional caste hierarchies and creating a more dynamic socio-economic landscape. However, persistent economic disparities, the urban-rural divide, and challenges faced by women and tribal communities highlight the need for continued efforts to ensure inclusive growth. Policies focused on improving education, skill development, and targeted welfare programs are crucial to addressing the issues arising from this evolving occupational structure. By fostering equitable development, Madhya Pradesh can further mitigate social stratification and promote a more inclusive society. Social stratification in Madhya Pradesh, as in the rest of India, is a multifaceted issue influenced by historical, economic, and social factors. While significant progress has been made through government initiatives and policies, challenges remain in addressing disparities based on caste, tribe, economic status, and gender. Continued efforts toward inclusive development, improved access to education and healthcare, and effective implementation of welfare programs are essential to reduce inequality and promote social mobility in the state.

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## **A Study on Social Media Usage and Popularity Among Teens of Rairangpur Town of Mayurbhanj District, Odisha**

• Sasmita Sahu

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**Abstract-** Teenagers can create social networks, communicate with others, and establish online personas thanks to social media platforms. Individuals with similar interests or life experiences might assist kids through these networks. This kind of assistance may be especially beneficial for teenagers who are lonely or lack offline social support. To investigate the socio-economic status of the Rairangpur district of Mayurbhanj, To know the popularity of social media among teenage girls, To know the purpose of the use of social media among teenage girls. The study was conducted in Rairangpur town of Mayurbhanj district. Primary data was collected by the researcher for this study. The purposive random sampling method is used for the collection of data. A total of 120 samples were taken from my study who are using social media. The data was collected using a self-constructed questionnaire. All the respondents were between 13-14 and 15-16 years old. Results show that teenagers gain popularity on social media platforms and apps such as Facebook, Instagram, YouTube, WhatsApp, and Facebook. Teens have many options to connect and gather knowledge through the internet. Every teen uses the internet daily, and the quantity of time spent online varies depending on age and race/ethnicity. Compared to younger teens (ages 13 to 14), older teens (ages 15 to 16) are more likely to report using the internet practically daily.

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**Keywords-** Social media, Popularity, Social networks

**Introduction-** During adolescence, there are significant changes in one's physical, intellectual, emotional, and social development. Although these changes happen at every stage of life, the tween and teen years can be especially difficult.

People use social media to develop, share, and exchange ideas and information in online groups and networks. It is seen as a means of communication and engagement.

Teenagers can use social media to explore their personal identities, including their beliefs, needs, ambitions, and how they wish to come across to others.

Social media can also provide teenagers with a platform for self-expression. There is a relationship between teenagers' use of social media and their capacity to express themselves authentically, which can boost

young people's self-esteem.

Social media use has become a part of growing up, and while there are advantages, there are also risks that can upset people's mental well-being and those of their families. Parents and other primary caregivers need to comprehend the influence of modern media to negotiate its complexity, as they did not experience this same rite of passage into adulthood.

**2. Materials and Method**–The present study was undertaken in light of the above introduction. The details of the research methodology are presented in this section under the following subheadings.

### **3.1 Objective**

1. To investigate the socio-economic status of Rairangpur district of Mayurbhanj.
2. To know the popularity of social media among teenage girls.
3. To know the purpose of the use of social media among teenage girls.

### **3.2 Hypothesis**

1. It is likely that the socioeconomic status of Rairangpur district of Mayurbhanj will show wide variations.
2. Teenagers' daily usage of social media is on the rise. This is because there are numerous benefits, such as being able to easily communicate with friends via chat, having the ability to have group conversations, being aware of current affairs, and being able to watch new stuff online. Thus, it's possible that teenagers in Rairangpur, a town in the Mayurbhanj District, use social media heavily.

### **3.3 limitations**

1. The study is limited to only teens in the age group of 13-16 years.
2. The geographical area of sample selection is limited to Rairangpur, Mayurbhanja, Odisha

### **3. Source of data**

The study was conducted in Rairangpur town of Mayurbhanj district. Primary data was collected by the researcher for this study. The purposive random sampling method is used for the collection of data.

### **Sample of the study**

A total of 120 samples were taken from my study who are using social media. The data was collected using a self-constructed questionnaire. All the respondents were between 13-14 and 15-16 years old

## **4. Result and Discussion**

### **I. Socio-economic Profile of the Teens**

**Table 01**  
**Frequency & percentage of the**  
**education level of the Head of the family among teens**

Score	EDUCATION OF THE HEAD OF THE FAMILY	Frequency (N=120)	Percentage (%)
7	Profession or Honours	2	1.67
6	Graduate	10	8.33
5	Intermediate or diploma	11	9.17
4	High school certificate	34	28.33
3	Middle school certificate	26	21.67
2	Primary school certificate	8	6.67
1	Illiterate	29	24.17
<b>TOTAL</b>		<b>120</b>	<b>100.00</b>

The above table 1, depicts the education levels of heads of families of teens based on modified kuppaswami scale (2021). In the Mayurbhanj district of Rirangpur town majority of (28.33%) family heads were educated upto high school level. (21.67%), (9.17%), (8.33%), (6.67%), (1.67%) family heads were educated upto, middle school, Intermediate, Graduate, Primary school, Profession or Honours literate levels respectively and (24.17%) of family were Illiterate.

**Table 02**  
**Frequency & percentage of the occupation level of the Head of the**  
**family among teens**

Score	OCCUPATION OF THE HEAD OF THE FAMILY	Frequency (N=120)	Percentage (%)
10	Legislators, Senior Officials & Managers	2	1.67
9	Professionals	4	3.33
8	Technicians and Associate Professionals	10	8.33
7	Clerks	2	1.67
6	Skilled Workers and Shop & Market Sales Workers	22	18.33
5	Skilled Agricultural & Fishery Workers	13	10.83
4	Craft & Related Trade Workers	6	5.00
3	Plant & Machine Operators and Assemblers	22	18.33
2	Elementary Occupation	33	27.50
1	Unemployed	6	5.00
<b>TOTAL</b>		<b>120</b>	<b>100</b>

The above table 2, reports that the majority (27.50%) of the family heads of the subject were in Elementary Occupation, both (18.33%) family heads were Skilled Workers and Plant & Machine Operators, another (10.83%) were Skilled Agricultural & Fishery Workers, (8.33%) Technicians and Associate Professionals, (3.33%) were Professionals and (6%) Unemployed.

**Table 03**  
**Frequency and Percentage of the total monthly income of the family of among teens**

Total monthly income of the family			
Score	Updated monthly family income in rupees (2021)	Frequency (N=120)	Percentage (%)
12	=123,322	4	3.33
10	61,663-123,321	10	8.33
6	46129-61,662	2	1.67
4	30,831-46,128	24	20.00
3	18,497-30,830	41	34.17
2	6,175-18,496	33	27.50
1	= 6174	6	5.00
<b>TOTAL</b>		<b>120</b>	<b>100</b>

According to Table 3, the majority of the family heads (34.17%), earned (18,497-30,830 Rs). 27.50% earned (6,175-18,496 Rs). 20% of family heads earned (30,831-46,128 Rs), 8.33% earned (61,663-123,321 Rs), only (3.33%,) family heads earned greater than ( $\geq$ 123,322 Rs), 1.67% earned (46129-61,662 Rs), only (5%,) family heads earned less than ( $\leq$  6174 Rs) monthly.

**Table 04**  
**Frequency Distribution of Kuppuswamy's Socio-economic class of family heads of teens**

Kuppuswamy's socio-economic status scale 2021.			
Score	Socioeconomic Class	Frequency (N=120)	Percentage (%)
1	Upper (I)	4	3.33
2	Upper Middle (II)	14	11.67
3	Lower Middle (III)	39	32.50
4	Upper Lower (IV)	58	48.33
5	Lower (V)	5	4.17
<b>TOTAL</b>		<b>120</b>	<b>100</b>

Table 4, depicts that the majority (48.33%) belonged to the Upper Lower class and (32.50%, 11.67%, 4.17%, and 3.33%) family heads belonged to the Lower Middle class, Upper Middle class, Lower class, and Upper class respectively.

## II. Popularity of social media among teenage girls.

**Table 05**  
**Popularity and usage of various social media among teens belonging to different age groups of Rairangpur Town**

Popularity and Usage of various social media among teens						
Sl. No.	Social media	13-14		15-16		P value
		MEAN	SD	MEAN	SD	
1	Google	3.32	1.07	3.64	0.87	0.04
2	Facebook	2.65	1.3	3.65	0.74	0
3	Whatsapp	2.74	1.12	2.04	1.16	0
4	Twitter	2.07	1.14	3.73	0.76	0
5	Youtube	2.67	1.12	1.82	1.08	0
6	Instagram	2.45	1.11	1.98	1.18	0.01
7	Telegram	2.23	1.34	3.41	0.99	0
8	Snapchat	2.78	1.26	3.35	0.69	0
9	Inshort	2.61	1.27	3.74	0.43	0

In the above table P value for significant differences in means of Popularity and Usage of various social media among teens of the Rairangpur district of Mayurbhanj, as per the table, the test shows that ( $P < .05$ ) hence there is no Statistically significant difference between the two age categories according to the mean values of questionnaire values. The null hypothesis is accepted at a 5% level about various uses of social media among adolescent subjects

It is observed from the above table that the popularity of using various social media among teens is higher among 15-16-year-olds. In this group using multiple social media like Google (3.64), Facebook (3.65), Twitter (3.73), Telegram (3.41), Snapchat (3.35), Inshort (3.74) more and more as compared to 13-14-year-old teens. At 13-14 years, teens also use various social media like WhatsApp (2.74), Youtube(2.67), and Instagram(2.45), using more compared to 15-16 years. Most probably both age groups of teens use various social media for study purposes, entertainment, search new things, making reel videos, News data, and following multiple celebrities and their lifestyles and fashions.

**Table 06**  
**T Value and P Value of popularity and usage of various social media among teen**

Popularity and Usage of various social media					
13-14		15-16		t value	P value
MEAN	SD	MEAN	SD		
2.71	0.72	2.81	0.578	1.434	0.13

In the above table t-test results and P value for significant differences in means of relationship between the age factor and the use of various social media sites. When age increases the use of social media sites also increases. They become more popular among various social media sites.

### III. The purpose of the use of social media among teenage girls

**Table 07**  
**Frequency of Use of Social Networking Sites among Teens of Rairangpur Town**

Sl. No.	I use Social Networking Sites to: -	13-14		15-16		P value
		MEAN	SD	MEAN	SD	
1	Become more sociable.	3.61	1.30	4.11	1.21	0.01
2	Keep in touch with my relatives.	3.57	1.24	4.07	1.16	0.03
3	Share new ideas.	4.13	1.19	4.1	1.18	0.57
4	Create my social identity.	3.65	1.49	3.56	1.37	0.86
5	Get information regarding current social events.	4.18	1.03	3.79	1.34	0.16
6	For online academic group discussion.	3.86	1.18	3.64	1.33	0.57
7	For reading news.	4.1	1.13	3.56	1.41	0.05
8	For sharing pictures.	3.75	1.31	3.69	1.19	0.57
9	Communicate with my friends via social networking sites for preparation of exam.	4.01	1.17	4.43	0.55	0.00
10	To get relief from academic stress.	3.74	1.26	4.04	1.21	0.20
11	For watching movies.	3.63	1.21	3.75	1.21	0.46

The above table shows the P value for significant differences in means of Frequency of Use of Social Networking Sites among Teens of Rairangpur Town, as per the table, the test shows that ( $P < .05$ ) hence there is no Statistically significant difference between the two age categories according to the mean values of questionnaire values. The null hypothesis is accepted at a 5% level about various uses of social media among adolescent subjects that the majority of the respondents that is 15-16 years teens using more social media sites as compared to 13-14 years. At 15-16 years, teens Always using more social networking sites to become more sociable, they also said that they use social media sides for Keep in touch with their relatives, majority of the teens (4.11) using for Create a social identity, they also sharing pictures in various social media sites like Facebook and Instagram. Most of the respondents (4.43) use social media sites like a telegram to Communicate with their friends via social networking sites for preparation for exam. 58% said that they use social media sites to get relief from academic stress. (4.04) said they also watch movies on YouTube and Telegram. On the other hand, 13 14 years also use social media for various purposes (4.13) and share new ideas on social media sites like photo editing, and video making Inshort, (4.41) used to Get information regarding current social events, (3.86) using for online academic groups discussion and (4.1) using for reading news in various social media sites.

### **Major findings**

The study revealed that less than half of the family heads of the subjects were educated up to High school levels. Despite being a developed district, it was surprising that a very insignificant percentage of family heads were Graduates. This finding is supported by other studies where a similar trend was observed in Rairangpur town of Mayurbhanj District.<sup>1</sup> The possible reason behind this trend could be Elementary Occupation to fulfill economic needs.

In the present study, (27.50%) of family heads were reported to be in Elementary Occupation. (18.33%) family heads were Skilled Workers and Plant & Machine Operators; Unemployment was also noted.

It can be inferred from the present study that the occupation and education levels of family heads also showed a variation in monthly income.

As per the present study, the overall socio-economic status showed different levels of socio-economic class which could be due to varying levels of education, occupation, and monthly income. Socioeconomic status (SEC) is one of the prime factors influencing the use of social media.

The present study reported the popularity among teens and usage of various social media for different reasons and different purposes. the popularity of using various social media among teens is higher among 15-16-year-olds. This group uses multiple social media like Google, Facebook, Twitter, Telegram, Snapchat, and Inshort more than 13-14-year-old teens. This study is similar to the study of (C. Longobardi, 2020)<sup>2</sup>.

Most probably both age groups of teens use various social media for study purposes, entertainment, search new things, making reel videos, News data, and following multiple celebrities and their lifestyles and fashions.<sup>3</sup> When age increases the use of social media sites also increases. They become more popular among various social media sites.

Most respondents use social media sites like telegrams to Communicate with their friends via social networking sites. They also follow for exam preparation. that they use social media sites to get relief from academic stress, they also watch movies on YouTube and Telegram.

On the other hand, 13 14 years also use social media for various purposes and share new ideas on social media sites like photo editing, and video making Inshort, using to Get information regarding current social events, for online academic group discussions, and for reading news in various social media sites. This study was similar to the study of (Constanze. P,2014)<sup>4</sup>

**Conclusion-** Results show that teenagers gain popularity on social media platforms and apps such as Facebook, Instagram, YouTube, WhatsApp, and Facebook. Teens have many options to connect and gather knowledge through the internet. Every teen uses the internet daily, and the quantity of time spent online varies depending on age and race/ethnicity. Compared to younger teens (ages 13 to 14), older teens (ages 15 to 16) are more likely to report using the internet practically daily. As they age, today's youth see social media as an online space where they can "hang out" and connect with others who share similar interests. Companies, news organizations, colleges, and schools are all active on social media. Teens consider utilizing social media to be normal because so many people and businesses do.

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## **A Study on Understanding the Quality of Life and Social Wellbeing**

• Swati Naresh  
•• Neelam Shukla

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**Abstract- Abstract-** *The purpose of this study is to increase our comprehension of how modern workplace management techniques and employment policies affect the larger social sphere. An explanation of how these employment conditions affect a representative sample of people and households' Social Wellbeing is given in the study. This research studies the tendency of work arrangements to either improve or degrade Quality of Life as they appear in different high performance work systems. According to the study, some employment policies and management styles have an impact on people's social well-being outside of the workplace, particularly on families and individuals.*

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**Keywords-** *Social Wellbeing, Employment Conditions, High Performance Management Practices, Job Security, Quality of Life.*

**Introduction-** Since there are numerous definitions of "Quality of Life" in the literature, it is necessary to review and organize the body of knowledge already available on the subject. The relationship between gender equality and Quality of Life is particularly problematic because there is no clear pattern in how gender equality affects Quality of Life. For example, both genders benefit from gender equality in terms of health and Quality of Life; however, those who are at the forefront of this movement and work in less equitable environments may reap fewer rewards—including health benefits than those whose GE practices are supported by the environment. Thus, it is important to choose carefully both the concept of Quality of Life and the indicators/measures that will be used to measure it in gender equality research initiatives.

The Scandinavian level of living approach and the American Quality of Life approach are two rather opposing approaches that define the two extreme positions on a broad continuum of concepts currently available among the various attempts to operationalize welfare in general and the Quality-of-Life concept in particular.

The first category of these Quality-of-Life measures is living situations, whether favourable or unfavourable. It is emphasized that a critical component of evaluating Quality of Life is comparing actual

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situations to normative standards such as values, goals, or aspirations. The rate of unemployment, the amount of crime in a certain area, the average income or educational attainment, the retirement age, etc. are a few more objective indicators. According to this paradigm, welfare is defined as an individual's ability to mobilize resources under specific conditions so that they can consciously influence and regulate their living conditions. Resources that have a significant impact on an individual's welfare include money, property, knowledge, social connections, and security.

**Quality of Life and Social Wellbeing-** Studies of Social Wellbeing and inequality have long been the subject of fresh theoretical and conceptual development by social scientists. The results of more sophisticated statistical analyses that have connected inequality to micro-level outcomes like social participation and health as well as macro-level factors like economic production and social cohesion are largely responsible for this renewed interest. The findings of these research have had a significant impact on scholarly discussions on Social Wellbeing and social policy makers.

Nowadays, it is commonly accepted that indicators of economic performance and income are not very good indicators of living quality. Since it has become more and more obvious that a person's or family's Quality of Life is based on the resources, they have at their disposal to fulfil their goals and their ability to turn those resources into social wellbeing. Therefore, resources alone will not be a sufficient metric to forecast Quality of Life; instead, metrics that go beyond wealth, income, and consumption spending must be created and used.

There has been much discussion on the need to take into account more nuanced measures of Quality of Life that account for a larger variety of important characteristics of an individual's living circumstances. This has led to a greater interest in broader measures of social welfare. In response to these hypotheses, a number of studies have adopted a multidimensional perspective of wellbeing, encompassing the following factors: material wellbeing, health, productivity, intimacy, safety, community, and emotional wellbeing; family economic wellbeing, social relationships, health, educational attainments, community connectedness, and emotional wellbeing.

It consists of two subscales, Personal and National Wellbeing, and covers a number of domains, including standard of living, health, achievement in life, personal relationships, safety perception, sense of community, future security (Personal subscale), economic situation, environmental condition, and social conditions (the National subscale). Even though these methods are clearly effective, choosing the precise elements of wellbeing is frequently difficult and perhaps arbitrary.

**Significance of Quality of Life and Social Wellbeing-** For the overall growth and success of people and communities, social cohesion and Quality of Life are crucial. Because Quality of Life has a direct bearing on happiness, health, and personal fulfilment, it is significant. The availability of economic stability, healthcare, education, and a clean environment all contribute to a person's general well-being. Moreover, social well-being which is defined by solid interpersonal ties, community support, and a feeling of inclusion is

just as important. Good social connections promote resilience in the face of adversity, lower stress levels, and improve mental health. A good Quality of Life frequently leads to greater social bonds, and supportive social networks contribute to an enhanced Quality of Life.

These elements are vital for each person individually as well as for the cohesiveness of communities, the output of the economy, and the welfare of the entire world. Societies that respect individual flourishing and promote conditions that promote collective prosperity must acknowledge and prioritize Quality of Life and social well-being in policies and practices.

**Review of Literature-** A multifaceted notion, wellbeing can be understood as the result of an individual's physical and mental states interacting with their social environment at home and at work. It is now widely accepted that proxies for Quality of Life that are based solely on money and economic performance are inadequate. The necessity for more complex measures of Quality of Life that take into account a greater variety of important components of a person's living circumstances has become evident, thanks to the work of (*Stiglitz et al. 2009*). Several research that sees wellbeing as a multifaceted concept have addressed these postulates.

Recent research in the human resource management (HRM) sector has acknowledged the growing significance that many workplaces focus on maintaining employee wellness as widely defined. Research indicates that low employee well-being can have negative consequences for both people and businesses. In particular, a growing corpus of studies highlights the connections among individual well-being, organizational performance, and employee engagement (*Truss et al. 2013*). For example, poor wellbeing has been associated with low levels of individual engagement and poor organizational performance. In other places, we've argued that academics should stop measuring wellbeing in terms of material circumstances and instead use a more comprehensive approach that takes into account the objective elements of peoples' living circumstances that they believe are significant to their Quality of Life.

Many writers have observed that while defining the QOLEOL, domains consistent with measures of general Quality of Life and health-related quality of life (HRQOL) are comparable; the distinctions are in the definitions and operationalization of these categories (*Stewart et al., 1999*).

*Land (1996)* gives a history of the social science movements pertaining to subjective well-being and social indicators. The trend known as social indicators is centred around measurement. The issue of whether economic progress was always beneficial and the expansion of the social indicator movement occurred at the same time. On the other hand, research on subjective well-being focuses on people's subjective perceptions of their lives. The fundamental premise is that people's conscious experiences, specifically their hedonic or cognitive satisfactions, can be used to determine well-being. The field is predicated on the idea that it is legitimate to directly investigate an individual's feelings about life within the framework of their own standards in order to comprehend the experiential quality of well-being.

**Diener and Diener (1995)** demonstrates relationships between a country's wealth and social measures that are frequently so strong that one may question the value of the indicators given that a country's wealth may be a major factor in determining its standard of living. For instance, there is a correlation of 0.82 between the wealth of a country and the number of books written per capita, 0.73 between income equality among countries, and 0.70 between the percentage of people who attend colleges. Variables including the number of physicians per capita, savings rate, economic inequality, and signed environmental accords are components of the Advanced QOL Index. The remarkable 0.91 ( $p < 0.001$ ) correlation between these two indices would lead many to adopt the idea that the economic indices are sufficient and that we do not need any further indicators.

**Becker et al. (1987)** cite the fact that there are highly objective ways to estimate housing costs in a certain place. But they make the point that even in cases when apartments make up the majority of the housing stock in a community, they might not be included in these statistics. Moreover, property taxes are typically not included in the housing cost estimates and might differ significantly between locations. Moreover, the cost of housing is frequently determined by a new mortgage, which is a feature that matters to prospective purchasers but has little bearing on the standard of living for a homeowner who purchased their property thirty years ago. Furthermore, there may be significant differences in the average quality of homes in various localities.

**Schwartz (1994)** Schwartz developed a comprehensive set of 45 etic values, although the relative importance of the values varies among cultures. These values can be organized around a two-dimensional circular structure made up of seven pie-shaped value regions: Hierarchy, Mastery, Affective Autonomy, Intellectual Autonomy, Egalitarian Commitment, Harmony, and Conservatism.

For social indicators research, using values as a conceptual vehicle for creating and choosing Quality of Life variables is a crucial choice. Universal human values propose a methodical approach to choosing social indicators that capture many aspects of well-being. Measuring culturally distinctive values can help create improved social indicator composite indices that represent the indigenous concerns of each civilization, in addition to the generic value system method. For example, in Eastern cultures where filial piety is valued as a social virtue, the proportion of senior individuals living apart from their children may be a significant indicator (**Sung, 1995**).

The definition of QOL and what should be measured are ongoing topics of philosophical and methodological discussion, notwithstanding QOL's significance in health and medicine. A common definition of Quality of Life (QOL) is "an individual's perception of their position in the in the life in the context of the culture in which they live and in relation to their goals, expectations, standards, and concerns," according to the World Health Organization (WHO) **Whoqol Group. (1995)**.

Moreover, the term health-related Quality of Life (HRQOL) is often described as: "A term referring to the health aspects of Quality of Life, generally considered to reflect the impact of disease and treatment on disability and daily functioning; it has also been considered to reflect the impact of perceived health on an individual's ability to live a fulfilling life. However, more specifically HRQOL is a measure of the value assigned to duration of life as modified by impairments, functional states, perceptions and opportunities, as influenced by disease, injury, treatment and policy" **Mayo, N. (2015).**

QOL is a multifaceted notion that is defended and understood in a variety of ways both within and across disciplines. As a result, a wide range of instruments are currently employed to evaluate QOL. These tools were not created from definitions or conceptual models, but rather mostly from empirical considerations. As a result, there is a lack of conceptual clarity on the meaning and metrics of QOL, which could jeopardize the validity of QOL research **Fayers, P. M., & Machin, D. (2016).**

However, a viewpoint that appears to be influenced by evidence-based research and is utilized by numerous politicians is also presented while discussing wellbeing. This viewpoint, referred to as "objective wellbeing," frequently adopts the "eight dimensions of life" as defined by the OECD, which can be "measured" using statistical techniques. These aspects include control over products and services, time and leisure, employment and the quality of one's working life, health, education and learning, the physical and social environments, and personal safety. For wellbeing, having access to all eight dimensions is essential (**Cristchurch City Council, 2005: online**).

Policymakers' emphasis on quantifiable dimensions of well-being is understandable given the historical framework of liberal democracies, which are deeply rooted in utilitarian ideology. In fact, Jeremy Bentham once suggested the creation of a "felicific calculus," according to which decision-makers in public policy could "...calculate the net pleasure or pain connected to every action for everyone affected by that action, with public policy choices made to get the greatest net pleasure or least net pain for the greatest number of people." (**Michalos, 2004: 35**).

Following World War II, a historical era shaped by socialist democratic values momentarily concentrated policy-making efforts on promoting "social citizenship." "Social citizenship pertains to the obligations and privileges of citizenship that are focused on the well-being of individuals as citizens." (**Roche, 1992: 3**).

While attitude toward diversity can be defined as the positive acceptance of other people regardless of their age, physical attributes, gender, culture, race, ethnicity, sexual orientation, or economic or social class, solidarity can be defined as a concern for peers that implies making sacrifices based on a feeling of unity. Lastly, while addressing the well-being of kids, institutional contexts should also be taken into account, with attitude toward school being a key element (**Nikula et al., 2020**).

The degree to which students have a sense of social inclusion and belonging in their academic environment can be used to characterize their social well-being (*Pang, 2018*). Various authors have highlighted social well-being as a critical component of students' academic achievement (*Chen et al., 2018; Wrigley, 2019*).

They contend that among other things, it affects kids' academic achievement, personal growth, and mental and physical well-being. declare that a student who is related to the school receives support from it. Therefore, considering its significance, it is imperative to create tools that measure and assess students' social well-being (*Ryff, 2018*).

*Telef and Furlong (2017)* concluded that variables related to students' well-being could be hard to pin down and might differ between cultures or nations. In this regard, *Maor and Mitchem (2018)* contend that assessing social well-being in school-age children is a challenging and multifaceted undertaking, given the wide range of variables that need to be taken into account.

Achievement is one of the first variables mentioned in the research that is connected to students' well-being at school. A student's proficiency in a particular subject area as a result of both intellectual and non-intellectual factors is referred to as achievement (*Centeio et al., 2019*).

*Hubert-Dibon et al* found that they selected the KIDSCREEN-27 questionnaire because it offers a comprehensive understanding of HRQOL, has five dimensions, takes only ten to fifteen minutes to complete, and allows for examination of the essential elements of HRQOL. Only 6% of the papers in our analysis made the distinction between QOL and HRQOL, though, as few studies have done so.

*Moons et al.* assert that it is critical to record and make explicit if measures of HRQOL or overall QOL have been taken. Few articles made a distinction between the terms, and most of the included research evaluated HRQOL.

*Cuerda et al.* stated that they chose to examine HRQOL because it is a dynamic variable that assesses the subjective impact of health status, medical care, and preventive health initiatives.

In the literature, the words QOL, HRQOL, and health are frequently used interchangeably. However, it is troublesome that some researchers fail to distinguish between these categories because they have different meanings and purposes. Furthermore, there is disagreement over whether a large number of tests used to measure HRQOL truly measure one's own perception of one's health, and whether the name (HR)QOL is appropriate *Karimi, M., & Brazier, J. (2016)*.

*Goldsmith* introduces social well-being as one of the most fundamental health indicators in any community that will contribute to individual efficiency and defines it as the assessment of noteworthy positive and negative behaviours involving others.

The first and most crucial stage of social well-being is having the right social mindset and a positive attitude toward society to have a better

social life; sadly, this stage is rarely given enough attention in the community. It is therefore impossible to disregard the social aspects of health and its objective, emotional, and psychological components given the social structure of human life and the difficulties that this aspect of life can bring for the individual *Blanco, Amalio, and Darío Díaz*.

In fact, the most basic concern that underpins human existence is well-being. In human life, peace and well-being are seen as fundamental ideas. Nonetheless, the social side has received less consideration and the physical and psychological aspects have received more emphasis whenever it is brought up. The World Health Organization notes that while nations are being monitored to guarantee the mental, physical, and social well-being of their citizens, each dimension of well-being is not better than any other; rather, the health of a society is a determinant of its development and excellence.

### **Objectives of The Study**

- To study Quality of Life and social wellbeing
- To understand the importance of Quality of Life and Social Wellbeing
- To highlight the scope to improve Quality of Life and Social Wellbeing for people around.

**Research Methodology-** The research has been based on conceptual research work. A depth study was carried out. This paper discusses the to study the Quality of Life and social wellbeing, to understand the depth of the concept behind to study the Quality of Life and Social Wellbeing values Quality of Life and Social Wellbeing holds and to understand the to study the Quality of Life and social wellbeing.

Secondary data has been used and studies from the previous researchers to identify various aspects related to the topic. Literature review and introduction has been preparing with the help of research paper publications, article, and other internet sources.

**Findings and Conclusion-** Both social well-being and Quality of Life are intricate, multidimensional ideas that take into account many facets of a person's existence and interactions with others in society. Taking into account all of the variables that affect these dimensions, it becomes clear that social well-being and Quality of Life are related and essential to the general well-being of people and communities. Environmental circumstances, health, education, and economic stability are all important aspects of Quality of Life. The availability of healthcare, a steady and satisfying job, educational possibilities, and a clean and safe environment are all crucial factors that together impact an individual's overall well-being. In addition to providing for fundamental needs, a high Quality of Life entails promoting a sense of fulfilment, satisfaction, and meaningfulness.

In summary, promoting social cohesion and a high standard of living necessitates an all-encompassing strategy that takes into account the social fabric of communities as well as aspects related to the economy, education, health, and environment. To create and maintain conditions that support

everyone's social and Quality of Life, policymakers, communities, and individuals all play critical roles. Understanding how these elements are interdependent is crucial to creating a society that values and places a high priority on the overall well-being of its citizens.

Conversely, social well-being encompasses the calibre of interpersonal connections, social support systems, and a feeling of inclusion in a community. Strong social ties act as a stress reliever and increase resilience overall, which have a substantial positive impact on mental and emotional health. Positive social well-being is influenced by elements including community support, equality of opportunity, and social inclusion. It is critical to understand how these two ideas are related to one another. An individual's Quality of Life, for example, can be positively impacted by a supportive social environment, and a good Quality of Life can strengthen social ties and promote communal well-being. On the other hand, difficulties in one area may escalate into another.

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## **Indian Concept of Secularism: A Review**

• Akhilesh Kumar Saroj

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**Abstract-** *A secular State can be built up only in a secular society. In my opinion if one builds up a secular society, it will, in the long run, lead to a secular State but not vice versa. Though, our Constitution has several secular features or even if it is converted into a fully secular Constitution, it will only mean that a secular document is born and not that a secular State is born. A secular State or secular society is never born. It has to be built up by the sustained and ceaseless efforts of the secularists, rationalists and scientific thinkers. The pitfalls and dangers of a non-secular approach must be demonstrated; the benefits of a secular society must be explained and brought home to both the ignorant and the fanatic. It is not an easy task but, on that account, it cannot be given up.*

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*Keywords-* Secularism, State, Society, Opinion

**Introduction-** The word secular is derived from the Latin word 'secularist' which meant among other things, that which belongs to this world, non-spiritual, temporal as opposed to spiritual or ecclesiastical thing. The Concise Oxford Dictionary defines the word "secular" as something which is concerned with the affairs of this world, something which is worldly not sacred, not monastic, not ecclesiastical. Secularism is skeptical of religious truth and is also opposed to religious education. Secularism, therefore, must mean an attitude or an approach which is concerned with the affairs of this world and which does not regard anything as sacred or as not open to question. It is not concerned with monastic life or ecclesiastical doctrines. It questions the basis of religious faith and insists that the things of the flesh should not be governed by considerations of the spirit. The affairs of this world must be ordered as to the known truth and not by speculative doctrines.

Nehruvian dharma-nirpekshita and Gandhian sarva dharma samabhav present the two most significant models of secular ideologies that were subsumed into the national consensus, where they are frequently mistaken or conflated with each other. There were others too, like Tagore with his deep humanism and Lohia with his committed socialism that by and large supported rather than undermined this consensus. Eventually the various tensions and contradictions between these diverse secularisms were also fused or rather confused. Mahatma Gandhi said: "I do not expect India of my dreams to develop one religion, i.e., to be wholly Hindu or wholly Christian or wholly Musselman but I want it to be wholly tolerant with its

religions working side by side with one another.” The founding fathers represented the aspirations of the different sections of society and it is due to the struggles of these different people that secular principles got enshrined into the Indian Constitution.

Under Jawaharlal Nehru, the concept of a secular nation-state was officially adopted as India's path to political modernity and national integration. Unlike in the West, where secularism came mainly out of the conflict between the Church and the State, secularism in India was conceived as a system that sustained religious and cultural pluralism. In the post independent scenario, the social dynamics was very complex. The process of secularization was going slow. Even at this stage, though constitution was secular, the state apparatus: the bureaucracy, the judiciary, the army and the police were infiltrated by communal elements.

Donald Eugene Smith in his book *India as a Secular State* suggests the adoption of a working definition of a secular State. He says that “a secular State is 'a State which guarantees individual and corporate freedom of religion, deals with the individual as a citizen irrespective of his religion, is not constitutionally connected to a particular religion nor does it seek either to promote or interfere with religion.’” As per his definition the concept of a secular State involves three distinct but interrelated sets of relationship concerning the State, religion and the individual. The first set is the relationship between religion and the individual. The second concerns the relationship of the State and the individual and the third the relationship of the State and religion. Smith agrees that the basic assumption must be that a secular State will have nothing to do with religious affairs. For the purpose of deciding as to whether a State is theocratic or secular state it is enough if we find out whether the state has anything to do with religion. If it accepts a religion or religions or if it supports a religion or religions or if it incorporates in its constitution religious commands then one can unresistingly dub that State as a non-secular State. If there is 'a wall of separation' between the State and religion then one might say that, State is a secular State.

Is the sovereign, democratic republic of India a secular state? What are the distinguishing features of Indian Secularism as contemplated by our Constitution? The Indian Constitution enacted in the year 1950 did not, before the 42nd Amendment, contain the word “secular” or “God” in it. The word “God” is to be found only in the forms of oath to be taken by various persons mentioned in the Third Schedule of the Constitution. Prima facie, therefore, one is tempted to conclude that a document which contains no reference to God must necessarily be secular. However, one must not forget that the total absence of the word “secular” may lead one to the conclusion that the Constitution is not secular. The character of the Constitution cannot be decided by a mere reference to the presence or absence of a word or two. If we examine broadly all the features of the Indian Constitution it is possible to say that India is a secular state in the sense that: (i) No particular religion is prescribed as the state-religion; (ii) No preferential treatment is envisaged to

any religion or to people professing any particular religion; and (iii) The right of worship is given to persons professing all religions.

Active or direct promotion or propagation of any religion by the State is not provided for in the Indian Constitution. In this sense it is secular. Moreover, Article 14 of the Constitution enjoins upon the State not to deny any person equality before the law or equal protection of rights within the territory of India. This necessarily means that persons professing different religions will be treated equally by the State. Article 15 of the Constitution prohibits discrimination against any citizen on the ground of religion, among others. Similarly, equality of opportunity is assured to persons professing different religions under Article 16 of the Constitution. Article 29 prohibits an educational institution maintained or aided by the State from denying admission to anyone on the ground of religion. Looking to these provisions one is naturally tempted to subscribe to the view, as many well-intentioned and well-informed people have subscribed, that the Constitution of India is a secular Constitution and that it establishes a secular State.

There are, however, some other features of the Constitution which deter a person like me from agreeing that the Constitution of India is a secular Constitution or that it establishes a secular state. It is true that Article 25 of the Constitution which says that persons are entitled to freedom of conscience and right to freely profess, practice and propagate religion also mentions that this right is subject to public order, morality and health and all the other provisions of part III of the Constitution. So, the right given to profess, practice and propagate religion is to be exercised within the four corners of the restrictions mentioned in Article 25 of the Constitution. Moreover, clause (2) of the said Article mentions that the freedom of religion given by the said Article shall not affect the operation of any law or prevent the State from making any law regulating or restricting any economic, financial, political or other secular activity which may be associated with religious practice. Thus, there is a second road into the religious freedom guaranteed under Article 25 of the Constitution. This feature of the Constitution, no doubt, suggests to some extent that the State of India is a secular state. Similarly, Article 26 mentions that subject to public order, morality and health every religious denomination or any section thereof shall have the right to establish and maintain institutions for religious and charitable purposes and to manage its own affairs in matters of religion.

However, when we go to the next two articles, namely Articles 27 and 28 of the Constitution, we find provisions which detract from the secular character of the Constitution. Article 27 mentions that no person shall be compelled to pay any taxes the proceeds of which are specifically appropriated in payment of expenses for the promotion or maintenance of any particular religion or religious denomination. This article therefore is only a ban against the State from collecting tax's part or whole of which could be utilized for the promotion or maintenance of any particular religion. In other words, it does not prevent the State from utilizing its funds for the promotion of religion or a religious approach. Read simply, the article only

prevents the State from collecting any money from persons for the purpose of promoting or maintaining any particular religion. If there is no connection between the collection of taxes and the promotion or maintenance of any particular religious denomination one does not know whether the ban contained in Article 27 of the Constitution can come into action. In other words, the funds which form part of the general revenue of the State can be utilized for promoting all religions. In any case, State fund can be utilized for promoting religious teachings. In so far as there is no total prohibition against the use of the funds of the State for the promotion of religion the Constitution cannot be said to be secular. Indeed, if Article 27 by necessary implication permits the use of the funds of the State for religions generally, there is necessarily a denial of the character of secularism of the Indian Constitution.

Worse still, is the provisions contained in Article 28 of the Constitution. It says that no religious instruction shall be provided in any educational institution wholly maintained out of the State funds. You will notice a sharp difference between this provision of the Constitution of India and the Constitution of America. In America there is a total prohibition of religious instruction in any educational institution supported by the State funds. On the other hand, under our Constitution as per Article 28 it is only that educational institution, which is wholly maintained out at State funds that is prohibited from providing religious instruction. In other words, all those denominational schools which receive grants-in-aid from the State are not prohibited from giving religious instruction. That is because those schools are not wholly maintained out of State funds. It is true that clause (3) of Article 28 provides that no person attending any educational institution recognized by the State or receiving aid out of State funds shall be required to take part in any religious instruction or to attend any religious worship in that institution. This itself, in my opinion, is not enough. A denominational institution, if it receives aid out of State funds, should not be permitted, to indulge in religious instruction or religious propaganda even though such instruction or propaganda is not compulsory- for all the students of the institution. When such religious instruction or religious propaganda is carried on by schools which receive state assistance in funds it necessarily means that to that extent there is a dent in the secular character of the State of India.

From what has been said so far it must be clear that there is no wall of separation between the State and religion in India as it is there in the United States of America. On the other hand, there is a marked reluctance to bring about such a separation. Take for example Article 290A. This specifically mentions that certain sums shall be paid over every year for the maintenance of Hindu temples which were formerly in the States of Travancore and Cochin. No doubt this provision was inserted in the Constitution in the year 1956 after the States' Reorganization Act under which parts of the States of Travancore and Cochin were transferred to Tamil Nadu. This, however, is no excuse for charging public funds with an obligation to support religious institutions.

I may also invite your attention to Schedule 7, List 1, Entry 63. This enables Parliament to legislate in respect of institutions such as Banaras Hindu University and Aligarh Muslim University. As is well known, though these institutions bear the names of two religions they are not in law religious institutions. The Government of India spends some Re. six crore on the Aligarh Muslim University, Recently, there has been a sustained demand for what has been called the restoration of the minority character of the Aligarh Muslim University. This is being demanded vide Articles 25 and 26 of the Constitution. The most authoritative judgment of the Supreme Court has put the constitutional position beyond all controversy and that is, that the Aligarh Muslim University is not a minority institution and there is no question of any freedom arising under Article 26 of the Constitution. (See S. Azeez Basha vs. Union of India, A.I.R. 1968 S.C. 662). Aligarh Muslim University is a creature of the Statute as also Banaras Hindu University. It is not an institution which is established and maintained by or for the Muslims and therefore what has been called the minority character of that institution cannot be restored to it because it never possessed that character. If, however, Parliament proceeds to make a law imprinting the minority character on that University it will necessarily mean that public funds will be used for supporting an institution belonging to a particular religion. This will necessarily involve the destruction of the secular principle. I must hasten to add that a university established by the State for the study of one or more religions will not on that account be a religious institution.

At this state I may also refer to the judgment given by the Supreme Court of India in *Sardar Syedna Taher Saifuddin Saheba v. State of Bombay* (A.I.R. 1962 S.C. 853). In this case the constitutional validity of the Bombay Prevention of excommunication Act 1949 was involved. In the light of the provisions contained in Article 26 (b) of the Constitution of India, the Bombay High Court both at the trial stage and at the appellate stage, had upheld the constitutional validity of the Act by pointing out that by denying the right of the Bohra chief to excommunicate the members belonging to the Bohra community the Bombay Legislature had not done, anything which was contrary to Article 26 of the Constitution. While so holding the Bombay High Court was of the opinion that the Bohra Chief could not claim the right conferred upon the religious denomination under Article 26, in order to put forward a claim of excommunicating or expelling members and thus depriving them of the rights and privileges attaching to the membership of that denomination. This judgment of the High Court was unfortunately reversed by a majority judgment of the Supreme Court which held that the right to excommunicate vesting in the Bohra Chief was an essential part of the religion of the Bohras. The right of the Bohra Chief to excommunicate could not be taken away by any Act made by the State. C.J Sinha has pointed out in his minority judgment, that the right of excommunication was not a purely religious matter and the effect at excommunication or expulsion would result in the exclusion of the expelled person from the exercise of rights in connection not only with places of 'worship but also from burying

the dead in the community burial ground and other rights of a civil nature. If the judgment at the Bombay High Court had held the field, the history of the Bohras in India would have been different. The law of the land as laid down by the highest Court of the land has in my humble opinion diluted secularism in India. It is unfortunate that successive Parliaments which have often amended the Constitution to change the situations created by the Supreme Court judgments have not thought it fit to alter the situation created by the judgment in the Bohra Chief's case.

Part IV of the Constitution contains what have been described as Directive Principles of State policy. These principles are not enforceable by any Court but are posited to be fundamental in the governance of the country. It has also been laid down that it shall be the duty of the State to apply these principles in making laws. Some of the principles cannot be transformed into any time-bound programmes because of the paucity of funds and other difficulties.

But Article 44 contains a directive which does not require any resources or funds but only courage and determination to secularize the citizenship of India. That Article directs that the State shall endeavor to secure for the citizens a uniform civil code throughout the territory of India. Unfortunately, even after more than thirty years since the Constitution came into force such endeavor is not visible.

I must now turn to the Forty second Amendment to the Constitution and see whether it has made any change towards the secularization of the Constitution. Only two features are worth noting. In the preamble the word "secular" has been introduced. And a new part, being Part IVA, consisting of only one article, being Article 51A, has been introduced. In the beginning I have already mentioned that a word or two in the Constitution will not determine its real character. Mentioning in the preamble that India is a secular State will not make it a secular State any more than mentioning that India is a paradise will make it a paradise. Moreover, a preamble is the least important and the least effective part of any enactment. It is clear, therefore, that the amendment of the preamble has not made any difference.

Article 51A enumerates the fundamental duties of every citizen of India. It says that it shall be the duty of every citizen of India, among other things, to promote harmony and the spirit of common brotherhood among all the people of India transcending religious diversities and to develop scientific temper, humanism and the spirit of inquiry and reform. These are noble sentiments with a flavor of secularism. But how do you enforce these duties? Parliament has to make laws. Even in the absence of Article 51A, Parliament did have the power to make laws in respect of all the matters in Article 51A. The forty second amendment of the Constitution has thus not effected any change in the secular or non-secular character of the Constitution.

At this point I am tempted to dwell on two clauses of Article 51A: Clause (h) enjoins upon every citizen the duty to develop the scientific temper, humanism and the spirit of inquiry and reform. Clause (a) requires

every citizen to abide by the Constitution and respect its ideals and institutions. Faith in democracy and contesting the elections with a view to winning them on the basis of the free choice of the electorate are covered by these two clauses. If a candidate contesting the elections to the legislature, Central or State, prays to God or to the Pir of some Dargah that he will offer something to God or to that Pir if he is elected, that candidate, in my opinion, commits breach of Article 51A in two ways. By expressing faith in God, rather than in the voters, he is not abiding by the ideal of democracy which is enshrined in the Constitution. Thus, he is committing breach of Clause (a) of Article 51A. By the mere act of resorting to prayer for success in the election which success must, according to the democratic ideal, depend upon the free and voluntary choice made by the electorate, a candidate is showing total absence of scientific temper thus committing breach of clause (h). One may look at this problem from another point of view. If a candidate believes in God and believes that God will respond to his prayer for success in the election, then he is invoking the intervention of God in preparing the minds of the voters in his favor, and if God answers the candidate's prayer, then the democratic process of free and intelligent choice by the electorate has been disrupted. If a candidate genuinely believes in democracy and in the electorate, he must stand or fall by the choice of the electorate. He should not resort to extra-democratic tricks or measures. In order to enable the candidates for elections to fulfill their duties under clause (a) and (h) of Article 51 A, I want to suggest a provision in the law of election. Every candidate believing in God must be required to swear that he has not prayed to God or any Pir or any other religious head and that he will not so pray for success in the election.

**Conclusion-** Ultimately a secular State can be built up only in a secular society. In my opinion if one builds up a secular society, it will, in the long run, lead to a secular State but not vice versa. Though, our Constitution has several secular features or even if it is converted into a fully secular Constitution, it will only mean that a secular document is born and not that a secular State is born. A secular State or secular society is never born. It has to be built up by the sustained and ceaseless efforts of the secularists, rationalists and scientific thinkers. The pitfalls and dangers of a non-secular approach must be demonstrated; the benefits of a secular society must be explained and brought home to both the ignorant and the fanatic. It is not an easy task but, on that account, it cannot be given up.

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## **Status of Youth in The Field of Unemployment**

• Hemlata Sanguri

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**Abstract-** *The problem of unemployment among the youth is a serious issue because youth have the potential to bring change to society. So, it is a collective responsibility of everyone to secure our country's real gold. If we are not able to show the right direction to our youth, then this will lead them to the wrong path of crime, riots and violence, which directly harm the nation. No doubt, the government is implementing various measures for increasing the employment rate and has succeeded to a great extent. Participation of women and the marginalized groups speaks about the success of the policy measures, but we shall have a long way to go.*

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**Keywords-** *Unemployment, Youth, Marginalized groups*

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“With more than 64 million unemployed youth worlds wide and 145 million young workers living in poverty, youth employment remains a global challenge.” International Labour Organization, a specialized agency of the United Nation

The youth are universally recognized as an important part of any society by both global and local programs as well as institutions. The United Nations put aside every twelfth day of August of every year as an International Youth Day. This day is celebrated to raise awareness about the challenges and problems faced by the youth. It was first observed in the year 2000. This day aims to endorse ways to engage the youth to more actively participate in affirmative contributions to their association. As per United Nations (UN) population prospects, the youth population (15–24 years) globally stands at 1.8 billion. Out of the total youth in the world, every fifth (20 per cent) resides in India, reflecting the importance of this segment of people in the country.

It is a fact that the performance of any economy can be measured accurately based on the level of employment and unemployment in a country. Countries that have high unemployment rates are said to perform worse economically compared to those that have lower unemployment rates. Most of the developing nations have a high population of young people. In the developed nations, the level of creation of new jobs is not as fast as the population growth of these nations. Young workers assume a higher percentage of employees who are useful for the nation and economy. This group has the most energy to perform tasks that are required in various places of work.

India, at present is home to the largest population of youth in the world. The National Youth Policy of India (2014) defines – youth in the country as persons belonging in the age group of 15–29 years. According to census data (2011) the youth constitute 28% of the total population in the country and have a contribution of over 34% in the country's national income. The latest estimates show that around 27% of the total population of 1.3 billion in 2020 are youth.

### **What is Youth Unemployment?**

The term Youth Unemployment is exactly what it names implies. It results when young people, defined by the United Nations as 15–24 years old are looking for jobs but cannot find them. While unemployment itself is a problem, especially in the wake of Covid-19 youth unemployment is quickly becoming a global crisis. The problem of unemployment among youths has raised its head in almost every country. The number of unemployed youths in our country has already reached an alarming proportion and still the number is increasing every year. It is really a matter of pity and shame that though willing to work a large number of our youths do not find jobs. Thousands of young people remain idle even after completing their studies.

**Causes of Youth Unemployment in India-** In India, the rate of unemployment has been increasing over the past few years. This has led to a slow rate of growth in the economy and hinders economic development. The following are the main causes for youth unemployment in India.

**1. Alarming growth rate of population-** The most important factor is the alarming growth of population. India has become the world's most populous country with an estimated 142.86 crore people, overtaking China which has an estimated population of 142.57 crore, according to the UNFPA's State of World Population Report 2023 released on April 19, 2023.

The UN's 2022 projections said that by 2050 India's population would reach 166.8 crore for exceeding China's declining population at 131.7 crore. It is really a big problem of India and we see that the population is growing fast but there is no expansion of corresponding avenues of employment.

### **1. Inadequate growth of economy opportunities:**

In comparison with the growth of population, the economic opportunities in the country in the trade, industry, commerce and agriculture have not proportionately increased, with the result there are more young men seeking employment than there are opportunities to absorb them.

### **2. Unawareness of opportunities:**

There are several opportunities in the various fields like pharmacy, retail, telecom, service sectors and hotel management, hospitality etc. But people are not thinking broadly while they are choosing their degrees to study and while they are searching for the jobs. We need to grow our network in order to know the various opportunities around us and we need to diversify our skills, set to cope up with any kind of situation.

### **3. Loss of small-scale/cottage industries:**

Industrial development has made cottage and small-scale industries considerably less economically attractive, as they do not offer the economies of scale generated by large-scale mass production of goods. Oftentimes the demand for cheap, mass-produced goods outweighs the desire for goods that are handcrafted by those with very specific skill and expertise. The result is that the cottage and small-scale industry have significantly declined, and artisans have become unemployed as a result.

#### **4. Inappropriate educational system:**

India's education system does not develop human resources properly. It fails to train the people for the job consisted with present economic environment. As a result, even the highly educated people in India fail to get appropriate job. There is no correlation between education and employment as far as Indian planning is concerned.

#### **5. Lack of Entrepreneurship:**

In India most of the youth are schooled for taking up jobs and their mind set is turned mostly on getting a job. Economic compulsions too can push the families to encourage youth to look for jobs and not look at opportunities. Normally communities and societies that have had to struggle or have been striving for economic sustenance are seen to promote a view that the youth should take up a job and start contributing to the family's income and help with the expenses.

#### **6. Excessive Foreign Technology:**

In India there has been a pronounced liking for foreign collaborations. Mostly package deals comprising technical services, consultancy, design and also equipment. This has brought technological unemployment in the economy which aggravated the problem.

#### **7. Poverty:**

India has the largest youth population in the world. This large scale youth population is assumed to be very potential and as a sign of India's prosperity in the coming years. But poverty creates a barrier for the poor section who does not have enough resources to acquire the technological advantages. These keep them far away from the outer world. Such lack of awareness and essential facilities keeps their potential unutilized.

India experienced severe working hour and employment losses in 2020 and 2021, and Indian youth employment deteriorated in 2021 compared to 2020, according to the Global Employment Trends for youth 2022 report released by the International Labour Organization on 11 August 2022. The recovery in youth employment is still lagging globally, the report says confirming that COVID-19 has hurt young people more than any other age-group. It finds that the pandemic has worsened the numerous labour market challenges facing those aged between 15 and 24 years.

Illiteracy, uncertainty of agriculture, lack of technical qualification, inflammation etc. are some other reasons which have affected youth unemployment in India. And thus, on the whole the situation is growing worse and gradually slipping out of control.

### **Measures to Solve Unemployment Problem:**

To solve the problem a change of outlook is also needed. It is a fact that no government can provide employment for all the unemployed youths. However, there is a need for harmonious development of economic opportunities.

#### **1. \_\_\_\_\_ Control Population Explosion:**

Controlling the growth of population is important because it is difficult to provide food, shelter and other necessities of life for a large population. If the population is high the poverty cannot be removed from the country. To improve the economic standard of a country it is important to control the population. There is a need for a law on population so that every Indian reaps more benefits from economic growth and deals with challenges posed by fast population growth.

#### **2. \_\_\_\_\_ Encourage the revival of the Cottage and Small-Scale Industries:**

The only solution to combat the monster of unemployment in over populated countries like ours is to promote cottage and small-scale industries. By reviving cottage and small-scale industries, we can solve the problem of rural unemployment. Cottage industries can serve not only as whole-time occupations to many but also as subsidiary means of livelihood to thousands.

#### **3. \_\_\_\_\_ Establishment of Vocational and Training Institutes:**

Government should open technical and vocational colleges and make manual labour compulsory. Big factories should be attached to these colleges in order to provide necessary training and more emphasis has to be given to the practical side. Every job role requires a specific skill set. Hence every job seeker should get training in those skills. These skills training sessions also include resume building training, interview preparations through mock interviews and everything that can help job seekers become employable.

#### **4. \_\_\_\_\_ Encouragement to the Self Employment:**

Government must take initiatives to promote self-employment. Young entrepreneurs should be helped with hassle-free loans. Unemployment is a major concern to the government. The government tried to provide some relief to the unemployed, especially ex-servicemen by opening employment exchanges, and machinery for funding suitable employment for youth and women. Some universities also have employment cells to help their graduates to secure employment.

#### **5. \_\_\_\_\_ Education:**

For every problem in the world, education stands as the strongest solution. Education is the basic right of any citizen and it should be provided with minimum fees. Right from equal educational facilities to skill-based and computer knowledge, the education system can and should be improved.

**6. \_\_\_\_\_ Career guidance:** Job seekers who could not figure the right career path should consult a career guidance expert. Every industry has

numerous career opportunities but Indian workers lack complete awareness about the same. A career guidance expert can help job seekers understand the industry know-how zero down on the best career option and choose the right career path for them.

**7. Job referrals:** Many job seekers fail to find the right place to work. Job referrals in top companies can help job seekers prepare and crack interviews accordingly. It is important for job seekers to find the right company and get placed with a deserved salary. This will minimize the frictional unemployment crisis in India.

**8. Economic opportunities in agriculture:** The scope for employment of the educated young men in the field of agricultural is often forgotten. The introduction of better farming methods, cultivation of crops, running of poultry farms, gardening etc. are possible lines of work which young men with technical training and initiative make take up with profit.

These are some of the methods, which may be tried for minimizing the effects of unemployment. Since this is a very complex problem and, it is hardly possible for combating it by a single remedy. Its solution depends on a variety of economic and social factors.

**Government Initiatives:** India is a fast-growing economy. There has been an enormous improvement in the unemployment scenario since the time it was recognized as a challenge. In order to counter the rising unemployment scenario in the country, the government undertook various initiatives to generate employment and reduce unemployment in the country.

**1. Pradhan Mantri Mudra Yojana (PMMY):** It was undertaken by the government to encourage self-employment. Under this scheme collateral-free loans up to Rs. 10.00 Lakh are provided to small/micro business enterprises and to individuals to enable them to set up or expand their business activities.

**2. Pradhan Mantri Rojgar Protshahan Yojna:** It was initiated in 2016–17 by the Ministry of Labour and Employment. It provides assistance to the educated unemployed persons. It relates to the setting up of self-employment ventures through industry services and business routes.

**3. Skill India Mission:** It is implemented by the Ministry of Skill Development and Entrepreneurship with a focus to provide skilling to one crore people under short-term training (STT), Recognition of Prior Learning (RPL) and Special Project (SP) across the country for four years with an outlay of Rs. 1200 crore.

Under the scheme, a short duration skill development training program is being imparted to all prospective candidates including candidates belonging to BPL in the country.

**4. Pradhan Mantri Garib Kalyan Yojna (PMGKY) :** In this scheme the government of India contributes both 12% of the employer's share and 12% employee's share under the employee's provident fund (EPF), totaling 24% of the wage for wage month from March to August 2020 for organizing having upto 100 employees with 90% of such

employees earning less than Rs. 15000.

**5. \_\_\_\_\_ PMSVA Nidhi:**

It has been implemented since 1<sup>st</sup> June 2020 for providing affordable working capital loans to street vendors to resume their livelihood that have been adversely affected due to Covid-19 lockdowns. It is a central sector scheme i.e. fully funded by Ministry of Housing and Urban Affairs. The vendor can avail of a working capital loan of upto Rs. 1000, which is repayable in monthly installments in tenure of one year.

**6. \_\_\_\_\_ Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA):**

This scheme was initiated in the 10<sup>th</sup> Five Year Plan in 2005 and works under the Ministry of Rural Development. It is centrally sponsored scheme with pattern 90:10. It provides a legal guarantee of at least 100 days of unskilled manual work that can apply to the local gram panchayat.

**7. \_\_\_\_\_ National Career Service:**

This program is implemented by the directorate general of the employment ministry of labour and employment. Bringing talent closer to opportunities it is a National ICT based portal, developed primarily to connect the opportunities with the aspirations of youth. This portal facilitates registration of job seekers, job providers, skill providers, career counselor etc.

**8. \_\_\_\_\_ National Rural Livelihood Mission (NRLM):**

It is a poverty alleviation project implemented by the Ministry of Rural Development, Government of India. This plan is focused on promoting self-employment and the organization of rural poor. It is launched in June 2011, it aims to cover 7 crore low households in 600 districts, 600 blocks, 2.5 lakh gram panchayats and 6 lakh villages across the country through self-help groups and help them for livelihood over the period of 8 to 10 years. It is a restructured form of the Swarna Jayanti Gram Swarajgar Yojna (SSGY).

**9. \_\_\_\_\_ National Urban Livelihood Mission (NULM) 2013:**

It is a scheme initiated by the ministry of housing and urban affairs on 23d September 2013. The NULM replaced the Swarna Jayanti Shahari Rozgar Yojna (SJSRY). It is for all cities with a population of more than 1 lakh or more. It was brought to decrease poverty, gain self-employment and build strong grassroots level institutions. The mission would aim at providing shelter equipped with essential services to the urban homeless.

**Conclusion:**

The problem of unemployment among the youth is a serious issue because youth have the potential to bring change to society. So, it is a collective responsibility of everyone to secure our country's real gold. If we are not able to show the right direction to our youth, then this will lead them to the wrong path of crime, riots and violence, which directly harm the nation. No doubt, the government is implementing various measures for increasing the employment rate and has succeeded to a great extent. Participation of women and the marginalized groups speaks about the

success of the policy measures, but we shall have a long way to go.

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## ***An Overview of Street Trading in Bandra Linking Road***

• Purnima Singh

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**Abstract-** *Bandra Linking Road is a popular street market in Mumbai itself. It is one of the city's largest commercial hubs. As many street vendors are engaged in street vending to provide necessary products and services to their regular customers at very affordable prices. It acts like a platform to create job opportunities for a large section of population in the city. The study suggests that government policies should not hinder but should seek to facilitate internal migration and there should be an appropriate change in the attitude towards the process of migration and urbanization.*

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**Keywords-** *Street Trading, Commercial hub, Street vendor*

**Introduction-** Bandra is segregated into West and East by the local railway line, which runs in between it. The western side of Bandra has developed into a fashionable suburb around the 20th century and famous mainly for its Street Trading's, Street food markets, restaurants, Churches, Catholic hospitals and other attractions. One of the most famous is Mount Mary's Basilica which has an annual festival known as the 'Bandra Fair,' which is celebrated around September every year. It is Maharashtra's third-largest business center after Mumbai and Pune.

**Bandra Linking Road-** Bandra Linking Road, which extends from Bandra to Santacruz West in Mumbai, is one of the largest shopping districts in India in terms of the amount of revenue generated and the number of footfalls. Located around 3.5 kilometers from Bandra Station, this shopping district is one of the oldest shopping districts in Mumbai and is famous among a number of households for the affordable apparels, footwears, handbags, fashion accessories, kidswear etc. it provides. It also supports hundreds of families economically by helping them earn a living.

Earlier, largely advertised by word of mouth, Bandra Linking Road now appears in various physical and digital publications and news media. Lately, popular digital creators can also be seen increasing the popularity of Bandra Linking Road by informing people from different parts of India about its existence. The best part about this 3.03-kilometer-long stretch of road is that the cultural and economic class barriers seem to diminish as soon as one steps in this popular shopping district. Persons from different religious backgrounds and economic classes come here to fulfill their different needs as a shopper giving Bandra Linking Road its unique cultural vibrance.

**History of Street Culture in Linking Road-** Bandra linking Road has a rich and vibrant history that weaves together the tapestry of street culture. From its early days as a quaint neighborhood market to evolving into a dynamic commercial hub, the street culture of Linking Road reflects the changing Socio-economic landscape of Mumbai. This historical journey unfolds a narrative of resilience, cultural exchange and the spirit of entrepreneurship that defines linking Road unique identity worldwide.

- 1. Early Foundations (Pre- 20th Century):** Linking Road named after its functions of linking the suburbs of Bandra and Khar, began as a modest lane connecting local communities.  
In its early days, the street was primarily a local market catering to the needs of the surrounding neighborhoods. Shops and stalls dotted the road, offering essential and daily commodities.
- 2. Post Independence Era (1947 Onwards):** The post - independence period witnessed a gradual transformation of Linking Road. The growing population of Mumbai and the suburban areas led to increased demand for goods and services. Small businesses and entrepreneurial ventures started to thrive along Linking Road, catering to the increasing needs of the local populace. This marked the initial steps toward street commercialization.
- 3. 1960s- 1970s Emergence of Street Culture:** Linking Road gained prominence in the 1960s and 1970s as a vibrant shopping destination in Mumbai. The street became synonymous with a unique blend of local markets, boutiques and street vendors.
- 4. Cosmopolitan Influence and Cultural Exchange:** Bandra with its cosmopolitan atmosphere, drew people from diverse cultural backgrounds. This diversity is reflected in the street culture of Linking Road, where local street vendors and other businesses start incorporating global influences into their offerings.
- 5. 1980s- 1990s: Rise of street Fashion and Trendsetting:** The 1980s and 1990s witnessed a surge in the popularity of street fashion on Linking Road and it became a trendsetting destination, attracting the fashion-conscious crowds of local customers as well as foreigners.
- 6. Late 20th Century: Globalization and Commercialization:** As the evolution of time and in the era of globalization Linking Road gained popularity, the late 20th century it emerged as a commercial hub for vendors and customers. Arrival of branded outlets set by established retailers and coexisting with traditional street vendors create an unique identity of Linking Road.
- 7. 21st Century: Resilience and Adaptation:** The 21st century brought about enormous growth in all aspects of life all over the world. The influence of western culture totally changes the life of common people in terms of their dressing culture, food habits, preferences etc. The rise of e- commerce and online marketing posed challenges to traditional brick- and mortar establishments. However, the street demonstrated resilience by embracing digital

platforms. Many street vendors in Linking Road established an online presence especially in food culture such as links with Zomato, Swiggy etc. and clothing sector also that combine the charm of street shopping with the convenience of the digital age.

**How to Reach Linking Road Market-** It is not difficult to get to Linking Road in Mumbai. Mumbai has a lot of marketplaces, but Linking Road is a significant one, and Bandra is a posh neighborhood. So, it's not difficult to locate directions to the market.

Earlier only Mumbai local railway line provided easier connectivity to all around Mumbai, but now development of Mumbai Metro in the city has facilitated extra convenience for the Mumbaikars to reach everywhere in a very short period of time.

**By Local Trains and Metro-** The local and metro trains are a cheap and convenient way to get to the market. Bandra Railway Station West is the nearest metro station. From the station, it takes just 15 minutes to walk to the market.

The market area is highly congested, and walking from the metro station to the market area will take considerably less time than using any kind of road transportation. Autos rickshaws are also available in front of the station to reach the market.

As it is a very congested market area it is better to avoid driving a car because it is very difficult to park cars in the area, since parking is a complete issue at this location. Every parking space in the area will be taken since there are so many people visiting the establishment.

The closest bus stop, if anyone decides to take a bus, is on Linking Road. Buses are available from the Sahar Road, Elphinstone Road, SV Road, and Mumbai Central bus terminal, among other places.

Typically, buses are packed. Bus travel to Linking Road may be convenient, but getting back on a packed bus after a protracted shopping spree may be challenging due to the weight of your things. When it rains, buses will be even more packed.

**Local people and migrants in street trading in Bandra linking road-** Migration has been on the increase with the improvement in technology and globalization (De Haas, 2009; Schapendonk, (2012).

The majority of urban impoverished Indian cities depend on the informal economy for their survival. Due to poverty and a lack of productive jobs in rural areas and smaller towns, many people are compelled to go to the city in search of a job and a means of survival. These folks often lack the education and low skill levels needed for the higher paying employment in the organized sector. Additionally, the number of permanent protected positions in the organized sector is decreasing, making it difficult for even individuals with the necessary qualifications to obtain suitable work. For some folks, employment in the unorganized sector is their sole source of support. This has sped up the growth of the informal economy in many large cities. Because it requires nothing in the way of capital investment or specialized knowledge, hawking may be a viable source of income for the urban poor.

Low-skilled immigrants from rural or small towns who moved to the bigger cities in search of work make up a significant portion of the street vendors in metropolitan regions.

### **Relationship Between Local Vendors and Migrant Vendors**

“Migration is an expression of the human aspiration for dignity, safety and better future. It is the part of the social fabric, part of our very make-up as a human family.”- **Ban Ki-Moon-**

Labour migration is a very common phenomenon that has existed in centuries back. It is the process of movement of people from their place of origin to another place, within the country or outside the country in search of better employment. Even though migration is reducing poverty, it is a very tough situation.

Migrants travel and live in very difficult conditions. Labour migration is defined to be movement of people, individual or group from one place, region or country to another to take up employment in the place of destination. This can be free or forced and further can be temporary or permanent. Though Labour migration is as old as human history, industrialization since the second half of 19th century accelerated the labor migration (George, 2005).

Malthus (1798) said that population when unchecked, increased in a geometric ratio and subsistence for man in an arithmetical ratio. He says that population, when unchecked, goes on doubling itself every twenty-five years or increase in a geometrical ratio. The rapid increase in the population will create a situation of distress and many people will move from their place of origin; leaving their families, connections, friends, and native land to some unknown places, in the hope of some great advantages in the place to which they are going. Thus, he comments that labor migration is voluntary in nature. The poor will be affected more in the situation of the population hike and being reduced to severe distress. The number of laborers being above the proportion of work in the market, the price of labor will tend toward a decrease, while the price of provisions would at the same time tend to rise. The laborer therefore must work harder to earn the same as he did before. In every civilized state a class of proprietors and a class of laborers must exist, and greater the number of proprietors, the smaller must be the number of laborers: a greater part of the society would be in the happy state of possessing property: and smaller part in the unhappy state of possessing no other property than their labor.

**Yuko Tsujita (2012)** studied the migration from Bihar, one of the most under developed state in India by paying attention to social class and landholdings. The study shows that Muslims are more migratory in nature. Migration is high among the landless and smaller land holders.

In Bandra Linking Road Street markets, migration is done at a very huge pace. In this market there are more migrants than local street vendors. It can be observed that maximum migrant laborers are from Uttar Pradesh and Bihar. It is also noticeable by researcher that street vendors engaged in their business are more Muslims than Hindu.

**Bhagat (2011)** pointed out that internal migration really contributed to the growth of Indian cities. In the light of census 2011 the study argues that migration is the main contributor towards urbanization. He argues that the reason for internal migration is regional disparity in the level of development. The main sectors in which these internal migrants predominantly engaged are included as construction workers, domestic servants, mason, plumbers, electricians etc. Remittance considered being the main contributor towards the improvement in living conditions of the laborers.

The study suggests that government policies should not hinder but should seek to facilitate internal migration and there should be an appropriate change in the attitude towards the process of migration and urbanization.

**Relationship Between Locals and Migrants-** The relationship between local vendors and migrant vendors in Linking Road is a complex interplay of collaboration, competition and coexistence. This iconic street, popular for its diverse range of street markets and dynamic atmosphere, facilitates a melting pot for vendors greeting both the local community and those who have migrated from other states in pursuit of their livelihood and better opportunities.

The dynamics between local and migrant vendors shape the unique fusion of Linking Road's Street culture, reflecting the symbiotic relationship that defines

**Nature of Street Vending in Bandra Linking Road-** Bandra Linking Road is divided into different lanes according to the shopping items sold by the vendors. This is to help the customers find their way around this shopping district categorizing according to their shopping needs. Shop Owners are ready to help a customer find his/her way around the market, in case they are confused. These different lanes are as under:

**Suit Lane-** This line is famous for Indian traditional outfits like salwar kameez, Indian kurtis etc. There are around 50 street stalls in one lane and around 100 to 150 street vendors are engaged in this trading for their earnings and survival. In this lane, the age group of 20 - 30 years and 30- 40 years youths are engaged. The main source of their earnings depends on this business.

**Shoe Lane -** This line is the most popular line-up of shoe stores that stretch down on the street. The collection is diverse and one can find trendy shoes, sneakers, sports shoes, casual lace ups specially for the college students of the age group 16- 25 and also for common people more than the age of 30 years at a very affordable price with a variety.

**Chappal Lane-** Chappal line is specially for women and least for men. This is mainly for ladies' sandals, slippers etc.

**Kids Lane-** As the name suggests this line is only for kids for boys and girls both age groups of 0- 12 years. The availability of products are casual clothes, party wear for the combination of both Indian style and western style.

**Car Lane-** This line is famous for parking cars in a lane. In this line there are some food stalls on the street that sell some kind of street foods i.e combination of south Indian food like Idli Sambhar, dosa chutney, Uttapam etc. chinese food like.

Noodles, manchurian, fried rice etc. snacks like bread toast, golgappe and also drinking items like nimbu pani, some juice etc.

One can notice the shop vendors and the street hawkers trying their best to grab a potential customer's attention in this market. The main competition that the shop vendors face is not from the nearby showrooms and malls, but from the street hawkers that seem to find their way into the market, despite being banned from entering by the BMC (Brihanmumbai Municipal Corporation). Shop vendors are supposed to pay rent for their shops along with the required government taxes. The rent can range anywhere between fifteen thousand rupees to twenty thousand rupees monthly. The taxes keep changing according to the annually laid down government terms and regulations.

**Socio Economic Prospects of Street Vendors-** When interviewed, few shop owners said that the previous generations were running the same shop they did now. Most of them are family-owned businesses in Linking Road. So that all males of the family are engaged in this business. Most of them are fully satisfied with their earnings from their business and do not want to change their business. Even better employment opportunities will be offered to them.

Some of the vendors are interested in shifting their livelihood if better opportunities will be offered to them. Not satisfied with the number of footfalls in the market post covid-19, the owners said they were managing somehow financially. Another thing to be noticed is that the number of foreigners visiting this market has decreased post pandemic. According to the shopkeepers, there were a large number of foreigners visiting the market before the covid cases started increasing exponentially and the travel bans were put into motion. But even after the travel bans have been released and the pandemic is now in control, it seems that the foreigners are still reluctant to visit India and its famous shopping districts. Shopkeepers are however certain that their business would pick up pace once everything settled and the population's fear of pandemic had subsided and long forgotten.

One more thing that is common among the vendors, apart from their source of income, is that they are not originally from Maharashtra and have all come from other states in India in search of better opportunity and employment. Many shopkeepers come from Uttar Pradesh and Bihar. These are people who are the sole breadwinners in their family of minimum three to maximum eight persons. Some have their family members living with them in some part of Mumbai, while others do not. When asked about the days when the shops remain closed, different vendors have designated different days as holidays. Some choose to keep their shops closed on Monday, while others on Sunday.

**Findings-** There are only male shopkeepers that can be found in Bandra

Linking Road. And the ratio of male street hawkers to female street hawkers is quite high, with only twenty to thirty female street hawkers available in the market against seventy to eighty male street hawkers. So, the opportunity available for women in the market is less as compared to men. Contrastingly, one can easily notice that the ratio of male customers to female customers is quite low, with the majority of customers being women who are seen to be visiting the market during on-season as well as off-season while only a few male customers visit it.

The age group of shopkeepers and street hawkers ranges from 16 years old to 40 years old, with the maximum of them falling between the age range of 20 years -30 years old. Waste and disposables at the day's end, according to shopkeepers, are handled by waste pickers late evening or early morning next day. Recycling of items is also managed by these waste pickers only. All shopkeepers are supposed to keep their garbage aside and segregate their wet and dry waste. The shopkeepers are satisfied with the sanitary facilities available for them. There are two washrooms available for them to use. But they guide visitors to the railway toilets because these are cleaner than the ones they use.

The business in Bandra Linking Road has its peak, like other businesses, during Indian festivals. Shopkeepers eagerly wait for the week before the most anticipated festivals in India, like Holi, Eid, Ganesh Chaturthi, Diwali, Navratri etc. as people from different parts of Mumbai and India throng the market to fulfill their festival requirements. The recession in the market during off-season is easily covered by the revenue generated during the peak-season. All shopkeepers collectively prefer not to collaborate with e-commerce platforms like amazon.in, flipkart.com, myntra etc. but are open to exporting services.

When it comes to satisfaction in terms of income generated and occupation of the vendors and street hawkers, many were satisfied while a few were not. Many are waiting for a better opportunity that could promise employment with a brighter future. Few people have chosen merchandising out of mere necessity and would like to shift to a different occupation as soon as an opportunity to do so arises.

**Conclusion-** Bandra Linking Road is a popular street market in Mumbai itself. It is one of the city's largest commercial hubs. As many street vendors are engaged in street vending to provide necessary products and services to their regular customers at very affordable prices. It acts like a platform to create job opportunities for a large section of population in the city.

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## ***NAAC Assessment: A route in sustaining quality of stakeholders of Colleges under Chirang district***

• **Disco Mushahary**

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**Abstract-** *Higher education plays an important role for creating knowledge and information-based society. It not only focuses for individual success but also for economic and societal development. Higher Education of India, in order to cope up with the world class institutions, needs proper inspection and supervision and should adherence to the regulatory standards set by agencies or regulatory bodies such as- UGC/AICTE/NCTE etc. NAAC an autonomous body established by University Grant Commission (UGC) is responsible for assessing and accrediting the pre-determined criteria to determine the quality and performance of higher educational institutions of India and accordingly provide grades to those institutions. It plays an important role in ensuring overall institutional quality in the higher education institutions. NAAC Accredited institution generally signifies that, the institutions hold certain standard of quality. This paper attempts to explore on how NAAC assessment insists the colleges in sustaining the quality and excellences and advocates the best practices for quality enhancement in higher education.*

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**Keywords:** *NAAC Assessment, Colleges, Transformation, Sustainability, quality, Status.*

**Introduction-** Education is the only key to unlock the main gate to civilization and modernization. It is the most important means to develop individual and the nation as a whole; it is the only means to bring about constructive and desirable social, economic and political changes and development in the fast-changing world of ours. Education generally equips us with knowledge, skills and critical thinking abilities, leading to personal growth and societal progress. It is the foundation for the personal development, economic upliftment and a key factor of social transformation. It empowers people to make precise decisions, holds opportunities and contribute properly to their communities.

Higher Education in order to cope up with the world class institutions, need proper inspection and supervision for ensuring quality assurance and upholding public trust in the integrity and efficiency of higher education system. Inspecting higher educational institution usually involves evaluating the infrastructure facilities, curriculum, management and administration system, faculty expertise, research activities, students' performance, accountability of teachers and administrators, involvement in co-curricular activities and adherence to the regulatory standards set by agencies or regulatory bodies.

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NAAC an autonomous organization established by University Grant Commission (UGC) of India to assess and accredit higher educational institutions of India and accordingly provide grades to those institutions. It was established in 1994 with its headquarters at Bangalore by the advocate done by The National Policy on Education (1986) and the plan of action (PoA-1992) to assess and upholds the overall institutional quality in higher education. Generally, the NAAC conducts assessment and accreditation of colleges, universities or other recognized institutions to derive an understanding of the 'Quality Status' of that institution. It is clear that, the NAAC Accredited institution generally signifies that, the institutions hold certain standard of quality.

The NAAC administer through its General Council (GC) and Executive Committee (EC). The chairperson of the UGC is the president of General Council of the NAAC. The Director is the academic and administrative head of the council and is also the member-secretary of both the General Council and the Executive Committee.

As per the vision of NEP 2020, a set of transformative reforms has been made by the Radha Krishna Commission to strengthen the periodical approval, assessment and accreditation and ranking of all the higher educational institutions of India. Former grading system has been replaced by Binary Accreditation (Accredited or not accredited) with an aim in developing quality culture in higher education. Maturity-based Graded Accreditation is also encouraged (Level 1 to level 5). Institutions with 'Level 1' to 'level 4' will be as institutions of national excellence and institutions with 'level 5' will be institutions of Global excellence for multi-disciplinary research and education..

**Table showing Criterion wise differential weightages for the three types of HEIs-**

Curricular Aspects	150 (U)	150 (Au)	100 (Aff UG)	100 (Aff PG)
Teaching-learning & Evaluation	200 (U)	300 (Au)	350 (Aff UG)	350 (Aff PG)
Research, Innovations & Extension	250 (U)	150 (Au)	110 (Aff UG)	120 (Aff PG)
Infrastructure & Learning Resources	100 (U)	100 (Au)	100 (Aff UG)	100 (Aff PG)
Student Support & Progression	100 (U)	100 (Au)	140 (Aff UG)	130 (Aff PG)
Governance, Leadership & Management	100 (U)	100 (Au)	100 (Aff UG)	100 (Aff PG)
Institutional Values & Best Practices	100 (U)	100 (Au)	100 (Aff UG)	100 (Aff PG)

Source: NAAC Official Website

**Table showing Total number of institutions accredited (Status as on 07/02/2024)**

Type of HEIs	Number of HEIs Accredited
Universities	458
Colleges	9824
Total	10282

Source: NAAC Official Website

Generally, Chirang district situated in BTAD of Assam consist of 8 numbers of higher educational institutions and out of them 6 are provincialized colleges and others are private. All the colleges are affiliated to Bodoland University which is a state university established under the Bodoland University Act, 2009 of the Assam Legislative Assembly on 28<sup>th</sup> February 2009. Among those 6 provincialised colleges only 3 colleges namely- Bengtol College, Bijini College and U.N. Brahma College have been accredited by NAAC till April, 2024. It is observed that there are lots of changes in the overall quality of NAAC Accredited and non-accredited colleges of Chirang district.

**Table showing List of Colleges under Chirang District**

Sl. No.	Name of the College	Address	Status.	Name of the Principal / Email. ID
1	Bengtoll College, Bengtol	P.O- Bengtol, P.S.-Runikhata, Pin-783394, Dist- Chirang, BTAD, Assam	Provincialised	Dr. Ranjit Kr. Narzary <a href="mailto:bengtollcollege@gmail.com">bengtollcollege@gmail.com</a>
2	Bijini College, Bijini	P.O- Bijini, P.S. - Bijini, Pin-783390, Dist -Chirang, BTAD, Assam	Provincialised	Dr. Birhash Giri Basumatary <a href="mailto:bjinicollege@gmail.com">bjinicollege@gmail.com</a>
3	Basugaon College, Basugaon	P.O- Basugaon, P.S.- Basugaon, Pin- 783372, Dist- Chirang, BTAD, Assam	Provincialised	Dr. R.C. Muchahary <a href="mailto:basugaoncollege@gmail.com">basugaoncollege@gmail.com</a>
4	Upendra Nath Brahma College, Kajalgaon,	P.O- Kajalgaon, P.S.-Dhaligaon, Pin-783385, Dist- Chirang, BTAD, Assam	Provincialised	Dr. Nilpadmini Rabha <a href="mailto:unbcollege88@gmail.com">unbcollege88@gmail.com</a>
5	Runikhata College, Runikhata	P.O- Runikhata, P.S.- Runikhata, Pin- 783375, Dist- Chirang, BTAD, Assam	Provincialised	Dr. Bijit Brahma <a href="mailto:bijitlaunching@gmail.com">bijitlaunching@gmail.com</a> <a href="mailto:Srbcollege2013@gmail.com">Srbcollege2013@gmail.com</a>
6	Borobazar College, Bijini	P.O- Bijini, P.S. - Bijini, Pin- 783350, Dist- Chirang, BTAD, Assam	Provincialised	Mr. Dhananjay Basumatary <a href="mailto:borobazarcollege@gmail.com">borobazarcollege@gmail.com</a>
7	Don Bosco College, Chapaguri	P.O- Chapaguri No.1, P.S.- Dhaligaon, Pin- 783380, Dist- Chirang, BTAD, Assam	Private	Dr. Abhilash V.J. <a href="mailto:donboscochapaguri@gmail.com">donboscochapaguri@gmail.com</a>
8	Reimalie Academy College (B.Ed.), Bijini	P.O- Bijini, P.S. - Bijini, Pin- 783390, Dist- Chirang, BTAD, Assam	Private	Dr. Sristidhar Biswas <a href="mailto:reimalielbed@gmail.com">reimalielbed@gmail.com</a>

Source: Registrar office, Bodoland University, 2024

**Area of the Study-** The research area is confined to study only the provincialised NAAC accredited Colleges affiliated to Bodoland University under Chirang district. There are only 3 NAAC accredited provincialised colleges in Chirang district namely- Bengtol College, Bijini College and U.N. Brahma College till 25<sup>th</sup> May, 2024. Thus, the study will be limited only to those colleges. The study will also be limited only to the present Status of colleges and how NAAC boost those colleges in bringing quality in education.

**Research questions-** The research question of the present study are-

1. Whether NAAC assessment boost the higher educational institution in sustaining quality in higher education.
2. What is the present status of NAAC accredited colleges of Chirang district?

**Objectivity of the study-**

1. To find out how NAAC assessment boost the higher educational

institution in sustaining quality.

2. To study the present status of NAAC accredited colleges of Chirang district.

**Methodology-**The research paper is based on both primary and secondary data. To collect the primary data Interview Schedule has been used by conducting survey method. The investigators have visited and interacted with some college teachers and officials. And as a Secondary source, data are collected from institutional Websites, AQAR, SSR, NAAC Websites, Articles, Books, Journals etc.

**Present Status of NAAC Accredited Colleges of Chirang District-**NAAC assessment in higher educational institution of Chirang district has brought tremendous transformation in overall infrastructure facilities, teaching learning process, management and administration system, faculty qualifications, research activities, students' performance, accountability of teachers and administrators, involvement in co-curricular activities and in all the seven criteria's set by the NAAC. The amounts of money received by the institutions are being used by the institution in renovation and construction of new buildings.

**Table showing Details of NAAC Accredited HEI, s Under Chirang District**

Sl. No.	Name of the College	District	Status	Cycle/Grade/CGPA & Year			
				Cycle	Grade	CGPA	Year
1	Bengtol College, Bengtol	Chirang	Provincialised	I (2017)	II(2023)	III	
				C	B	X	
				1.80	2.19		
2	Bijni College, Bijni	Chirang	Provincialised	I (2004)	II (2017)	III	
				C++	B+	X	
				66.25	2.6		
3	U.N. Brahma College, Kajalgaon,	Chirang	Provincialised	I (2023)	II	III	
				C		X	
				1.79			

Source: College office record, College website.

**Advantages/ Benefits of Assessment and accreditation by NAAC-** The advantages or benefits of NAAC Assessment and accreditation to the higher educational institution are explained through the following points-

1. **Transformation in improvement of Institutional quality:**
  - a. Institution comes to know its strengths, weaknesses, and opportunities through its review process.
  - b. Identification of internal areas of planning and resource allocation.

- c. Institutions to begin innovative and modern methods of pedagogy.
- d. Creates sound and good academic environment in the Institution.
- e. New sense of direction and identity for the institutions.
- f. Unity and generosity among the members of the college.

**2. Improvement among the faculty members:**

- a. Encourages for orientation programmes, refreshers courses, faculty development programmes etc.
- b. Motivation for project and research works.
- c. Motivates faculty to participate actively in academic and departmental related activities.
- d. Encourages faculty by providing financial assistance for paper presentation and publications.

**3. Benefits to students:**

- a. Students will receive quality education provided by well qualified and trained teachers.
- b. Student becomes competent in different fields to achieve his goals due to good academic environment.
- c. Established identification from the institution accredited by NAAC.
- d. Receive modern methods of pedagogy.
- e. Enhance employability or placement facilities as many companies goes for campus requirement only to institutions having good grade etc.

**4. Benefits to non-teaching staff:**

- a. Encourages the administrator to be accountability in work and finance.
- b. Helps the administrator in management and administration of the institution.
- c. Motivates the administrator in planning and decision making.
- d. Encourages the library to be digitalized and upto-date.
- e. Employers look for concerned and useful information on the quality of education offered.
- f. Established congenial atmosphere in the college.

**5. Advantage to Parents and guardians:**

- a. Parents feel confident enough that their children being admitted to institution having certain standard of quality as it is accredited by NAAC.
- b. Parents will know that their children are pursuing excellent teaching and learning environment which is helpful for bright future.
- c. Encourages full cooperation with the institutions.

**6. Encouragement to alumni:**

- a. Alumni association establishes a link between the alumni, staff, and students of the Institute.
- b. Alumnus feels proud as the institution holds good status and intends to work for the development of college.
- c. Establishment of financial help and scholarship funds to help the needy and deserving students.
- d. Exchange of ideas on academic, cultural and social issues.
- e. Arrangement and organization of social and cultural functions for overall development of students etc.

**7. Encouragement to different Cells of the institute-** Every institute has certain established Cells that perform their own set roles in order to bring overall quality improvement in the institute. This NAAC assessment encourages each and every Cell to be active, dedicated and accountable in doing their duties. It also acts as a guide to the Cells in order to achieve their goal.

**8. Benefits to the Nation as a whole-** The core mission of higher education is to educate, train, undertake research and provide service to the Society. NAAC encourages the institute to produce quality human resource and highly trained professionals which enable the nation to compete in the globalized economy. It helps in building world class universities that Contributes to overall social and economic development of the country.

**Conclusion-** NAAC plays an important role in ensuring overall institutional quality in the higher education institutions. NAAC accreditation in colleges should not be due to compulsion or pressure from the government or it should not be done for gaining reorganization, grades or funds. As NAAC is responsible for assessing and accrediting the pre-determined criteria to determine the quality and performance of higher educational institutions it signifies that, the accredited institutions hold certain standard of quality. Sustaining quality in every educational institution is possible only through the continuous monitoring with the support of IQAC of that institution. NAAC assessment acts as a booster in bringing improvement in infrastructure facilities, teaching learning process, management and administration system, faculty qualifications, research activities, student's performance, accountability of teachers and administrators, involvement in extension services etc. It acts as a stimulator for the institutions for gaining equalization with that of world class higher educational institution.

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## **Trauma as expressed in the works of Khushwant Singh and Salman Rushdie**

● Neetu Yadav  
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**Abstract-** *The Partition of India as an Indian trauma, has been described as a massive tragedy by both Kushwant Singh and Salman Rushdie. 'Train to Pakistan' and 'Midnight's Children' are the novels which depict the effect of the incident in the lives of people from both the fronts. Even after years, the trauma of partition had not disappeared from the minds of the people in both the countries. In fact, the result of the partition can be seen even today, as a political tension between both the countries. This paper tries to focus on the trauma that the people had to face as described by Khushwant Singh in 'Train to Pakistan' and Salman Rushdie in 'Midnight's Children'. Train to Pakistan describes a small imaginary village named Mano Majra which is lost in the remote reaches of the frontier (Train to Pakistan-2) on the Indian side. In Train to Pakistan the Muslims in Mano Majra who were living in perfect harmony with the Sikhs and Indians of the village have to leave abruptly for the newly created country Pakistan. The novel also attempts to show the sudden transformation of human minds and hearts from kindness and love to hatred. (Delta National Journal of Multidisciplinary Research 10 (Spl), 113-119, 2023) There are several writers who depict pain of the traumatic incident of partition in their works like Khushwant Singh, Manohar Malgaonkar, Salman Rushdie, Bapsi Sidwa, Taslima Nasreen etc. During the partition of India in 1947, millions of people were displaced leading to large scale migrations. Few notable families are of Manmohan Singh, former Prime Minister of India, Nawajuddin Siddiqui, etc.*

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**Keywords:** *Partition, Trauma, migration, incident*

'Trauma' is a Greek work which means 'wound'. The Greeks used this word for physical injuries, but now-a-days we refer it to emotional wounds. A traumatic event heals physical injuries faster but leaves psychological symptoms for long. The psychological name for emotional trauma is "Post-Traumatic Stress Disorder". (PTSD). These usually occurs after an extremely stressful event such as wartime combat, any natural disaster, sexual or physical abuse etc. In short 'trauma' is a very severe shock causing psychological damage.

Human history has witnessed some of the most traumatic incidents such as displacements of people from their homelands like Jewish from Germany, Arabs from Palestine, Kashmiri Pandits from Kashmir. Tamilian

refugees from Sri Lanka. These incidents evolve trauma in millions of people who have been affected. The Merriam Webster dictionary defines trauma as "a disordered psychic or behavioural state resulting from severe mental or emotional stress or physical injury" (Merriam Webster dictionary). Trauma has been classified into small 't' and large 'T' based on the general perception of the traumatic event: (Barbash- 2017). Small 't' trauma is caused by events that are considered to be traumatic at a personal rather than a universal level. On the other hand, large 'T' trauma results from events that cause stress at universal level. The partition of India is a kind of large 'T' traumatic event.

One of the most interesting features of trauma that has been a focus of recent researches is that it can be transmitted across generations. This means that trauma resulting from a traumatic experience may live and pass on to future generations of those, who have survived. The partition of India portrays tragic images of separation, violence, displacement, loss and sufferings, As per researches it was the largest mass migration in human history. One single decision made by so called 'Govt' had made millions of people become strangers in their own lands and were pushed to unfamiliar land to spend rest of their lives. In Khushwant Singh's novel 'Train to Pakistan' the sufferings and trauma of the partition are vividly portrayed; Salman Rushdie's, 'Midnight's Children' also addresses the after math of the partition, intertwining it with the broader narrative of post-colonial India. The novel explores the personal and collective struggle of those born at the exact moment of India's independence, connecting their fates to the nation's turbulent history. Both authors employ their distinctive styles to articulate the psychological and emotional toll of the partition offering readers a glimpse into human experience.

In the novel 'Midnight's Children' Salam Rushdie weaves together the personal stories of characters with the broader canvas of historical events. The novel explores theories of identity, displacement and the search for meaning in a fractured world. Kushwant Singh's 'Train to Pakistan' captures the microcosm of a small village on the border, revealing the impact of the partition on ordinary lives. The novel deals with the moral dilemma faced by the characters and also portrays the brutality of the violence that accompanied the partition.

On 15<sup>th</sup> August 1947, India was declared free from British rule. However, this joy was overshadowed by the modifying partition-tragedy. Many Indians as well as Pakistani writers depict this tragedy in their writing through different perspectives. But Kushwant Singh was the first to experience the pain of partition. (Delta National Journal of Multidisciplinary Research 10 (spl)113-119, 2023). The darkest period in the history of India was called 'Partition'. Partition has been popular there in Indian English literature of 1940's. Indian independence and the consequences lead to provide realistic story of political hatred and violence of those turbulent days. (The journal of contemporary issues in business and govt. 27(2), 4471-4475, 2021, P. Kavita, B. Vishalakshi).

The partition of India 1947 had profound and lasting effects on the lives of the people in both the countries. Millions were displaced and communal violence led to significant loss of life and property. The migration of people between the two countries often accompanied by violence created a complex legacy that continues to impact the regions social, political and cultural dynamics. During such era of crisis women were mostly targeted to humiliate. Andrew Major writes 'During Partition Punjabi Society was affected at all levels by murder, displacement and assault.' (Journal of emerging technologies and innovative research (JETIR), 372).

**Conclusion-** The examination of nationalism and historical events in 'Midnight's Children' and 'Train to Pakistan' reveals that both texts offer insightful analyses of the difficulties associated with forming an identity and survival against the turbulent background of India's Partition and independence. As Jawaharlal Nehru said, "At the stroke of the midnights hour, when the world sleeps India will awake to life and freedom. A moment comes which but rarely, in history, when we step out from the old to the new, when an age ends, and when the soul at a nation long suppressed, finds utterance." (Mandal 4). Both the novels portray the turbulent times of Indian history.

Both novels depict the significance of history in forming the national direction. Both novels differ in their style and methodology, but both novels depict the trauma of colonialism and the division of the Indian subcontinent and its effect on people (International journal of English Literature and Social Sciences, Vol. 9, issues-3, May-Jun 2024, p-53)

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## **Nutrient Analysis of Product Developed Using *Moringa Oleifera* (Munga) Leaves Powder**

● Neelam Soni  
●● Vibha Chandrakar  
●●● Vasu Verma

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**Abstract-** *Moringa oleifera* belongs to the family of Moringaceae, is an effective remedy for malnutrition. Moringa is rich in nutrition and contains a variety of essential phytochemicals present in its leaves, pods and seeds. To study the wide nutritional value of Moringa leaves powder, Encourage and to promote the uses of Moringa leaves, and to develop nutritious recipes for local foods with Moringa leaves powder. Edible Moringa (*Moringa Oleifera*) Leaves sample were collected as a raw material and grinded dried. The prepared powder is then used to prepare three different recipes named Moringa Fara, Moringa Cheela and Moringa Puri cooked at different temperature. All prepared recipes were sent to department of Plant Molecular Biology and Biotechnology for nutrition analysis. The results showed significant nutritional values for all recipes. The product prepared from Moringa powder have high nutrition value and hence they can be developed into commercially acceptable products to ensure their availability throughout the year.

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**Keywords-** *moringa oleifera*, malnutrition, fara, cheela, puri.

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**Introduction-** There are Thirteen Species of Moringa in which we studied about *Moringa Oleifera* (Munga) which is easily found in area. Moringa Oleifera is commonly known as Moringa, drumstick tree, horseradish tree, ben oil tree, or benzoil tree is the family Moringaceae. The plant is native to northwestern India, and widely cultivated in tropical and subtropical areas and also easily cultivated and available in Kitchen Garden. It is the most widely cultivated species of the genus Moringa, and its young seeds, pods and leaves are used as vegetables. All parts of the Moringa tree are edible and have been consumed by humans for long years. Moringa is used worldwide as traditional medicine, for various health conditions such as Anemia (Most widely used), Anxiety, Asthma, Diabetes, Blood Pressure, Jaundice, Tuberculosis, Bronchitis, Blood Impurities, Chest Congestion etc. which boosts and rejuvenates dead cell in human body.

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Now coming to the Phytochemical analysis which showed that *M. Oleifera* is rich in potassium, calcium, phosphorus, iron, vitamins A and D, essential amino acids, as well as known antioxidant, such as Beta-carotene, vitamin C, and flavonoids essentials. Although the scientific literature on the Moringa Oleifera as healthy food and traditional medicine is large, Hence the present study was carried out with the following objectives-

1. To encourage and promote the use of Moringa leaves.
2. To develop nutritious recipes for local foods with Moringa leaves powder.

### Material and Methods

- **Collection of Raw Materials:**

Edible Moringa (*Moringa Oleifera*) Leave sample were collected as a raw material mainly from kitchen garden of Bilaspur city. After collecting, the leaves were **washed** for the further process. The **unwanted parts were removed**, and the soft edible leaves were used for this study. The Moringa leaves were kept as it is, in the normal room temp for **shade drying**. To make it, naturally dry after this step **leaves were grinded smoothly** for the purpose of mixing it in various recipes.

Collection of raw materials Unwanted parts will Washing Shade drying Grinding Smoothly be removed



- **The Preparation of the different recipes from Moringa Oleifera leaves:** After preparing the Moringa Leaves Powder, we take 30gm of wheat flour or rice flour and 2gm moringa powder, mix it properly. Then make some different recipes of this mixture and cook it using the different cooking method and temperature. All three recipe, Moringa Fara, Moringa Cheela, Moringa Puri test sample were send for nutritional analysis to Department of Plant Molecular Biology and Biotechnology, Indra Gandhi Krishi Vishwavidyalaya, Raipur (C.G.).



1. Moringa Fara

2. Moringa Cheela

3. Moringa Puri

### Results: Nutrient content of Moringa products

These table presents the nutrient of the product analysed. The nutrients namely Iron, Calcium and Protein were greatly enhanced in

Moringa puri, Moringa fara and Moringa cheela. In Moringa fara, the Iron, Protein, carbohydrate, fat and crude fibre were enhanced more than other Moringa recipe. But in Moringa Cheela only calcium was enhanced.

**Table 01**

**Nutrient composition of dried**

**Moringa Leaves Powder and products (per 100gm)**

**Summary and Conclusion-** The mean with standard deviation score of all the Moringa products were found significant. The nutrients such as Iron,

S.N.	Parameter	Moringa (Powder)	Moringa (Puri)	Moringa (Fara)	Moringa (cheela)
1.	Iron (mg)	32.89±0.088	6.057±0.031	9.21±0.055	4.48±0.116
2.	Calcium (mg)	2.83±0.035	0.222±0.018	0.356±0.003	0.911±0.001
3.	Crude Fibre (gm)	11.06±0.059	6.23±0.037	8.28±0.029	5.21±0.027
4.	Total Carbohydrate (gm)	26.68±0.26	16.67±0.29	21.27±0.22	12.52±0.15
5.	Protein (gm)	19.94±0.17	14.75±0.20	16.46±0.05	10.86±0.39
6.	Fat (gm)	9.53±0.08	3.69±0.32	5.42±0.29	2.17±0.10
7.	Moisture (gm)	6.58±0.022	-	-	-
8.	Ash (gm)	11.77±0.04	3.70±0.03	4.17±0.04	2.86±0.07

Protein, carbohydrate, fat and crude fibre were greatly enhanced in all Moringa products. The recipe with Moringa Leaves Powder were cooked in different methods and temperature. The Moringa Fara was prepared in low temperature and the nutrients were found in high compare to Moringa Puri and Moringa Cheela. The products prepared from Moringa powder have a high nutritional value and hence they can be developed into commercially acceptable products to ensure their availability throughout the year.

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## ***Abo Blood Groups and Diseases Association in Adi (Mixed) Tribal Population of Madhya Pradesh***

• Girijesh Shukla

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**Abstract-** *ABO blood groups and its association with different diseases in Adi (mixed) tribal population of Madhya Pradesh was studied. The relative incidence of blood group AB in Pulmonary Tuberculosis and blood group Am Jaundice was found to be significant. But on the whole no significant relationship between ABO blood groups and different diseases in this population was found. Collection of more data and critical analysis of the pooled data is required for prospective study.*

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**Key words:** *ABO blood groups, diseases association, tribal population.*

**Introduction-** In an attempt to determine whether serological differences exist between individuals, Landsteiner (1900, 1901) discovered the first human blood group system, the ABO blood group system. It is now known that persons belonging to different blood groups may differ substantially in their susceptibility to certain diseases. Alexander (1921) concluded from this study that blood group B and AB were especially susceptible to carcinoma. Roberts (1957), Singh *et al.* (2016), Kshatriya *et al.* (1991) and several others reported association of some diseases with ABO blood groups. Mayo *et al.* (1953) and Beasley (1960) could not find any association of ABO blood groups with diseases. Thus, enough has been presented in support and denial of the hypothesis that certain chronic diseases are associated preferentially with selected ABO blood group to stimulate continuing interest in the accumulation of data designed to eliminate the source of bias.

The data and information hitherto available, clearly indicate that for such a generation of association of blood groups and diseases to be established beyond reasonable doubt, a large study, on a large number of people for each disease and that too at different places is essential. For this reason, present findings on ABO blood group distribution in different diseases with respect to that of control among Adi (mixed) tribal population of Madhya Pradesh, has been done. We assume that more such information shall be forthcoming and when all such data will be pooled together on some later date, it may give clear an, final answer to the problem.

**Materials And Methods-** Hospital patients are unsuitable because a proportion of them suffer from diseases which are known to have association

with certain blood groups and to establish 'Norm', it is imperative to collect data from apparently healthy persons from the same ethnic groups (Koster *et al*, 1955). In the present control series, the male and female persons were selected at random from apparently healthy students of APS University, Rewa, Madhya Pradesh who belong to Adi (mixed) tribal community.

The patients belonging to Adi (mixed) tribe, who were suffering from various diseases, were selected at random from the outpatient and inpatient departments of the General (Govt.) Hospital and Govt. LB. Hospital, Pasighat and their ABO blood groups were determined with high titre monoclonal reagent Anti-A and Anti-B, by cavity slide method (Dacie and Lewis, 1991).

Relative incidence was calculated by Woolfs (1955) method and the test of significance was earned out by X<sup>2</sup> method (with Yates corrections, wherever necessary).

**Results and Discussion-** The distribution of ABO blood groups in 310 numbers of control subjects were studied and shown in Table 1. The blood group frequencies of the control Adi (mixed) tribal population show the typical Mongoloid pattern A>O>B>AB (Boyd, 1939; Mitra, 1936). This result was compared with earlier record of 7003 persons on the same population (Nath *et al*, 2000). The difference is insignificant at 5% level of significance.

The distribution of ABO blood groups in 212 patients from Adi (mixed) tribal population, suffering from various diseases are given in Table 2. It is seen that blood group B and A13 are preponderant in the diseased persons in relation to controls. In different diseases the blood group association are found to be different in comparison to controls. In diabetes, 34.28% increase was recorded over controls in blood group 'O'. Similar results were also found by Bhosale and Kulkarni (1971) and Jolly *et al* (1969). In pulmonary tuberculosis an increase of 176.85% over control was seen, which was in accord with the findings of Marok (1989) and Jam (1970).

**Table 01**  
**ABO blood group phenotypes in control series**

Blood Group	No. of Cases	Percentage
A	112	36.13
B	69	22.26
AB	28	9.03
O	101	32.58

In malaria AB and O showed a little increase over controls. In S.T.D. both the groups were preponderant, though group B is more than group A. In jaundice groups A and AB showed an increase of 55.69% and 107.64% respectively over controls, group AB Benmore. In other miscellaneous diseases, the increase over control was observed in blood groups B and AB, B group being more than AR.

Though several cases of prevalence of incidence in different diseases over controls were observed, the insignificant value of  $X^2$  indicates that the blood groups A, B, AB and o are homogeneous so far as the proportion of the diseases concerned. The occurrence of these diseases is in no way associated with any particular blood group (Buchanan and Higley, 1921; Mayo and Ferguson. 1953).

The relative incidence of different blood groups in different diseases is shown in Table 3. The significance of association of ABO blood groups and different diseases was looked into and it was found that except three groups mentioned below all other possible combinations yielded insignificant  $X^2$  value.

In Pulmonary Tuberculosis the relative incidence of group AB to group O is significant ( $P < 0.05$ ), in jaundice the relative incidence of group A to group B is highly significant ( $P < 0.01$ ). When all diseases are taken together, we found that the relative incidence of group A to group B is highly significant ( $P < 0.001$ ) which is perhaps due to the higher frequency of group A to group B in the population.

Apart from the significant relative incidence of group AB in pulmonary tuberculosis, which is in accord with Marok (1989) and Jam (1970) and group A in Jaundice, no significant association was found between ABO blood groups and diseases. Though the present sample size is very small, yet this study has been reported to keep on record the variations of ABO blood groups in relation to diseases and similar studies from other parts of our country and world can be pooled together in future by Woolf's (1955) method, to get plausible answer to this problem.

Whatever the explanation may ultimately prove to be, these associations are phenomenon of major anthropological and medical interest. Work is proceeding very actively at many centers in different parts of the world and there is every hope that the result will provide a valuable contribution to the understanding of the workings of natural selection.

**Table 02**  
**Blood group distribution in various**  
**disease in relation to controls**

Name of the disease	Group - A		Group - B		Group - AB		Group - O		Subtotal	$X^2$
	No. of cases	% increase of decrease on controls	No. of cases	% increase of decrease on controls	No. of cases	% increase of decrease on controls	No. of cases	% increase of decrease on controls		
1. Diabetes	06	+3.79	02	-43.85	01	-30.79	07	+34.28	16	2.98
2. Plum. tubercul.	07	-3.13	04	-10.15	05	+176.85	04	-38.61	20	5.77
3. Malaria	07	-3.13	04	-10.15	02	+10.74	07	+7.43	20	2.44
4. S.T.D.	13	+12.44	09	+26.35	02	-30.79	08	-23.27	32	1.06
5. Jaundice	09	+55.69	01	-71.92	03	+107.64	03	-42.45	16	4.81
6. Other diseases	30	-23.12	32	+33.11	11	+12.79	35	-0.53	108	3.56
7. All diseases taken together	72	-6.0	52	+10.19	24	+25.37	64	-7.34	212	1.34

**Table 03**  
**Relative incidence (R.I.) and significance of**  
**association of ABO blood groups and diseases**

Name of the disease	(B+AB) : (A+O)		A : B		AB : O		AB : B		AB : A	
	R.I.	X <sup>2</sup>	R.I.	X <sup>2</sup>	R.I.	X <sup>2</sup>	R.I.	X <sup>2</sup>	R.I.	X <sup>2</sup>
1. Diabetes	0.51	0.25	4.87	1.82	0.52	0.07	1.23	2.13	0.66	0.14
2. Plum. tubercul.	1.80	1.62	2.84	2.82	4.51	5.30*	3.08	2.74	2.86	3.05
3. Malaria	0.94	0.01	2.84	2.82	1.03	0.001	1.23	0.05	1.14*	0.03
4. S.T.D.	1.15	0.13	3.43	3.58	0.90	0.10	0.55	0.002	0.62	0.004
5. Jaundice	0.73	0.001	14.61	10.56**	3.61	2.59	7.39	0.73	1.33	1.17
6. Other diseases	1.45	2.61	1.52	2.02	1.13	0.10	0.85	0.16	1.47	0.87
7. All diseases taken together	1.23	1.18	2.25	11.77**	1.35	0.89	1.14	0.15	1.33	0.83

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## **Allelopathic Interference of Some Aquatic Weeds on Germination and Seedling Parameters of Mung Bean and Mustard Seeds**

• Bhaswati Kakati

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**Abstract-** *The allelopathic potential of aqueous leaf extract of two aquatic macrophytes namely water hyacinth (*Eichhornia crassipes* Mart. Solms) and tropical duckweed (*Pistia stratiotes* L.) were observed on two commonly cultivated plants in India, viz. Mungbean (*Vigna radiata* (L.) Wilczek.) and mustard (*Brassica campestris* L.) for various developmental processes like germination, radicle growth and seedling development. Allelopathy is a phenomenon, where some allelochemicals produced by plants can effectively interfere with various development processes in other plant species growing in its vicinity and thereby inhibit normal growth and development of economically important crops. To study the potential effect of aquatic weeds on economically valued plants, the present experiment was conducted in-vitro. During the experiment, seed germination and early development on account of allelopathic inhibition was evident in all levels of leaf extract for both the weeds but in different extent. Seed germination and radicle length results indicate that the inhibitory effect was proportional to the concentration of the aquatic extract and that the inhibitory effect was significantly pronounced in radicle growth rather than germination. These results provide preliminary evidence of allelopathic potential of said species on seed germination and early development of certain cultivated plants.*

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**Key words-** *Allelopathy, Aqueous extracts, Aquatic weed, Seed germination, Radicle growth.*

**Introduction-** Plants produce a large number of biochemicals like alkaloids, isoprenoids, phenolics, flavonoids, terpenoids & gluconates etc. as a part of their metabolism. Many of these chemicals have the capacity to inhibit or stimulate the normal growth and development of other plants. The phenomenon of influence exerted by secondary metabolite on other plants vital life processes is called as allelopathy. These allelochemicals are present in many plants and in many plants, organs including leaves, stems, fruits and buds (Mahall and Callaway, 1991; Indrajit, 1996). The term allelopathy generally refers to the detrimental effect of higher plants of one species on the germination and growth of the other species (Kakati and Baruah, 2013, Kakati, 2022). A large variety of plant species have been reported to possess allelopathic activity on the growth and initial development of other plant (Rice, 1974).

*Eichhornia crassipes* (Mart.) Solms, commonly known as Water Hyacinth, is considered to be the most notorious aquatic invasive weed and probably the most widely distributed aquatic weed due to its rapid spread, ecological adaptability and negative impact it causes to other aquatic neighbors. Its origin was traced back to Amazon Basin in South America and from there; it spread to many tropical and subtropical regions of the world (Ayanda *et al.*, 2020). Allelochemicals like chloro-phenols and nitro-phenols are among some that are found excessively in leaf extract of *Eichhornia* that have significant allelopathic effect on other plant growth and development. *Lemna minor* L. or Duckweed in common, is a tiny floating aquatic weed known for its high invasion rate. They produce high percentage of phenolic acid and hydroxyl- $\beta$ -ionone as secondary metabolites that can hamper normal growth and development of other plants. Moreover, both the plants are efficient competitors that can outnumber other plants in their vicinity by effectively competing for both resource and habitat. Keeping the above in view, in the present study was done allelopathic potential of *Eichhornia* and duckweeds on the germination and growth of mung bean and mustard seeds, which are very economically important plants and can be grown easily in laboratory condition.

**Material And Methods-** Collection and preparation of plant material: It was noted that leaf extract had the strongest allelopathic effect on seed germination, thus leaves were selected for the present experiment as the experimental plant part. Fresh leaves of *Eichhornia* and duckweeds were collected in their vegetative growth stage from the nearby localities and the seeds of mung bean and mustard were procured from agricultural suppliers.

Preparation of Aqueous extracts from leaves of the donor plants was prepared by preparing a paste of 10 grams of fresh leaves in 100 ml distilled water and aqueous extract was obtained as filtrate. This gave 10% aqueous extract. This extract was diluted again with distilled water to get 5%, 2% and 1% aqueous extracts.

Seed germination and root growth: Healthy and uniform sized seeds of target plants were selected and pre-soaked in distilled water for 1 hrs and then soaked in different concentration of aqueous extract for 3 hrs. Seeds were eventually placed on two layer of filter paper in sterilized Petri dishes. The Petri dishes were placed in a dark place at room temperature (about 20-23<sup>o</sup>c). Each treatment has three replicas and one was run as controlled with distilled water. Germination was determined by counting the number of germinated seeds at 24 hr intervals over a four day period. The lengths of the radicle of germinated seed were measured by using a slide calliper after 48 hours of exposure.

**Seed germination percentage (%):**

The determination of seed germination (%) was made by using following formula:

$$\text{Seed germination (\%)} = \left( \frac{\text{Total germinated seeds}}{\text{total number of seed considered}} \right) \times 100$$

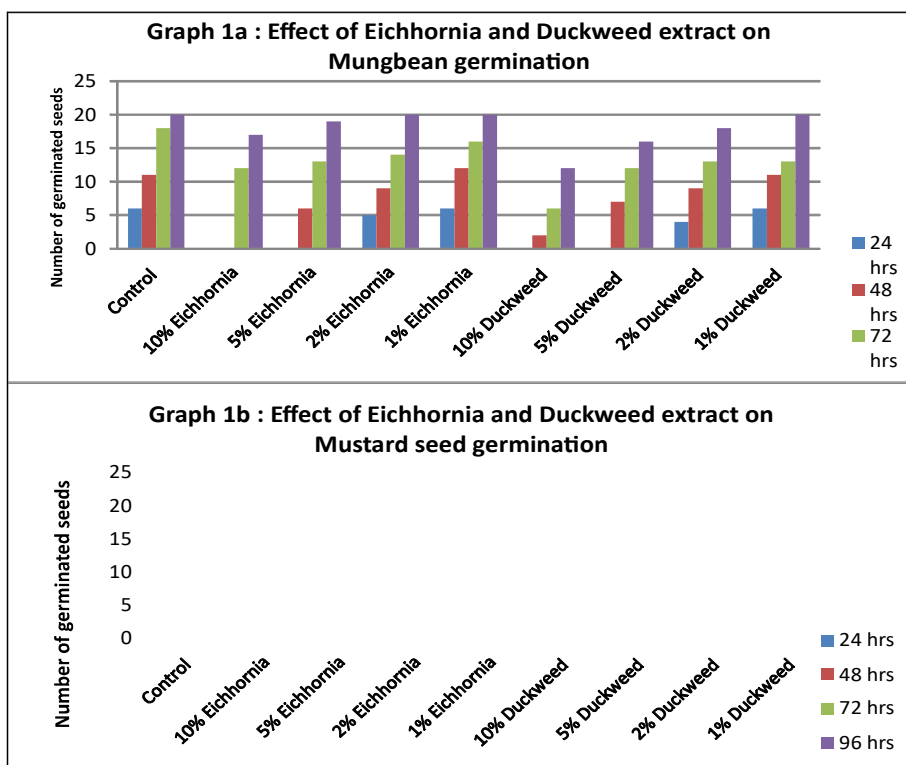
**Germination index:**

Germination index (GI) was determined by standard formula as given by Association of Official seed Analysts (Anon, 1983)

Germination index (GI) = Seeds which were germinated at first count + Number of seeds which were germinated at last count / Days of first count + days of final count

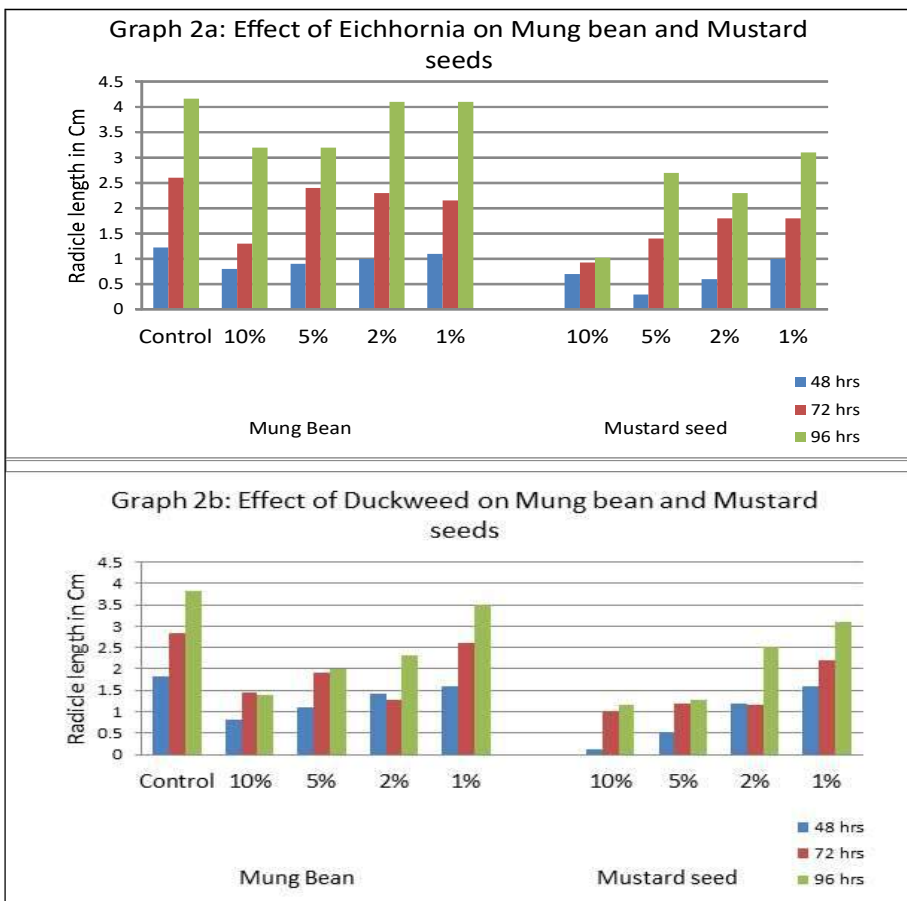
**Results And Discussions-** Allelopathy is considered as both harmful and beneficial interactions between the plants (Rizvi & Rizvi, 1986). The effect of aqueous leaf extract of Eichhornia and duckweeds on the germination and seedling growth of mung bean and mustard seeds were shown in the Graph 1a & 1b and Graph 2a & 2b. Significant differences in seed germination in each setup were observed. Distilled water (control) showed maximum germination rate among all the setups and after 72 hrs, it showed almost 100% germination in each case. Among the leaf extracts, 10% solution showed maximum effect whereas 1% solution showed that of minimum influence in each case. This result revealed that, the inhibitory effect of said leaf extract was proportional to the extract concentration and higher the concentration, higher was the inhibitory effect. This result was in corroboration with some earlier works by Bora *et.al.* (1999), Siddiqui *et. al.* (2009a, 2009b). It was also observed that germination was greatly affected in mustard seeds by Eichhornia extract in each experimental setups in comparison to other cases, that indicates allelochemicals of Eichhornia were highly detrimental towards mustard seeds. In both the seeds, 1% conc. Solution showed almost negligible inhibitory effect.

**Graph 1a and 1b: Effect of aqueous leaf extract of Eichhornia and Duckweed on the germination of Mung bean and Mustard seeds**



The inhibition in root length of target plant species in response to allelochemicals is a good indicator of phytotoxicity. Numerous studies have illustrated effect of allelochemicals in development of roots at various concentrations of the plant extracts (Rafiqul Hoque *et al.*, 2003; Amoo *et al.*, 2008). In the present study also the effect of aqueous extract of these test plants on the radicle length was also observed and measured in each case. The table showed highest radicle length in case of control and that of lowest in 10% extract solution in both the test seeds. Other concentrations showed results in between these two extremes. The effect of plant extract on radicle growth was studied by Lisanework and Michelson (1993), Khan *et.al.* (2004), and Haque *et.al.* (2003) etc. with different plant species. The result of the present work also supported the finding of above workers. During the study, it was observed that the allelopathic effects of the patron plants are more prominent in the observation of radicle growth than that of germination rate. In case of both experimental setups, mustard seeds showed more sensitivity than mung bean seeds. It was also observed that, allelochemicals present in Duckweed were much more effective than that found in Eichhornia.

**Graph 2a and 2b: Effect of aqueous leaf extract of Eichhornia and Duckweed on the radical growth of Mung bean Mustard seeds (in cm)**



Germination percentage is an estimation of the viability of a population of seeds. It was highest in control and lowest in 10% solution in both cases and it increases with respect to observation time. Germination percentage was significantly correlated to total number of seed germinated in both cases. Germination index on the other hand indicate the potential of germination of a particular species in specific growth conditions (Table 1 and 2).

**Table 01**  
**Seed germination percentage of Mung bean and Mustard seeds with respect to Eichhornia**

Time (hrs)	Mung Seeds					Mustard Seeds				
	Control	10% sol.	5% sol.	2% sol.	1% sol.	Control	10% sol.	5% sol.	2% sol.	1% sol.
24	60%	5%	10%	35%	50%	70%	45%	50%	65%	90%
48	85%	25%	35%	65%	80%	85%	55%	70%	85%	95%
72	90%	60%	80%	90%	90%	100%	70%	85%	100%	95%
96	100%	65%	95%	100%	100%	100%	80%	95%	100%	100%

**Table 02**  
**Seed germination percentage of Mung bean and Mustard seeds with respect to Duckweed**

Time (hrs)	Mung Seeds					Mustard Seeds				
	Control	10% sol.	5% sol.	2% sol.	1% sol.	Control	10% sol.	5% sol.	2% sol.	1% sol.
24	60%	5%	20%	45%	60%	70%	35%	40%	65%	65%
48	85%	25%	45%	65%	80%	85%	55%	70%	75%	85%
72	90%	70%	80%	90%	100%	100%	60%	65%	70%	90%
96	100%	85%	95%	100%	100%	100%	65%	80%	90%	95%

In this study it showed that Germination index is high in control and 1% concentrated solution in both test seeds, which were about 8 in the scale of 1 to 10. That means allelopathic chemicals have negligible effect on seed germination in very low concentration but as concentration increase the germination index decreases eventually and showed lowest value in case of Mung Bean seeds in 10% concentration followed by 5%. It also revealed the fact that Mung bean seeds suffered more inhibition effect than Mustard seeds in the present study in both plant extracts (Table 3).

**Table 03**  
**Germination index (GI) of Mung bean**  
**and Mustard seeds with Eichhornia and Duckweed**

	Mung Seeds with Eichhornia					Mustard Seeds with Eichhornia				
	Control	10% sol.	5% sol.	2% sol.	1% sol.	Control	10% sol.	5% sol.	2% sol.	1% sol.
GI	9.05	4.5	6.0	7.25	8.0	9.5	7.5	7.75	8.75	9.5
	Mung Seeds with Duckweed					Mustard Seeds with Duckweed				
	Control	10% sol.	5% sol.	2% sol.	1% sol.	Control	10% sol.	5% sol.	2% sol.	1% sol.
GI	8.6	4.2	7.5	7.25	8.25	9.5	5.5	6.5	7.25	9.5

**Conclusion-** The present study revealed that seed germination and seedling growth of Mung bean and Mustard seed was suppressed by different concentration of leave extract of Eichhornia and duckweeds. Among the two test seeds, Mung bean suffered strong inhibition by phytotoxicity and allelochemicals of both Eichhornia and duckweeds leaf extracts. Allelopathic effect of Eichhornia was found considerably high in comparison to Duckweed in the present study. In previous studies by other workers also showed significant allelopathic effect on various test plant's seed germination and seedling growth (Nadaletti *et al.* 2014, Rafiqul Hoque *et al.*, 2003; Amoo *et al.*, 2008). This can be used as important source of natural herbicides to control weeds in crop fields as both of the test plants are usually found in the vicinity of crop field's aquatic bodies.

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## ***Larvicidal Activity of Hydrocotyle Javanica Thumb (Apiaceae) Extract Against Culex Quinquefasciatus***

• Girijesh Shukla

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**Abstract-** *The larvicidal activity of the plant Hydrocotyle javanica against the larval mosquito Culex quinquefasciatus was studied. The plant was extracted using petroleum ether, benzene, chloroform, ethyl acetate and methanol. The LC<sub>50</sub> values were ranged from 189.0 to 407.3 ppm. The lowest larvicidal efficacy observed in benzene fraction and highest larvicidal efficacy was observed in ethyl acetate fraction.*

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**Keywords-** *Larvicidal activity, Culex quinquefasciatus, Hydrocotyle javanica, Organic extracts.*

**Introduction-** Mosquito vector-borne diseases such as malaria, filariasis, yellow fever, dengue and Japanese encephalitis etc. account for millions of deaths annually and continue to limit economic development efforts in many countries. Lymphatic filariasis infects 80 million people annually, of which 30 million cases exist in chronic infection. There are 45 million cases of lymphatic filariasis in India alone (Bowers *et al*, 2015). Currently synthetic insecticide remains as the first line of defence against mosquito vectors and the use of these insecticides has been mainly criticized due to the resistance developed by the mosquitoes. Within 40 years, 109 species of mosquitoes have developed resistance to organochlorine, 58 species to organophosphate and 10 species to synthetic pyrethroids and multiple resistance to all the above mentioned chemical groups in the population of *Aedes aegypti*, *Culex quinquefasciatus* and *Anopheles stephensi* (VCRC, 2009). So many researchers have worked out mosquito to control by using different, plant species, parts of the plants, mode of extraction and using suitable solvents (Bowers *et al*, 2015; Karmegam *et al*, 1997; Benjawan Pitasawat *et al*, 1998; Murugan *et al*, 1999 and Anuradha *et al*. 2020). The present study designed to use different polarity nature of organic solvents used for the extraction of *Hydrocotyle javanica* and find out the larvicidal efficacy.

**Materials And Methods-** The plant *Hydrocotyle javanica* was collected from Sohagi Ghati (Madhya Pradesh). The leaves were washed with tap water, shade dried at room temperature and then powdered by using electrical blender. 25 of the plant material was loaded in Soxhlet apparatus (Vogel, 1978) fractionated sequentially in 125 ml of petroleum ether (40-60°C) benzene, chloroform, ethyl acetate and methanol (8 hrs). The obtained individual fractions were rotary evaporated to dryness to yield the plant

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residue, but weight of residues of each fraction were not recorded.

100 mg of plant residue was dissolved in 10 ml of acetone and 1 percent stock solution was prepared. From the stock solution 1000, 500, 250, 125 and 62.5ppm concentrations were prepared (WHO, 1996).

Laboratory colony of *Cx. quinquefasciatus* was used for acute toxicity study. It was maintained at  $27\pm 2^{\circ}\text{C}$ , 75-85 RH, under 14L:10D photoperiodcycle. The larvae were fed with dog biscuits and yeast at 3:1 ratio. 25 number of late III instar larvae of *Cx. quinquefasciatus* were kept in 500 ml of glass beakers containing 249 ml of dechlorinated water and 1 ml of plant extract was added. Three replicates were set up for each concentration and control was setup by mixing of 1 ml of acetone with 249 ml of water. The control mortality was corrected by Abbot's formula and  $\text{LC}_{50}$ ,  $\text{L}_{90}$ , UCL, LCL and regression equation were calculated by using probit analysis (Finney, 1971).

**Table 01**  
**Larvicidal activity of *Hydrocotyle javanica***  
**leaf extract fraction against *Culex quinquefasciatus*.**

Solvent used for extraction	Mortality (%)					$\text{LC}_{50}$ [ $\text{LC}_{90}$ ]	Regression Equation	95% confident limit		Chi square value
	Concentration							$\text{LC}_{50}$	$\text{LC}_{90}$	
	62.5 ppm	125 ppm	250 ppm					[ $\text{LC}_{50}$ ]	[ $\text{LC}_{90}$ ]	
Petroleum ether	10	25	40	60	98	282.7 [1089.5]	$Y = -0.362 + 2.18x$	525.9 [3830.2]	151.9 [309.9]	22.0*
Benzene	10	20	38	60	86	407.3 [1460.4]	$Y = -1.032 + 2.31x$	808.2 [7426.2]	205.2 [287.1]	34.5*
Choloform	-	-	-	-	-	-	-	-	-	-
Ethyl Acetate	18	30	55	84	99	189.0 [667.4]	$Y = -0.335 + 2.34x$	274.4 [1315.5]	130.6 [338.6]	8.7*
Methanol	14	23	48	66	91	264.5 [1189.9]	$Y = -0.243 + 1.96x$	306.1 [1594.9]	228.5 [886.4]	3.9

**Results And Discussion-** Results of larvicidal activity of *Hydrocotyle javanica* against *Cx. quinquefasciatus* is given in the Table 1. Among the five fractions, the  $\text{LC}_{50}$  values were ranged from 189.0 to 407.3 ppm. The ethyl acetate fraction exhibited the highest larvicidal efficacy and the lowest larvicidal efficacy exhibited in benzene fraction. The larval mortality was not observed upto 1000 ppm in the chloroform fraction. The  $\text{LC}_{50}$  Values of other fractions were petroleum ether 282.7 ppm and methanol 264.5 ppm.

Petroleum ether fraction of *Hydrocotyle javanica* showed 50 percent of mortality at 282.7 ppm. The petroleum ether fraction of *Acacia nilotica* and *Citrullus colocynthus* showed 100 percent mortality in 100,500 and 250 ppm and a 60 and 50 percent mortality at 125 and 62.5 ppm against *Cx. quinquefasciatus* (Anuradha *et al*, Methanolic fraction of leaves of *Mentha piperita*, *Phyllanthus niruri*, *Leucas aspera* and *Vitex negundo* exhibited the a  $\text{LC}_{50}$  values whereas 43.65, 1819.70, 2818.38 and 3019.95 ppm, against the IV instar larvae of *Cx. quinquefasciatus* (Pandian *et al*, 1994) but in methanolic fraction of *Hydrocotyle javanica*  $\text{LC}_{50}$  value was 264.5 ppm. Benzene fraction of *Argernone mexicana* showed acute toxicity at 1000, 500, 250, 125 and 62.5 ppm. (Karmegam *et al*, 1997). Whereas benzene fraction of *Hydrocotyle javanica*,  $\text{LC}_{50}$  value exert is 407.3 ppm.

Muthukrishnan *et al* (1997) reported that ethyl acetate fractions of *Solanum trioubaturn* and *Leucas aspera* showed the LC<sub>50</sub> values of 23.5 and 138.6 ppm against II and IV instar larvae of *Cx. quinquefasciatus*. Among the organic solvents ethyl acetate fraction of *Hydrocotyle javanica* showed LC<sub>50</sub> values of 274.4 ppm against IV instar larvae of *Cx. quinquefasciatus*. These results indicate that extraction of the plant with specific organic solvents which exert a great influence in the biological activity. Further compound isolation may be recommended for the ethyl acetate fraction of *Hydrocotyle javanica*.

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## **Increase in Iron in Sunflower Plants Under the Influence of Biofertilizers**

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**Abstract-** Blue green algae are important tool to sustain the biodiversity on the planet. They are imparting a big role in improving the quality of plants. The blue green algae are capable of enhancing the elemental composition of soil. Iron has a vital role in growth of the plants. The various supply levels of blue green algae as biofertilizers show influence on the growth and composition of sunflower plants. The blue green algae as biofertilizers are drawing attention of the global community for the betterment of the environmental health. For studies, the Sunflower (*Helianthus annuus*, L.var. KBSH-1) plants were taken in the experiment. These plants were raised in soil-pot culture conditions. The different Supply levels of blue green algae, nil (control), 50, 100, 150, 200 and 250g bga/kg soil were applied to plants. With the increase in bga supply upto 250 g bga/Kg soil level in stem of 30 days, both in stem and leaves of 90 days, and in seeds, and upto 200 g bga/Kg soil level in leaves of 30 days old sunflower plants, increased the tissue iron, However value at 250 g bga/Kg soil level in of 30 days was found to be equal with the value at 200 g bga/Kg soil level for tissue iron. As compared to control, all the levels of bga supply showed a highly significant ( $P=0.01$ ) increase in iron content of both stem and leaves of both 30- and 90-days old plants and in seeds, except in leaves of 90 days old plants where increase in iron content failed to show any significant results at 50 g bga/Kg soil level, over control.

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**Keywords -** Sunflower, bga, BNF, controlled condition, DM

**Introduction-** The blue green algae as a biofertilizer is a strong alternative of chemical fertilizer in improving the soil quality. Biofertilizers such as rhizobium, Azotobacter, and blue green algae are being used since long time. The blue green algae is used as a important tool to maintain the sustenance of the biodiversity.

The use of latest innovations in agriculture arena has resulted in significant increase in productivity. There is a however, a growing concern about the adverse effects of indiscriminate use of chemical fertilizers on soil productivity and environmental quality. Blue green algae offer an economically attractive and ecologically sound alternative to chemical fertilizer for realizing the ultimate goal of increased productivity, especially in rice cultivation.

In 1977 Verghese stated that the demand for chemically fixed nitrogen is bound to be on increase and the nitrogen gap is likely to

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double in India by 1984, which would be difficult to bridge in the wake of the energy crisis.

The blue green algae have inhabited much of the surface of the earth for billions of years and today they are responsible for a significant amount of biological nitrogen fixation (BNF). The tropic independence of blue green algae made them suitable for use as biofertilizers. Blue green algae are widely distributed organisms all over the world and can be found in extreme habitats, from hot springs to arctic regions. Among the ecosystems in which they can be found, wet soils provide an ideal environment for blue green algae to grow. Blue green algae represent a small taxonomic group of photosynthetic prokaryotes which some of them are able to do nitrogen fixation and also possess a tremendous potential for producing a wide range of secondary metabolites. Blue green algae have drawn much attention as prospective and rich sources of biologically active constituents and have been identified as one of the most promising groups of organisms capable of producing bioactive compounds (fish & codd 1994), Schlegel et al...1999). De (1939) attributed the natural fertility of flooded rice field soil and its maintenance to the process of biological nitrogen fixation by blue green algae.

The bio-fertilizers, otherwise called microbial inoculants are preparations containing live or latent cells of efficient strains of nitrogen fixing micro-organisms used for seed or soil application. The main objective of applying inoculants is to increase the number of such microorganisms in soils or rhizosphere and consequently improve the extent of micro-biologically fixed nitrogen to plant growth. Application of bio-fertilizers in combination with organic nitrogenous fertilizers has a key role to play in the economic management of nitrogen needs of crops.

The biofertilizers contains beneficial microorganisms Which improve plant growth and protect plants from pests and diseases (El-yazeid et.al, 2007). The role of soil microorganisms in sustainable development of agriculture has been reviewed (Lee and Pankhurst, 1992, Wani et.al.1995). Biofertilizers are important components of integrated nutrients management. These potential biological fertilizers would play key role in productivity and sustainability of soil and also protect the environment as eco-friendly and cost-effective inputs for the farmers. They are cost effective, eco-friendly and renewable source of plant nutrients to supplement chemical fertilizers in sustainable agricultural system.

It can be said that the adaptation of organic manure as compared to nitrogen fertilizer would be very less expensive, besides being quite safer as compared to the chemical fertilizers.

**Material and Method-**m for the experiment, there were six pots. Experimental plants were raised in soil culture under pot culture conditions in the laboratory. The pots were arranged in 3 blocks A, B and C. In each block there were two pots, one pot was meant for control treatment and other one with BGA treatment. In each block the treatments were completely randomized. The experimental pots were arranged in north-south direction and were kept raised from the ground at a height of one feet avoiding any

surface contact of the drainage holes with the ground to eliminate any contamination. After the seed's emergence, plants were thinned to a uniform number in each pot. Subsequent thinning was done whenever needed.

For studies, the Sunflower (*Helianthus annuus*, L.var. KBSH-1) plants were raised in soil pot culture. Soil samples were collected in a clean polythene bag after surface scrapping and brought to the laboratory. Calculated amounts of normal water were applied daily to pots to provide as for as possible uniform soil moisture conditions. Sampling was generally started at 8:30A.M. and completed in an hour. All samples were drawn at the same time and placed in the shade. The 3 blocks a, b and c were sampled at the same time.

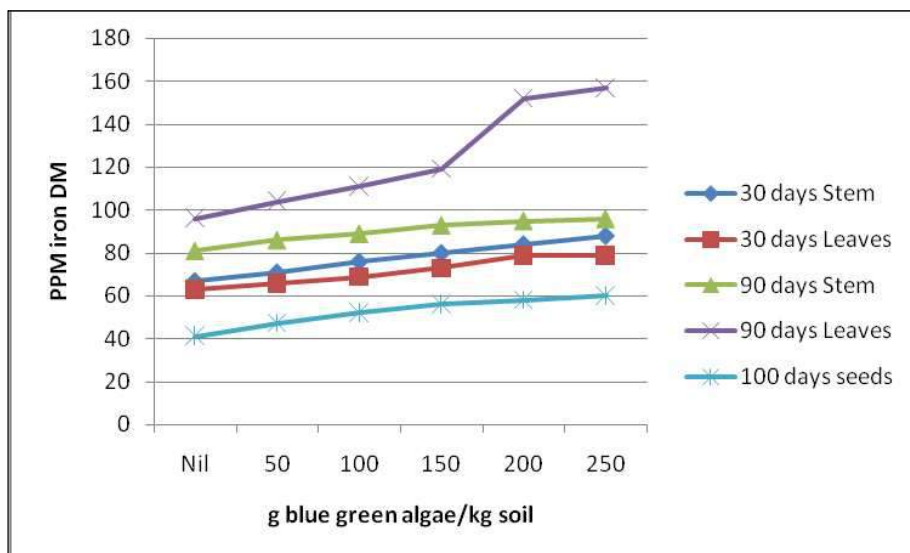
Soil was separately mixed with required amount of blue green algae. There after it was air dried, thoroughly grounded and mixed. For through mixing required amount of BGA were mixed with small amounts of soil, divided and mixed again and again. Then these amended soils were mixed with bigger amounts of soil similarly, and finally these soils were mixed with bigger lots of calculated amount of soils required for experiments. Soil mixing was done on separate clean chart to avoid any contaminations. Mixed soils were filled in pots. Iron was determined calorimetrically as ferrous ortho-phenanthroline complex by the method described by Humphries (1956). The colour was determined in Elico CL-20A Photo-electric calorimeter using blue green filter.

**Result-** A highly significant ( $P = 0.01$ ) increase in iron content was observed at 100 g bga/Kg soil over 50 g bga/Kg soil, and 150 g bga/Kg soil over 100 g bga/Kg soil in both stem and leaves of 30 days, in stem of 90 days, and in seeds, at 200 g bga/Kg soil over 150 g bga/Kg soil in both stem and leaves of both 30 and 90 days old plants, and at 250 g bga/Kg soil over 200 g bga/Kg soil in stem of 30 days old plants. Increase in iron content at 200 g bga/Kg soil over 150 g bga/Kg soil and 250 g bga/Kg soil over 200 g bga/Kg soil was found to be significant ( $P = 0.05$ ) in seeds. However increase in iron content at 100 g bga/Kg soil over 50 g bga/Kg soil and 150 g bga/Kg soil over 100 g bga/Kg soil in leaves of 90 days, and at 250 g bga/Kg soil over 200 g bga/Kg soil in leaves of 30 days and in both stem and leaves of 90 days old plants failed to show any significant results.

Maximum value for iron content was observed at 250 g bga/Kg soil level in stem of 30 days and in both stem and leaves of 90 days old plants and in seeds of sunflower plants and at 200 g bga/Kg soil level in leaves of 30 days old sunflower plants.

#### **Effect of the blue green algae as biofertilizers on iron content of Sunflower (*Helianthus annuus*, L. var. KBSH-1) plants**

Plant		g blue green algae/kg soil					
Age (days)	Part	Nil	50	100	150	200	250
30	Stem	67	71	76	80	84	88
	Leaves	63	66	69	73	79	79
90	Stem	81	86	89	93	95	96
	Leaves	96	104	111	119	152	157
100	Seeds	41	47	52	56	58	60



**Discussion-** The use of latest innovations in agriculture arena has resulted in significant increase in productivity. There is a however, a growing concern about the adverse effects of indiscriminate use of chemical fertilizers on soil productivity and environmental quality. Blue green algae offer an economically attractive and ecologically sound alternative to chemical fertilizer for realizing the ultimate goal of increased productivity.

Blue green algae dominate a wide range of diverse environments characterized by extremes of temperature, desiccation, pH, salinity, light intensity and nutrients (Whitton, 2000). Many blue algae tolerate high levels of ultraviolet radiation (Sinha et al, 1999), permitting them to survive at the soil surface.

In conformity with the results of the present study, Rai et. al., (2000) reported that blue green algae are good colonizers of the nitrogen poor soils, and that through their nitrogen input into the environment they may help to create habitats suitable for other species. Many blue green algae have the capacity to manufacture nitrogenase. Because the enzyme complex is anaerobic, significant fixation by unicellular, colonial and some filamentous species occurs only in the absence of air. Therefore, only heterocystous species are valuable as biofertilizers. Blue green algae i.e. biofertilizers have several advantages over chemical fertilizers. They are non-polluting, inexpensive, utilize renewable resources. In addition to their ability of using free available solar energy, atmospheric nitrogen and water. Besides supplying  $N_2$  to crops, they also supply other nutrients such as vitamins and growth substances (Wagner, 1997). Anabaena and Nostoc have been recorded among the common nitrogen fixing blue green algae in rice fields.

In agreement with the present results were the findings of Jacq and Roger (1977), Roger and Kulasooriya (1980) and Omar (2001) who reported blue green algal cultures or extracts enhanced germination, promoted growth of roots and shoots and increased protein content of the

grain. The effect of nitrogen fixing blue green algae that were isolated from saline soils on growth and yield of rice grown in the green house and field were studied by Anonda et al. (1990). Under green house conditions, the N<sub>2</sub> content in straw, grain yield and protein content of rice were significantly increased.

The current study was preformed to assess the effect of nitrogen fixing blue green algae to improve the natural poor sandy soil. The data presented revealed the beneficial use of blue green algae in comparison with the controlled (untreated soil) without any consideration to other treatments employed in this study. The aim of the present study was to design a soil system supported with microalgae and other soil conditioners that change the physical and chemical properties of that system in order to improve the surrounding environment of crop plants. It is evident from the present results that the inoculation of the different microalgal species to the investigated soil caused a significant enhancement of both physical and chemical properties of soil.

Use of blue green algae as nitrogen based biofertilizers is reported in many rice growing countries of the world. This was because of the increased cost of chemical fertilizers, that cause soil and water pollution, changes soil structure and produce microflora. In comparison, blue green algae is a cheap source of N, which does not cause pollution. It improves the organic matter status and water holding capacity. Venkataraman (1981) reported that open air soil culture is simple, less expensive and easily adaptable by farmers. As mentioned earlier, blue green algae had minimum growth requirements of sunlight, simple inorganic nutrients and moisture.

In India, considerable progress has been made in the development of blue green algae based in bio-fertilizer technology. It has also been demonstrated that this technology can be used to develop a powerful mean of improving the soil fertility.

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***Impact of Noise Pollution on Human Physiology  
With Special Reference to Ethological Changes:  
A Case Study of Saran, Bihar***

• **Rajeev Kumar Sharma**

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**Abstract-** *The present study aims to analyze the Impact of noise pollution effect of Human Physiology with special reference to ethological changes in the noise assessment presented in this study revealing that even in an urban medium-sized City such as Chapra, road traffic noise is higher than the limit set up by Center Board of India. The study site Chapra revealed the fact that types of Zones, geographic features landscapes, and topography are factoring that noise emission and transmission depends on. This study is based on the primary and secondary surveys by the source of the data. Suitable statistical techniques like the "t" test and "Z", Model - L-T Lutoon - SL- 401 Score, and composite mean using methods have been applied to make the presentation realistic and successful.*

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**Keywords -** *Noise pollution, Human Physiology, pathological, Model, L-T Lutoon SL 401, "t" test, "Z" test and composite mean.*

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**Introduction-** Pollution of the air, water, hazardous waste, and noise has always been a global concern, affecting human health and the environment. Pollution control is a difficult task. Noise pollution has been identified as a growing societal problem of urbanization. Road traffic, air transport, railways, industrial activities, construction activity etc. contribute to noise pollution. Among st the sources of noise pollution, road traffic is the major one and the most harmful which is responsible for approximately 66% of all noise pollution contributors in a city. Engine noise, tire function, and horns contribute to the noise production by road traffic.

Noise pollution is generally expressed as a sound and its adverse effect on human health. Drastic rise in pollution led to industrial development, mass transport, community activities, etc. which adds to the noise pollution. Noise is associated with technology and doubles every decade along with industrial growth. Noise is increasing with geometrical progression with increasing urbanization and growth of technology (Thompson, 1996)

In India, Chapra is one of the fastest-growing cities in the country. With this urbanization and population growth, infrastructural growth and easy access to livelihood resulted in a source of noise emissions of approximately 55% of total urban noise (Banerjee et al, 2008; Murthy et al 2007).

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High noise levels have a lethal health effect. Traffic noise pollution has adverse effects physiological and Psychological. Even low level of noise effect human health as it may cause hypertension, sleep disturbance, and stops cognitive development in kids (Kisku et al, 2006). Exposure to extremely high levels of noise can be a reason for psychiatric disorders such as memory loss (20). Noise levels above 90 dB (A) cause hearing impairment (Theebe, 2004), and in another study as reported by (Agarwal et al, 2009) due to traffic noise people suffered 46% from hypertension, 52% had frequent irritation and 48.6% had sleep disturbance. It also affects performance-related problems like speech interference, fatigue, lack of concentration, and decreased efficiency.

**Methods and Materials-** The sound pressure level meter (Model - L T - Lutoon - SL - 401, made in Taiwan) was used to assess the sound level, and it has 1/2 - inch condenser microphone and 1/3-Octave filter with the frequency range and measuring level range of 31.5 Hz-8 KHz and 35-130dB with the accuracy of 0.5 - 1dB respectively. The instrument was calibrated by the internal sound level calibrator before measuring each site. The measurements were made at road-level junctions, market centers passenger loading parks. Residential areas commercial areas, construction sites, schools, and colleges. Similarly, the sound level was observed from areas of the Chhapra district which was considered the control area for our study.

The study site is located around Chhapra town where the silent area is a small agricultural village populated with more than 400 people of all age groups and sex. The people of this village are mainly engaged in agriculture work. The noise pollution in this village ranged between 37-4 DB. The noise level observation was observed for 6 months. Every month the data was taken 3 days per week and alternative weeks of the month were taken into account. The collected data pooled together and the mean was considered for the work. The instrument was held comfortably in the hand with the microphone pointed at the suspected noise source at a distance not less than 1m away from any reflecting object. Noise measurements were taken following the prescribed procedure stipulated in the manual of the manufacturer of the sound pressure level meter.

The results were filled in at the spot of measurement in pre-designed formats. The interpretation of noise level and the cut-off level to which the measured noise level was compared with the prescribed basic noise level during the daytime in the different specified zones such as the commercial zone (55-60dB). Silent zone (40- 50 dB) and heavy traffic zone (80 - 85 dB) at intervals of 30 sec for 30 min, giving 60 m reading per sampling location.

LAi (A-weighted instantaneous sound pressure level) measurements were recorded. The procedure was carried out in the morning (09.00-11.00). noon (11.00 - 1.00) afternoon (1.00- 0.3.00) and evening (03.00 - 5.00) Measurements were recorded. The procedure was carried out in the morning (09.00 - 11.00). Noon (11.00 - 1.00) afternoon (1.00-0.300) and evening (03.00-0.500) measurements. From these readings, commonly

used community noise assessment quantities like the experience percentiles L10 and L90: the A - -weight equivalent sound pressure level. LAeq: daytime average sound level. Lp the day-night average sound level LDN: the noise pollution level LNP: and the TMI were computed.

These noise measures were derived as follows (Saadu et al. 1998):

$$L_{Aeq} = 10 \log_{10} \left[ \frac{1}{N} \sum_{n=1}^N \left( \text{antilog} L_{\frac{AT}{10}} \right) \right]$$

$$LD = 10 \log_{10} \left[ \frac{1}{2} \left( \text{antilog} \frac{LD}{10} + 9 \times \text{antilog} \left( LN + \frac{10}{10} \right) \right) \right]$$

$$L_{DN} = 10 \log_{10} \left[ \frac{1}{24} \left( 15 \times \text{antilog} \frac{LD}{10} + 9 \times \text{antilog} \left( LN + \frac{10}{10} \right) \right) \right]$$

$$L_N = 10 \log_{10} \left[ \frac{1}{2} \left( 15 \times \text{antilog} L_{Aeq} \frac{E}{10} + \text{antilog} L_{Aeq} \frac{EN}{10} \right) \right]$$

$$LNP = LAeq + (L10 - L90)$$

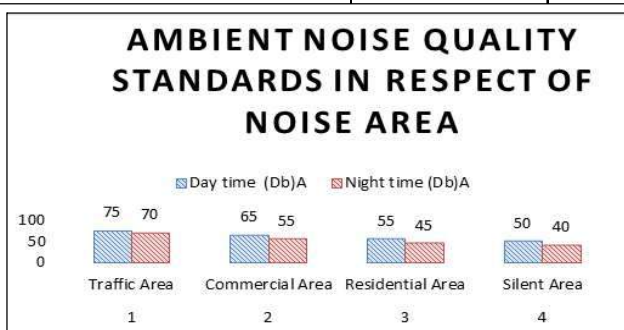
$$TNI = 4 (L10 - L90) + (L90 - 30)$$

Where  $L_{At}$  is the  $I$  th A - weight sound pressure level reading decibel,  $N$  is the number of readings.  $L_{Aeq}$  is the A - A-weight equivalent sound pressure level.  $L_{AeqM}$  is the equivalent sound pressure for the morning measurement.  $L_{AeqA}$  is the equivalent sound pressure level for the evening measurement.  $L_{AeqN}$  is the equivalent sound pressure level for the night measurement,  $LN$  is the time noise level,  $LD$  is the daytime noise level  $L_{10}$  is the noise level exceeding 10% at the time,  $LDN$  is the daylight noise level and  $TNI$  is the traffic noise index. Several numbers of primary raw data were obtained on one spot itself. The data were collected and were pooled. critically analyzed and expressed in the form of a graph and Tables. The collected raw data were pooled together every hour duration of the study area and the mean and the value were given in the table or graphs. To justify the data statistically, the statistical tools students - t-test, and Z test were computed using Microsoft and Excel Equation version 6.1 the ANOVA was calculated using eady calculation .com.

**Result and Observation-** The noise assessment presented in this study has revealed that even in an urban, medium-sized city such as Chapra. road traffic noise is higher than the limits set up by the Central Pollution Board of India. The study revealed the fact that the type of zone, geographic features, landscape, and topography are factors on which noise emission and transmission depend. The open areas have a lower noise level at any time of the day because they lack dense human habitation, and commercial establishment, and hence have lower vehicles flow. In contrast, the well-developed areas with residential apartments, and shopping areas, have higher noise levels due to more use of roads alongside it by all types of public, commercial, and private transport vehicles. The noise survey revealed that the noise environment of Chapra City is not as satisfactory as per the standard prescribed by CPCB and BIS (Table 4.1)

**Table 4.1**  
**Ambient noise quality standards in respect of noise area**

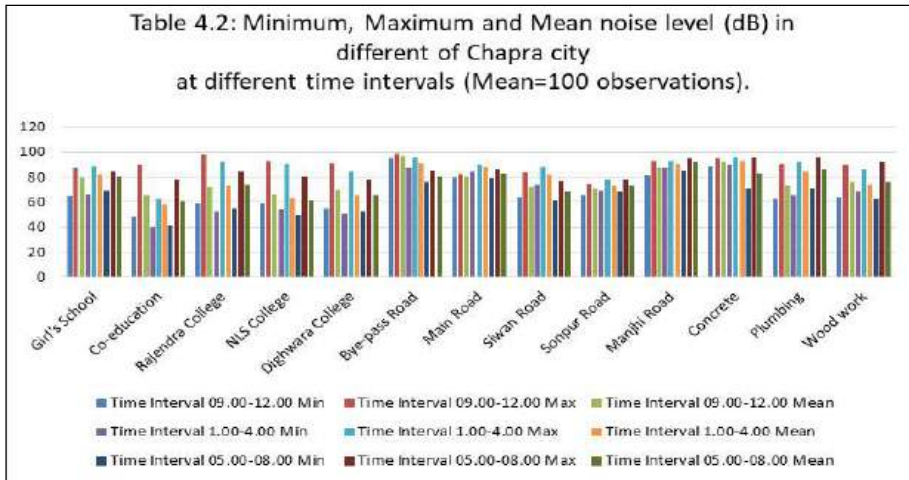
S.No.	Area Category	Day time	Night time
		(Db)A	(Db)A
1	Traffic Area	75	70
2	Commercial Area	65	55
3	Residential Area	55	45
4	Silent Area	50	40



However, the results obtained during the present study exceeded this permissible limit in almost all the interval studies. The maximum mean sound level observed in the girls' School area was 88.9dB from 1.00-4.00 p.m. and the minimum mean sound level was 65.1 dB observed from 0.9.00 - 12.00 a.m. The sound level observed in the girls' school area and the sound level observed in other schools and college areas were also the same. As far as the college area was concerned maximum sound levels were observed during the opening (90.8-97.5dB) and closing (84.1-91.5dN) time of the college (Table 4.2)

**Table 4.2**  
**Minimum, Maximum and Mean noise level (dB) in different of Chapra city at different time intervals (Mean=100 observations)**

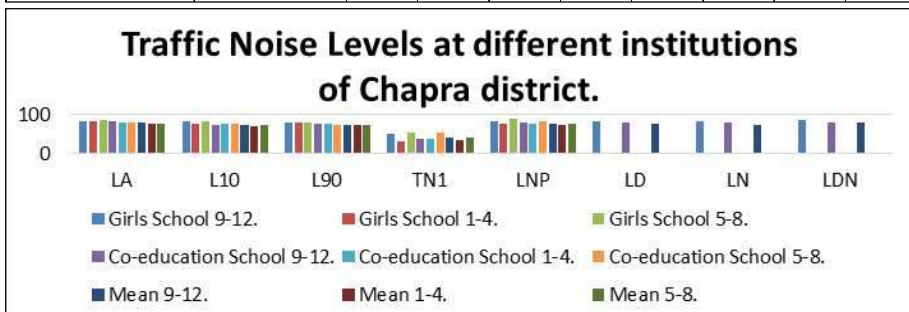
Location	Area	Time Interval								
		09.00-12.00			1.00-4.00			05.00-08.00		
		Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
School	Girl's School	65.1	87.13	79.21	66.3	88.9	82.31	68.7	84.5	80.7
	Co-education	48.7	89.5	65.42	40.1	62.5	58.51	40.8	77.9	61.1
Colleges	Rajendra College	59.4	97.5	72.23	52.6	91.5	73.07	54.6	84.1	73.6
	NLS College	58.9	93.1	66.31	54.3	90.1	62.96	50.3	80.6	61.1
	Dighwara College	54.5	90.8	69.58	50.7	84.1	65.36	52.3	78.3	65.5
Heavy Traffic	Bye-pass Road	95.4	98.8	97.1	86.7	96.1	91.4	76.4	84.9	80.7
	Main Road	79.7	82.3	80.7	84.2	89.3	87.5	79	86.4	82.6
Commercial	Siwan Road	63.9	83.3	71.8	73.9	87.7	81.96	61.52	77.1	67.9
	Sonpur Road	65.7	74.5	70.3	69.1	78.2	72.6	68.3	78.1	73.2
	Manjhi Road	81.1	92.5	87.1	86.7	93	89.9	85.7	95.1	91.7
Construction	Concrete	88.5	95.1	92.04	89.8	95.7	93.01	70.3	96.2	82.8
	Plumbing	62.4	90.2	72.59	65.9	91.6	84.1	70.8	95.6	86.5
	Wood work	63.8	89.1	76.06	67.9	85.9	73.99	62.4	91.6	76.1



The comparative value of the noise level calculated for the different schools and colleges surveyed showed that the L10 and L90 values in the school and college areas were found to be greater than the prescribed (dB sound level). The range level of L 10 observed in the school area was 73.92 - 82.20dB and in the college area 57.71- 88.97 DB. The L90 observed was 73.88 - 80.26 in the school the l area and 63.54-86.69 in the college area. The day and night (L DN) equivalent noise level is also very great and the range observed was 77.94-84.65 in the school area and 71.53-90.59 in the college area which is higher than the prescribed limit of 55.0dB (Table 4.3 and 4.4).

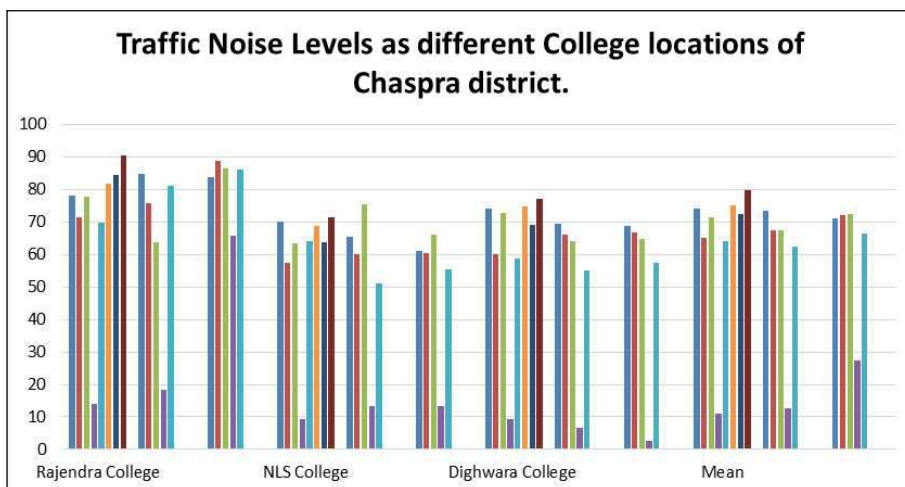
**Table 4.3**  
**Traffic Noise Levels at different institutions of Chapra district.**

Area	Time Interval	Noise Level Descriptions [Db(A)]							
		LA	L10	L90	TN1	LNP	LD	LN	LDN
Girls School	9-12.	80.96	82.2	80.26	49.96	81.46	83.15	82.15	84.65
	1-4.	81.51	74.45	79.01	30.12	76.91			
	5-8.	86.68	80.87	80.16	52.99	87.38			
Co-education School	9-12.	80.64	73.92	75.85	38.14	78.72	78.91	79.02	79.97
	1-4.	79.52	74.47	77.15	36.43	76.84			
	5-8.	78.56	76.41	73.88	54.31	81.19			
Mean	9-12.	77.4	72.4	72.69	39.34	76.8	77	73.53	77.94
	1-4.	74.29	69.95	72.41	32.35	71.82			
	5-8.	75.16	71.4	71.51	41.16	75.24			



**(Table 4.4)**  
**Traffic Noise Levels as different College locations of Chapra district.**

Area	Time interval	Noise Level Descriptions [Db(A)]							
		LAeq	L10	L90	TN1	LNP	LD	LN	LDN
Rajendra College	9-12	78.26	71.43	77.87	14	69.79	82.02	84.46	90.59
	1-4	85.04	75.92	63.81	18.24	81.15			
	5-8	83.8	88.97	86.69	65.81	86.08			
NLS College	9-12	70.07	57.51	63.54	9.43	64.04	68.95	63.96	71.53
	1-4	65.63	60.13	75.63	13.37	51.18			
	5-8	61.21	60.55	66.24	13.49	55.53			
Dighwara College	9-12	74.12	60.29	72.91	9.45	58.87	74.98	69.17	77.05
	1-4	69.49	66.21	63.99	6.55	55.24			
	5-8	68.83	66.83	64.77	2.79	57.49			
Mean	9-12	74.15	65.08	71.44	10.96	64.23	75.32	72.53	79.72
	1-4	73.39	67.42	67.48	12.72	62.52			
	5-8	71.28	72.12	72.57	27.36	66.37			



**Discussions-** The scenario is deteriorating day by day with an exponential increase in population as well as the number of vehicles on the City Road. Moreover, inappropriate traffic management, lack of parking space, and poor road conditions have contributed a lot to the noisy environment of the city (Chauhan et Al. 2010). Motor vehicles are a very significant part of this urban environment and are also the main source of urban noise emissions, contributing about 55% to the total noise (Pandia, 2002, Sinha and Sridharan noise pollution and associated health effects and can cause both short-term as well as long term psychological and physiological disorders. The CPCB (Central Pollution Board of India) in its notification on Ambient air quality standards for noise, has been included as an air pollution under section 20 of the amended Air Act of 1987 and has laid down the ambient noise standard (Central Pollution Control board, 2001).

The school and college areas are considered silent zones. The maximum permissible limit for this area is 40-50db (Singh et Al. 2005). Dai et al. 2005 observed noise levels between 65.9-70.4 dB in the residential

areas attributed to the high traffic density while. Vidyasagar and Rao ((2006) found the noise level between 80  $\pm$  10 at the road junction points which are used by many vehicles. Gorai and Pal (2005) also found that the residential noise levels in an iron mining complex varied between 51.9 - and 63.6db at the connecting junction, attributed to the high traffic density.

The increased level of sound observed in the school area in the present study might be due to the noise generated by several hundreds of students and their luggage to several schools and several business establishments which are located on either side of the road throughout the stretch. The vehicle user plays several types of modern cars and vehicle horns which also pollute the Chapra school environment to a greater extent (Murthy et al.... 2007; Gayathri et al...2012).

The noise-related data observed and calculated in the study indicated that the school and college studied, agreed with the results published by Pal and Saxena (2000) and Gayatri et al. 2012). The high noise levels will cause adverse health effects on the students and teachers. The high noise during working hours of educational institutions will distract and loosen the concentration of both teachers and students which in turn affects the studies and health of both (Raja et al...1999).

### **Conclusions-**

**Noise pollution in Chapra:** All the workers studied in the present study were exposed throughout their working hours to severe noise of more than 80 DB. Continuous exposure to such a level of noise became stress for them resulting in insomnia, alcoholism, drug addiction, and smoking in a huge percentage of workers including females.

Stress, insomnia, and alcoholism migrate smoking to trigger the autonomic nervous system which results in the over-secretion of cortisol, the stress hormone.

The stress hormone cortisol showed a significant increase in the blood plasma during the evening immediately after the completion of their work than in the morning. This indicated that the increase in hormone-stimulated by the stressors in their working environment. When compared to male workers the cortisol level showed a steady increase in all-female workers.

The study results conclude that the high noise level prevailing in the working environment of all kinds of worker acts as a stressors and induce both systolic and diastolic pressure in the different kind of workers studied to a greater extent. The women folk of workers are more severely affected than their counterparts in all kinds of workers in this study. This is because women workers are affected by the combination of job strain and family responsibilities.

**Hypertension in Chopra:** The observed high blood pressure cases in the present study were in the order of Drivers, Teachers, and construction workers. In drivers, the **BP** was mainly triggered by their continuous driving without proper rest, consuming unsafe drinking water, consuming food from various places that are not hygienically prepared, and noise generated from

the vehicle of their own and others on the roads and so on.

In construction workers, the workplace noise generated by the heavy equipment and also their poverty, illiteracy, consumption of - nutritive food, consumption of alcohol, chewing tobacco, citrate smoking, and so on might be the causative factors for high Blood pressure cases.

Among teachers, the high BP cases registered were because of the noisy environment, the pressure on them from home and school, their sophisticated life, and so on.

**Hearing loss in Chapra:** The audiometric study result obtained in the present study reveals that the high sound level (>80 dB) revealed in all working environments studied, affected the auditory system to a great extent. On the contrary, the very minimum noise level observed in the control population's surviving area was within the normal limit (37 - 41 db), and hence there were no distinct defects observed in the auditory system of the control population.

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## **Serum Sodium Level in Men and Women Belonging to Different Blood Groups**

• Girijesh Shukla

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**Abstract-** Fifty normal and healthy men and women belonging to 25-35 years age groups were associated with this investigation. Sodium concentration in serum of men of different blood groups was found higher in comparison to the women of same blood groups. Among the different blood groups of men and women blood group 'B' shows the highest concentration of sodium level and 'A' blood group shows the lowest level.

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**Key words:** Blood groups, Sodium, Serum, Women, Men.

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**Introduction-** Sodium is the major cation of the extracellular fluid and is largely associated with the chloride and bicarbonate in the regulation of acid-base equilibrium. Sodium ion is also important in the maintenance of osmotic pressure of body fluids and thus in protection against excessive fluid loss. Extreme sweating due to high environmental temperature or exertion may cause a considerable loss of sodium chloride from the body.

Appreciable retention of sodium and water during luteal phase or premenstrual phase was observed (Smith *et al*, 1959). Salt and water retaining effect during luteal phase could be attributed due to increase estrogen and not due to progesterone (Barlow and Roger, 1966; Duncan *et al*, 1956 and Landau and Lugibihl, 1964). A relationship between the adrenals and the metabolism of sodium has been established. In addition to this, the different blood groups may also affect directly or indirectly the serum sodium concentration. Keeping the above idea in mind it was planned to prepare a report on the serum sodium level in different blood groups of women and men.

**Materials And Methods-** 100 normal, healthy human subjects (50 men and 50 women) of 25 to 35 years were engaged in this investigation. According to the ABO blood grouping system they were divided into four groups A, B, AB and O. Blood was collected from different subjects. Serum separated after coagulation was analysed for electrolytes by flame photometry method.

**Results And Methods-** As the table 1 shows, sodium concentration in case of men was found higher in comparison to women belonging to different groups. Among the different blood groups (A, B, AB and O) blood group B shows the highest concentration of sodium both in men and women and lowest in blood group A.

As shown in table I it is evident that serum concentrations of sodium has a relationship with different blood groups and the blood groups have their genetical control which influences the endocrine system of the body. Ovarian hormone estrogen has effect on water and electrolyte balance. Appreciable retention of sodium and water during luteal or premenstrual phase was also observed by Thorne *et al*, (1938). Further it can be assessed that the different blood groups having different genetical control may be responsible for different endocrinological status. The lower concentration of sodium ion in women may be due to the additional effect of ovarian hormones.

High blood sodium level in blood group B and low in blood group A both in men and women might be a preliminary finding and it may be correlated with genetical effects.

Table 1: Variation in blood sodium level in men and women of different blood groups.

S.No.	Age (in years)	Blood groups	Blood sodium level meg/dl	
			Men	Women
1.	25-35	A		131.5 ± 1.08 (10)
2.	25.35	B	+++ 143 ± 1.09 (17)	+++ 138.7 ± 1.81 (17)
3.	25-35	AB	139.6 ± 1.30 (8)	137.0 ± 2.07 (8)
4.	25.35	O	141 ± 1.21 (15)	137.7 ± (1.36) (15)

Numbers in parenthesis indicate number of samples.

P value in between B and A of men +++ (H.S.) (P 0.001)

P value in between B and A of women +++ (H.S.) (P 0.001)

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## ***Assessing Emotional Intelligence of Special Teachers and Regular School Teachers***

• Sangeeta Rajaram Sutar

•• Rajendrakumar Muljibhai Parmar

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**Abstract-** *The study's outcomes highlight areas for improvement in education. The variations in EI between regular and special teachers suggest the need for targeted support and training for regular teachers. Providing resources and professional development opportunities can enhance teachers' emotional competences, leading to more inclusive and supportive learning environments. Gender differences in EI among teachers underscore the need for awareness and understanding of how gender dynamics influence teaching methods and classroom interactions. Addressing these discrepancies requires a holistic approach, including challenging misconceptions, promoting gender equality, and fostering an inclusive educational atmosphere.*

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**Keywords-** *Emotional Intelligence, Teachers, Education*

**Introduction-** In today's dynamic and rapidly expanding world, education is a significant investment that prepares individuals to face future challenges, follow their dreams, and work toward societal improvement. It contributes significantly to the growth and advancement of societies globally. The role of the teacher is pivotal in education. A student relies on the teacher for education, and an effective teacher can convey knowledge well. Therefore, a teacher's emotional intelligence (EI) is crucial, alongside their knowledge.

Emotional intelligence (EI), or emotional quotient (EQ), refers to the ability to sense, understand, control, and effectively manage the feelings of oneself and others. It involves a diverse set of emotional intelligence, interactions with others' abilities, and competencies. EI includes self-awareness, self-management, inspiration, empathy, and social skills.

**Emotions-** Human cognition and behaviour are significantly influenced by emotions, which are complex psychological experiences (Ekman & Davidson, 1994). They range from basic emotions like happiness and anger to complex ones like pride and empathy (Barrett, Mesquite, Ochsner, & Gross, 2007). Emotions are influenced by biological, psychological, and social factors. The concept of constructed emotion posits that emotions are dynamic processes, not fixed reactions, emerging from the interaction of

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core affect, conceptual knowledge, and situational context (Barrett, 2017). Neuroscientific research indicates that several brain areas and neural pathways are involved in processing and regulating emotions (Lindquist, Wager, Kober, Bliss-Moreau, and Barrett, 2012). Additionally, cultural expectations and social conventions significantly influence how individuals express and experience emotions (Matsumoto, 2006).

### **Chief Characteristics of Emotions**

- Emotions are sensations we are mindful of, although not necessarily conscious of at all times.
- Emotional episodes can be brief or last longer, with moods lingering for hours rather than minutes.
- Emotions are significant to us personally and are not chosen but felt.
- We automatically scan our surroundings for emotional triggers.
- A refractory period sorts through memories to validate the current emotion, lasting from seconds to much longer.
- Once conscious of an emotion, we may reevaluate the situation.
- Emotions have universal motifs from our evolutionary past and personal experiences.
- Behaviour is driven by the desire to feel or avoid certain emotions.
- Facial expressions are universal, quick communicators of emotional states.
- Genuine emotional expressions are more symmetrical and consistent than fake ones.
- Concealed feelings are often revealed in upper eyelids, brows, and forehead (Characteristics of Emotions | Emotional Experiences, 2020).

**Purpose of the Present Study-** A teacher plays a crucial role in a student's life. Understanding students well helps in solving their problems and fostering an interest in education. Previous studies indicate that the emotional intelligence of special education teachers is higher than that of regular teachers. The teaching profession requires social interaction, teamwork, and informal partnerships, demanding high emotional competence.

EI is essential for the success of teachers' relationships with students, colleagues, and parents, ultimately influencing educational outcomes. This study aims to analyse and compare the emotional intelligence levels of special education and regular education teachers, considering their different expectations and situations.

Special education teachers manage the unique needs of children with disabilities, requiring high empathy, adaptability, and interpersonal skills. In contrast, regular education teachers focus on presenting curricular information to typically developing children in diverse and inclusive classrooms. Understanding the emotional intelligence profiles of both groups can reveal distinct emotional abilities contributing to their effectiveness.

Assessing differences in EI among special and regular education teachers has implications for teacher training and professional development. Identifying strengths and growth areas can lead to specific strategies to enhance teacher skills and improve education quality. This study addresses a significant gap in the literature by comparing the EI of special and regular education teachers, providing insights for teacher preparation programs and policies aimed at fostering emotionally intelligent teaching practices.

#### **Aims and Objectives of Present Investigation**

- Measure emotional intelligence of regular teachers.
- Measure emotional intelligence of special teachers.
- Compare emotional intelligence of regular and special teachers.
- Compare emotional intelligence of male and female teachers in both categories.

#### **Hypotheses**

- There will be a significant difference in the levels of emotional intelligence between special education teachers and regular education teachers.
- There will be a significant difference in the levels of emotional intelligence between regular male and female teachers.

**Variables-** Characteristics or features that are measurable, manipulable, or controllable are referred to as variables in research. These variables are studied to understand how they relate to the desired outcomes.

**Sample-** The total sample size for this study comprised 200 participants: 100 regular teachers and 100 special teachers. This balanced sample size ensures equitable representation and meaningful comparisons. Data collection spanned various states in India to capture geographic diversity and cultural differences influencing EI.

Purposive sampling was employed to select teachers with specific characteristics relevant to the study's objectives. This method enhances the likelihood of obtaining rich and diverse data for a nuanced exploration of EI.

#### **Inclusion Criteria**

- Participants should not be suffering from major physical or psychological ailments.
- Participants should have at least one year of practice in educational institutions.
- Participants should be between 25 and 60 years old.

#### **Exclusion Criteria**

- Participants with major physical or psychological ailments.
- Individuals with less than one year of practice in educational institutions.
- Participants outside the age group of 25 to 60 years.

**Procedure-** The data collection process involved purposive selection of special and regular schools, ensuring diverse representation. Meetings with school principals were arranged to introduce the research topic, outline objectives, and seek permission. Informative sessions were conducted for

participating teachers to provide an overview of the research, its purpose, significance, and methodology. Teachers were given informed consent forms, allowing them to understand the study's procedures, potential risks, and benefits before consenting to participate.

### **Measurement Tools**

**(A) Personal Data Sheet** To collect general information of respondents related to age, sex, and type of school.

### **(B) Emotional Intelligence Scale**

The Dhar, Pethe, and Hyde (2001) Emotional Intelligence Scale was used to measure participants' emotional intelligence. This scale assesses key aspects of EI such as self-awareness, self-regulation, social skills, empathy, and motivation. It has been used in previous studies, demonstrating its established presence in academic research.

**Statistical Technique-** The T-test was used to assess the emotional intelligence scores of special education and regular education teachers. The T-test determines if there is a significant difference between the means of two independent groups by comparing the T-value to a critical value from the T-distribution.

**Conclusion-** The conclusion summarizes the study's main points and findings, providing an overview of the research. It highlights significant variations in emotional intelligence across gender and teaching specialization. The study found that male teachers exhibited higher levels of emotional intelligence than female teachers. Additionally, special education teacher's demonstrated higher emotional intelligence compared to regular education teachers.

These findings emphasize the complex nature of EI in education and its impact on teacher effectiveness and student achievement. The differences suggest that teachers' emotional competency may vary based on gender and teaching specialization, influencing their ability to create inclusive and supportive learning environments.

Educational institutions should recognize the importance of EI in teacher training and professional development. By promoting EI awareness, schools can help teachers build strong relationships with students, manage classroom dynamics effectively, and adapt teaching methods to meet diverse emotional needs.

Further research on the mechanisms underlying gender and specialization differences in EI among teachers can guide evidence-based interventions and promote equitable educational outcomes. Prioritizing EI development among teachers can create environments that foster students' overall growth and academic success.

**Implications-** The study's outcomes highlight areas for improvement in education. The variations in EI between regular and special teachers suggest the need for targeted support and training for regular teachers. Providing resources and professional development opportunities can enhance teachers' emotional competences, leading to more inclusive and supportive learning environments. Gender differences in EI among teachers underscore the need for awareness

and understanding of how gender dynamics influence teaching methods and classroom interactions. Addressing these discrepancies requires a holistic approach, including challenging misconceptions, promoting gender equality, and fostering an inclusive educational atmosphere.

The implications extend beyond the classroom to broader discussions about the importance of EI in professional settings. Organizations should prioritize EI development within their staff to improve well-being, productivity, and overall efficiency.

Recognizing and addressing EI inequalities among teachers can build a more empathetic and responsive teaching workforce, capable of meeting students' diverse needs. These findings contribute to discussions on the relevance of EI in professional settings, emphasizing the need for ongoing research and initiatives to enhance emotional competences across various domains.

### **Limitations**

- Limited sample size affecting generalizability.
- Sample may not be representative of the total teacher population.
- Potential confounding variables not accounted for, such as teaching experience and personality traits.
- Contextual elements in educational settings not considered.
- Gender stereotypes or social expectations influencing the investigation of gender differences in EI.

### **Suggestions**

- Increase sample size for a more diverse and representative sample.
- Control for potential confounding variables to isolate the impact of gender and teaching specialization on EI.
- Consider contextual elements within educational settings for a more comprehensive examination.
- Evaluate the efficacy of training interventions aimed at improving teachers' EI.

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## ***Assessing Emotional Intelligence of Special Teachers and Regular School Teachers***

• Parag Nath

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**Abstract-** *it is clear that the process of acculturation is in operation actively between the two societies. Lots of other factor including the education, socio-political institutions, organizations etc. has been operating on behalf of this process. Yet it is a matter of uncertainty, whether the Adivasi people are completely acculturated in this field or it is one way traffic. It may be an argument to put forth on this matter that some similar elements may be nurtured individually in both the societies due to the permissivity of mind and similarity of logical thinking of human race.*

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**Keywords-** *Folk belief, Adivasi, Acculturation, People*

The Adivasis are not merely a single community but a huge cluster of Munda, Chaontal, Urang, Kol, Bhil, Bhumis, Ghatowal, Gowala, Pradhan, Kurmi etc. living in a wide range of West Bengal, Bihar, Madhya Pradesh, Assam and spreading almost in every corner of India in various proportions. They have their own culture, language and distinctive lifestyles to assert their own Identify.

Here, concern is chiefly the Kurmi, Munda, Ghatowar, Bhumis people of the Adivasi grand fold who claim themselves to be the original inhabitants of Purulia of West Bengal and were persuaded to the tea gardens of Assam by the British government around third or fourth decade of 19<sup>th</sup> century. Now they are completely avoiding of the profession of tea plantation and absorbed in agriculture, business, government service etc. like the indigenous people.

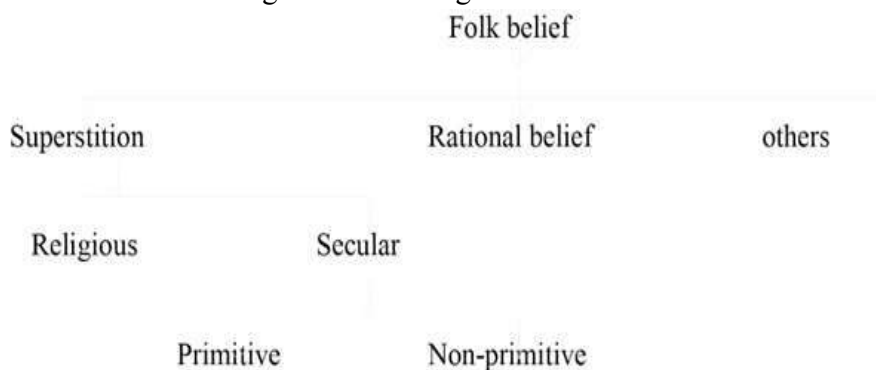
From the creation of the human race beliefs and superstitions have been penetrating the society though science and technology have touched the zenith point in comparison to the primitive period. In ancient time, when natural phenomena discomfoted and fell the human race in perilous situation, they being unable to analysis the factors behind these categorized them as the evil spirit and offended deities. These beliefs and superstitions in turn led to the formation of ideology of the society and gave a uniformity which clustered individuals to proceed hand in hand and to strike against all odds and barricades in a body.

Different dictionaries have explained the meaning of the word 'superstition' in various ways. The OXFORD ENGLISH DICTIONARY has suggested the two meanings -

1. Religious belief on practice founded upon fear or ignorance
2. Irrational or unfounded belief in general. In 'HEMKOSH', the word 'superstition' suggests blind faith, bigotry, and prejudice.

In ENCYCLOPAEDIA BRITANNICA, the definition is - "... the acceptance of belief or practices groundless in themselves and inconsistent with the degree of enlightenment reached by the community to which one belong." The word 'superstition' can be applied both in belief and practice.

Folk beliefs treat superstitions as an important part. But all folk beliefs are not superstitions. The folk belief that crowing of crows or crossing the road by a cat is bad symptom is definitely superstition. Many folk beliefs have strong scientific background.



In this stage of discussion would categorize the folk belief as follows –

Sometimes social beliefs are created artificially to mound certain laws to avoid corruption and misdeeds, to maintain the continuity of hierarchy and order of the society. But with the passage of time, it decays its context and generalised irrespective of time, space and intention.

**Area of Study-** The Palasbasti is a large village of Dhekiajuli sub-division in Sonitpur district. It is situated at a distance of twenty (10) kilometers from the Dhekiajuli town. This village is surrounded by tea garden and Assamese villages. It is inhabited by about two hundred Adivasi families.

**Methodology-** I have followed the both interview method and observation method for perfect data collection by avoiding emotional and prestige biases in diverse conditions. As this village is familiar since my childhood, I have the chance to collect data as participant also. I also took helps of few journals and books.

**Data collection-** The Adivasi of Palasbasti area has certain beliefs and superstitions which are quite similar with the neighboring Assamese people. Few common beliefs and superstitions which are deeply rooted in their minds are illustrated below -

- (i) They believe that sneezing at the time of journey is not fateful. Facing a beggar woman with her pot, a washer man, a milkman, barber, blank pitcher, a widow, crowing of crow on a dry branch etc. are considered to be unfortunate objects at the moment of setting out. But meeting a courtesan,

cow with its calf, water full pitcher, bunches of flowers etc. are considered to be signs of good luck.

(ii) Calling a person in the mood of his/ her journey from backside is considered to be a great disaster. But by one's own mother pronouncing the name is fruitful.

(iii) Generally, the crow is believed to be the carrier of omens. Crowing at night is very harmful for the family. But crowing at daytime on the roof is the signifier of the arrival of guest. In death ceremony, the crow is offered food items believing that the soul of the dead person is satisfied through the crow.

(iv) There are lots of taboos or limitations for women in the collective and individual field.

Village women in their period of pregnancy and menstruation face lots of prevention and only this prevention control them. The pregnant woman is not allowed to stay alone, to go under a tree with unlocked hair, to see the solar and lunar eclipse, to see dead body, to knit and to sit on the doorway. The husband of the delivery woman should not kill any animals or birds and should not tell a lie.

(v) There is a folk belief -

*“Bhal krisi nasta gel - maje laile bat  
Bhal nari nasta gela nite jay hat”*

(If there is a road through the field, your crop gets destroyed; If a woman takes to visit the market, she gets destroyed.)

There is another significant proverb -

*“Mati dekhbe maje khal  
Beti dekhbe may bhal “*

(A low-level land is the source of good harvest. Similarly, a good daughter may be hoped by a cultured mother.)

(vi) There are also lots of superstitions for snakes which are enveloping their daily lives.

Poisonous or non-poisonous snakes are not uttered at night. Instead of the name they talk *lata*, *jari*, *pok* or *dighal* etc. (long and flexible objects like snake) to give the concept. They believe that when a person in sleeping condition is shadowed (*phana dhara*) by the head of the snake, he is hoped to be a man of blue blood in the later life. The snake is also believed to be the preserver of the soul of the dead body. Some people of them believe that the king of snakes “*basuki*” is holding the earth on its one thousand heads, an earthquake is occurred when it changes the mass from one head to another. Delivery woman is strictly prohibited to see any dead or lively snake. Sudden encounter with a snake by her is believed to be the cause of tremendous pain at the time of child birth. Some people of this village is still maintaining the Manasa Puja in which they do not lit up incense stick as the goddess is supposed to be worried with its scent.

**Analysis of the data-** The Assamese society is the amalgamation of both tribal and non-tribal people. So, there are lots of beliefs and superstitions shared commonly by the inhabitants. Ways of livelihood, geographical and

ecological variations have lots of contribution to the beliefs and superstitions current in any society.

Assamese society has been waived by the snake worship in the form of Manasa puja or Nag Panchami since time immemorial. Lord Shiva is the vernacular chief deity here whose neck is curled round by various snakes. So, beliefs and superstitions relating the snake is obviously present here. The snake is the matter of great discourse in the fields of pregnancy, wealth, soul of dead body etc. in Assamese society.

Addressing a person from backside is considered not positively effective during his/ her journey period. But the feasibility is found in case of one's mother. The *lagun diyoni* (thread giving) ceremony in Assamese society specially witnesses this.

The inheritance of merits and demerits by the children from their parents, a scientifically accepted fact, is continued in the society in the form of proverb also -

*“Mati chaba maj khal  
Chowali chaba mak bhal“*

(Buy a plot of low-lying land/ choose a bride according to her mother.)

Bad news or an unfavorable incident is believed to be welcome by sneezing in Assamese society. Crowing of crows, barking of dogs untimely is considered to be the chief causes for advent of crisis period or calamities in Assamese society. A crow is also taken to be a mediator between the soul of the dead person and the living kin group in death ceremony in Assamese society.

**Conclusion-** From these evidences, it is clear that the process of acculturation is in operation actively between the two societies. Lots of other factor including the education, socio-political institutions, organizations etc. has been operating on behalf of this process. Yet it is a matter of uncertainty, whether the Adivasi people are completely acculturated in this field or it is one way traffic. It may be an argument to put forth on this matter that some similar elements may be nurtured individually in both the societies due to the permissivity of mind and similarity of logical thinking of human race.

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## ***Impact of Humour on Psychological Well-Being and Stress Reduction among College Students***

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**Abstract-** *This research examines the impact of humour on psychological well-being and stress reduction among college students. The study focuses on understanding how humour interventions influence various aspects of mental health and stress management in a college setting. Using a mixed-methods approach, the research assesses humour appreciation, psychological well-being, and stress levels before and after humour-based interventions among a sample of college students. The findings reveal that humour interventions have a significant positive impact on psychological well-being, as evidenced by improved mood, reduced anxiety, and enhanced self-esteem among participants. Additionally, humour-based interventions contribute to stress reduction by promoting relaxation, coping mechanisms, and a more positive outlook on challenges. The study highlights the importance of incorporating humour into mental health promotion strategies on college campuses. It emphasizes the role of humour in fostering emotional resilience, improving overall well-being, and enhancing coping skills among college students. The implications of these findings suggest the value of integrating humour-based interventions into wellness programs to support students' mental health and stress management.*

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**Keywords-** *Humour, Stress, Mental health*

**Introduction-** Life has become full of incredible obstacles in an accelerating environment, making the abilities needed to overcome these challenges crucial. Higher education is more widely accessible, leading to more opportunities and increased expectations from parents for their children to succeed in a competitive environment. This can make the transition to adult responsibilities daunting for college students, potentially increasing their stress levels. Stress can manifest in various forms, such as academic challenges, difficulties in maintaining social connections, and the pressure to meet parental and societal standards.

According to Mohan (2016), recent research points out the determinants and correlates of academic stress, emphasizing coping strategies like resilience, optimism, and humour. Humour, in particular,

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helps students transition from adolescence to adulthood by shifting their focus away from stressors and facilitating relaxation. Humour can change how events are perceived, making them less threatening and promoting adjustment to life situations.

**Psychological Well-Being-** The World Health Organization defines mental health as a state of well-being where individuals realize their abilities, cope with normal stresses, work productively, and contribute to their community. Psychological well-being (PWB) includes global judgments of life satisfaction and feelings ranging from depression to joy. Ryff and Keyes (1995) identified six dimensions of PWB: autonomy, environmental mastery, personal growth, positive relationships, life purpose, and self-acceptance.

**Methodology-** This study examines the complex connection between humour and its effects on mental health using well-established theories of humour and stress. The research uses a mixed-methods approach to explore how humour affects psychological health and functions as a stress-reduction strategy among university students.

#### **Aim of the Research**

- Investigate the impact of humour-based interventions on college students' mental health outcomes, focusing on gender differences.
- Explore the effectiveness of humour interventions in enhancing humour appreciation, psychological well-being, and stress reduction.
- Contribute to the development of gender-sensitive mental health interventions on college campuses.

#### **Objectives**

1. Investigate the short-term effects of humour exposure on psychological health.
2. Examine the long-term impact of regular humour exposure on psychological well-being.
3. Determine the physiological and psychological pathways humour uses as a stress-reduction technique.
4. Analyse patterns in how individuals use humour as a coping mechanism.
5. Assess the duration of humour-induced psychological well-being and stress reduction benefits.

#### **Hypotheses**

1. There is no significant difference in humour appreciation between male and female college students.
2. Female college students exhibit higher levels of humour appreciation compared to male college students.
3. There is no significant difference in psychological well-being between male and female college students.
4. Female college students report higher levels of psychological well-being compared to male college students.
5. There is no significant difference in stress reduction between male

and female college students.

6. Female college students demonstrate greater stress reduction in response to humour-related interventions compared to male college students.

### **Limitations of the Research**

- Sample size constraints.
- Potential selection bias.
- Reliance on self-report measures.
- Limitations in controlling variables.
- Short-term follow-up period.

**Sample-** The study encompassed a total sample of 300 participants, divided equally into two groups: 150 male and 150 female students, aged 18 to 25 years, from the university.

### **Inclusion and Exclusion Criteria**

#### **Inclusion:**

- Participants aged 18 to 25 years.
- University students.

#### **Exclusion:**

- Participants outside the age range of 18 to 25 years.

#### **Tests Used**

1. **The Coping Humour Scale (CHS):** Assesses the degree to which participants use humour as a coping mechanism.
2. **Subjective Well-Being (SWB) Scale:** Measures life satisfaction using a 7-point Likert-type scale.
3. **The Perceived Stress Scale (PSS):** Evaluates the perception of stress, focusing on unpredictability, controllability, and feeling overwhelmed.

### **Conclusion**

#### **Humour Appreciation and Gender Differences**

- Female college students exhibited significantly higher levels of humour appreciation compared to male students.
- Gender differences suggest humour may be perceived and enjoyed differently based on gender, emphasizing the need for gender-specific interventions.

#### **Psychological Well-Being and Gender**

- No significant gender differences in psychological well-being were found.
- Both male and female students demonstrated balanced mental states in terms of psychological well-being.

#### **Stress Reduction and Gender Responses to Humour Interventions**

- Female college students experienced a significantly greater reduction in stress levels compared to male students.
- Humour-based interventions appear particularly effective for stress reduction among female students.

## Significant and Non-Significant Findings

### 1. Significant:

- Humour appreciation: Female students showed higher levels of humour appreciation post-intervention.
- Stress reduction: Female students experienced greater stress reduction post-intervention.

### 2. Non-Significant:

- Psychological well-being: No significant gender differences were found post-intervention.

## Implications for Gender-Sensitive Interventions

- Findings highlight the importance of gender-sensitive humour interventions tailored to the distinct preferences of males and females.
- Future research should explore the mechanisms through which humour influences stress reduction and well-being, considering gender-specific responses.

## Suggestions for Future Research

1. Conduct longitudinal studies with larger and more diverse samples.
2. Compare different types of humour interventions.
3. Explore students' subjective experiences through qualitative research.
4. Develop gender-sensitive intervention strategies.

**Summary-** The research emphasizes the potential of humour-based interventions in promoting mental health and stress management among college students, with a specific focus on gender differences. The findings contribute to developing gender-sensitive mental health interventions on college campuses.

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## **Effect of Foliar Application of Nutrients and Growth Regulators on Vegetative Growth Characters of Guava (*Psidium guajava* L.) cv-L-49**

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4. Sadhana Singh Yadav, 5. Pratibha Shrivastava, 6. M. K. Yadav**

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**Abstract-** - It is evident from the results obtained, that the application of different nutrients and plant growth regulators treatment at different concentration had significantly influenced various vegetative growth characters as compared to control. The maximum shoot length (148.09cm.) with maximum number of leaves (77.00) were recorded with the foliar application of urea 1% + NAA 50 ppm (T7), shoot length was at par with urea 1% + GA3 50 ppm (T8) and number of leaves was significantly superior to all the treatments. GA3 was more effective because gibberellins and nitrogen play an important role in stem elongation, synthesized in young tissues of the shoot, and stimulates shoot growth and auxin play an important role in cell division, cell elongation. The minimum shoot length (117.08cm.) and number of leaves (49.66) was observed under control. Pandey and Narwadkar (1984) were found that spraying of urea and auxin indicated more vegetable growth over control.

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**Keywords-** *Psidium guajava*, Vegetative growth, Flowering, Fruiting, growth regulators.

**Introduction-** Guava (*Psidium guajava* L.) is one of the most important fruit crops grown well under tropical and sub-tropical condition. The popularly known as “Apple of tropics” or “Poor man's apple”. It's a member of family 'Myrtaceae' and sub family 'Myrtoideae'. In India, it has been introduced in early 17th century and gradually become a commercial crop

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all over the country. Its origin is in Tropical America and adopted well for commercial cultivation throughout tropics due to its hardy nature, stretching from Mexico to Peru and gradually become a commercial significance level of fruit crop in a several countries. The common guava contains chromosome number  $2n=22$ (diploid) but natural and artificial  $2n=33$ (triploid) and aneuploid exist (**Menzel, 1985**). The seedless varieties are borne completely seedless and partly seedless fruits. It can grow from sea level to an altitude of about 1000 to 1500 meter. An annual rainfall of below 1000 mm between June and September is the good for the growth of guava plants. Young plants are susceptible to drought and cold conditions, yield and quality improve in areas with a distinct winter season. The total area under guava cultivation and production of guava in India is about 260.07 thousand hectares and 3826.40 thousand MT respectively. The productivity of guava in India is 15.3 MT/ha (**NHB 2017- 2018**). The total area and production of guava in Madhya Pradesh is 35.08 hectares and 686.7 MT, respectively. Madhya Pradesh ranks first in productivity with 19.58MT/ha. The guava covers an area of Uttar Pradesh has largest area covering about, followed by Madhya Pradesh and Bihar It is highly tolerant to alkaline and saline soil and it can be grown successfully even up to ph 6.5 to 8.5, optimum temperature is 23-26<sup>o</sup>C though it can withstand up to 46<sup>o</sup>C. The nutrients and plant growth regulators affect the plant growth, development, yield and quality of fruits. Nitrogen is essential for plant growth, zinc for growth and development, potassium is necessary for photosynthetic activities and translocation of photosynthesis influencing the quality attributes (**Sharma et al., 1984**). Plant growth regulators play important role in fruit set, fruit production, fruit weight and fruit size without causing any adverse effect in fruit quality. NAA induces more fruiting, promotes flowering, whereas GA<sub>3</sub> increases fruit retention. Different nutrients in association of plant growth regulators increase economic yield facilitating harvesting. Urea is an important organic fertilizer for the plant. It stimulates shoot growth, increases the number of flowers per shoot and also increased the fruit set fruit retention, fruit diameter; improve the total solid and acidity. Urea plays an important role for the synthesis of endogenous hormones. Potassium plays unique role in osmotic regulation and opening and closing of stomata. It improves the colour, flavour and size of fruits (**Bangerth et al. 1999**). Since potassium can be mobilized to the younger leaves, these symptoms appear initially on the more mature leaves towards the base of the plant. The leaves may also curl and crinkle. The stems of potassium deficient plants may be slender and weak with abnormally short intermodal regions. In potassium deficient corn, those roots may have an increased susceptibility, together with effect on the stem resulting in an increased tendency of the plant to be easily bent to the ground (lodging). . Zinc is an essential nutrient for plants, being involved in many enzymatic reactions and is necessary for good growth and development. Zinc is also involved in regulating the protein and carbohydrate metabolism. Similarly zinc also increases the chlorophyll content of leaves and essential for

enzyme activities like catalase, peroxidase and cytochrome chlorophyll oxidase (Prasad *et al.*, 2005). Gibberellins are synthesized by isoprenoid pathway. It plays an important role for stem elongation, seed development, organ elongation, promoting flowering in Long Day Plant, substituting cold treatment, produce parthenocarpic fruits and breaking dormancy. It improves the size, shape, weight, and fruit set & fruit retention of the tree. It is synthesized in young tissues of the shoot and in developing seed. Application of exogenous gibberellins invariably causes an increase in the level of alpha amylase & RNA, using cDNA & recombinant DNA cloning methods. It enhances rate of transcription of alpha amylase (Singh *et al.*, 2004). Auxin is a very important plant growth regulator in plants. Tryptophan is a precursor of auxin, It shows basipetal as well as acropetal transport. Naturally occurring auxin is IAA and synthetic auxins are 2,4-D, NAA, 2,4, 5-T. Auxin plays an important role in cell division, cell elongation, shortening of internodes, root initiation, apical dominance, prevention of abscission layer, flower initiation, production of parthenocarpic fruits, eradication of weeds, embryonic development, leaf formation, nodule formation and to control fruit drop. Auxin is produced largely in shoot and root apical region and embryo. In mode of action of auxin, firstly adsorptions of auxins to a hormone specific binding site and after that acidification of the membrane occur.

**Materials And Methods-** The present investigation entitled “Effect of Foliar application of nutrients and growth regulators on yield and quality of guava (*Psidium guajava* L.) Cv-L-49”. was undertaken in the Horticulture orchard of Janta college, Bakewar, Etawah (U.P.). The 8-10 years old uniform plant of guava (*Psidium guajava* L.) cv. L- 49, plants are planted at 6×6 m a part was selected for investigation. The nutrients application and other orchard management practices were followed as per recommended of package of practices for guava cultivation. Vegetative growth characters observation on the vegetative growth, fruiting, yield and fruit quality was recorded. The procedure employed for recording various characters are described Stem length (cm.) It was considered from base to apex of a shoot. A round mark of black point at the base of each shoot was made to denote the point of measurement. The stem length was measured with the help of a meter scale. Number of leaves per shoot, Total number of leaves present on each shoot was recorded at every 15 days interval after spraying and average was calculated treatment wise. Flowering and fruiting characters shoot utilized for recording the vegetative growth characters were undertaken to note the observations to flowering and fruiting characters.

**Results And Discussion-** Progressive plant growth and development attributes were recorded at 15, 30 and 45 days after allocation of treatment. Impact of experimental variables on growth and development are described here under.

**Table 01**  
**Effect of nutrients and plant growth**  
**regulators on Stem length (cm.) of guava Cv.L-49.**

Treatment	Stem length (cm.)		
	15 Days	30 Days	45 Days
T1	115.16	114.61	117.08
T2	119.76	122.55	126.58
T3	116.33	121.28	125.26
T4	117.20	122.71	125.24
T5	117.90	126.96	132.95
T6	121.96	125.89	130.80
T7	133.33	142.22	148.09
T8	129.83	137.27	141.74
T9	125.86	129.09	133.67
T10	123.86	125.78	128.02
SE(m) ±	2.003	1.649	1.689
C.D. at 5%	5.998	4.938	1.689

It is obvious from the Table 4.1 that foliar spray of nutrients and plant growth regulators proved significantly effective the length of guava shoot increased. The maximum shoot length (148.09cm.) was noticed in urea 1% + NAA 50 ppm (T7), followed by shoot length (141.74cm.) was noticed in urea 1% + GA3 50 ppm (T8). The plant under control showed minimum shoot length (117.08cm.) in (T1).

**Table 02**  
**Effect of nutrients and plant growth**  
**regulators on number of leaves per shoot of guava Cv.L-49**

Treatment	Number of leaves/ shoots		
	15 Days	30 Days	45 Days
T1	42.33	46.00	49.66
T2	51.33	58.66	61.33
T3	50.66	53.00	59.66
T4	52.00	53.66	58.66
T5	53.00	57.66	63.66
T6	58.66	56.00	63.66
T7	73.66	71.33	77.00
T8	68.33	66.66	71.33
T9	65.66	61.66	69.00
T10	57.33	59.33	62.33
SE(m) ±	3.018	2.708	2.556
C.D. at 5%	9.035	8.109	7.6541

It is obvious from the Table 4.2 that foliar spray of nutrients and plant growth regulators proved significantly effective the number of leaves per shoot increased. The maximum number of leaves (77.00) was noticed in urea

1% + NAA 50 ppm (T7), followed by number of leaves(71.33) was noticed in urea 1% + GA3 50 ppm (T8). The plant under control showed minimum number of leaves (49.66) in (T1).

**Table 03**  
**Effect of nutrients and plant growth regulators**  
**on number of flowers and fruit set per shoot of guava cv. L-49.**

Treatment	Number of flower /shoots	Fruit set /shoot
T1	9.00	4.33
T2	15.33	5.60
T3	14.66	6.00
T4	15.33	6.33
T5	16.33	7.00
T6	15.00	6.33
T7	21.66	8.00
T8	19.33	7.33
T9	18.00	7.00
T10	14.66	6.66
SE(m) ±	1.441	0.493
C.D. at 5%	4.316	1.477

It is obvious from the Table 4.3 that foliar spray of nutrients and plant growth regulators proved significantly effective in improving the percent number of flowers per shoot. The maximum number of flowers per shoot (21.66%) was noticed in urea 1% + NAA 50 ppm (T7), followed by number of flowers (19.33%) was noticed in urea 1% + GA3 50 ppm (T8). The plant under control showed minimum number of flowers (9.00%) in (T1).

It is obvious from the Table 4.3 that foliar spray of nutrients and plant growth regulators proved significantly effective in improving the percent of fruit set. The maximum fruit set (8%) was noticed in urea 1% + NAA 50 ppm (T7), followed by fruit set (7.33%) was noticed in urea 1% + GA3 50 ppm (T8). The plant under control showed minimum fruit set (4.33%) in (T1).

**Table 04**  
**Effect of nutrients and plant growth regulators on fruit drop and fruit retention/shoot guava Cv.L-49.**

Treatment	Fruit drop/shoot	Fruit retention / shoot
T1	2.33	1.33
T2	3.00	4.00
T3	3.33	3.33
T4	3.00	3.33
T5	3.00	3.66
T6	2.66	3.66
T7	4.33	5.66
T8	3.66	4.33
T9	3.33	4.00
T10	3.00	3.66
SE(m) ±	0.429	0.626
C.D. at 5%	N/A	1.873

It is evident from data presented in Table 4.4 that foliar application of various treatments significantly influenced the percentage of fruit drop. Maximum fruit drop (4.44%) was noticed in urea 1% + NAA 50 ppm (T7), followed by fruit drop (3.66%) was noticed in urea 1% + GA3 50 ppm (T8). The minimum fruit drop (2.33%) was found in control (T1).

It is evident from data presented in Table 4.4 that foliar application of various treatments significantly influenced the percentage of fruit retention. Maximum fruit retention (5.66%) was noticed in urea 1% + NAA 50 ppm (T7), followed by fruit retention (4.33%) was noticed in urea 1% + GA3 50 ppm (T8). The minimum fruit retention (1.33%) was found in control (T1).

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## **An Unemployment and Its Impact in Chhattisgarh State**

• **Firoj Kumar Sonwani**

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**Abstract-** *This paper examines the unemployment scenario in Chhattisgarh, analysing its extent, demographic variations, and socio-economic impacts. Through data analysis from recent surveys and reports, the study reveals significant unemployment rates among youth and women. It further explores the economic and social repercussions and provides actionable policy recommendations.*

**Keywords-** *Unemployment, Demographic variation, Socio-economic impact*

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**Introduction-** Unemployment, the condition where individuals actively seeking work cannot find employment, is a critical issue affecting economic stability and social well-being. Chhattisgarh, a state in central India known for its agricultural base and limited industrial development, faces substantial unemployment challenges. These challenges impact the state's economic performance and social structure.

**Objectives-** This study aims to:

1. Determine the current unemployment rate in Chhattisgarh.
2. Examine unemployment across various demographic groups.
3. Assess the economic and social consequences of unemployment.

**Significance-** Understanding unemployment in Chhattisgarh is essential for formulating effective policies to improve job creation and economic stability, thus enhancing the overall quality of life in the state.

**Literature Review-** Unemployment Theories

**Classical Theory:** Suggests that unemployment arises when wages are set above the equilibrium level, causing a surplus of labour.

**Keynesian Theory:** Argues that unemployment is due to insufficient aggregate demand, which leads to reduced hiring by businesses.

**Structural Theory:** Focuses on the mismatch between workers' skills and job requirements, contributing to structural unemployment.

**National Context-** Nationally, India's unemployment rates fluctuate due to economic reforms, demographic shifts, and global economic conditions. According to the National Statistical Office (NSO), regional disparities exist, with some states experiencing higher unemployment rates than others.

**Chhattisgarh-Specific Studies-** Research indicates that Chhattisgarh's unemployment rate is notably higher than the national average due to its

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heavy reliance on agriculture and limited industrial growth. Studies from the Ministry of Labour and Employment (MoLE) and local research highlight significant unemployment among youth and women in the state.

### Methodology

**Research Design-** This study utilizes a mixed-method approach, combining quantitative data analysis with qualitative insights. Quantitative data is sourced from official reports and surveys, while qualitative data is gathered from case studies and interviews.

**Data Collection-** Data was collected from:

Ministry of Labour and Employment (MoLE): Annual Reports on employment. National Statistical Office (NSO): Periodic Labour Force Survey. State Government Reports: Chhattisgarh Economic Survey. Academic Journals and Publications: For additional context and analysis. A sample of 1000 respondents was surveyed across various districts of Chhattisgarh to ensure a comprehensive analysis.

**Data Analysis and Findings-** Quantitative data were analysed using statistical methods such as regression analysis and descriptive statistics to identify trends and patterns. Qualitative data were analysed thematically to uncover common issues and insights.

Current Unemployment Statistics

As of 2023, Chhattisgarh's unemployment rate is 7.5%, compared to the national average of 6.8%. The following tables provide detailed unemployment rates by age group and gender.

**Table 01**  
**Unemployment Rate by Age Group in Chhattisgarh (2023)**

Age Group	Unemployment Rate (%)
15-24 years	15.0
25-34 years	7.0
35-44 years	5.5
45+ years	4.0

Source: National Statistical Office (NSO, 2023)

**Table 02**  
**Unemployment Rate by Gender in Chhattisgarh (2023)**

Gender	Unemployment Rate (%)
Male	5.0
Female	10.0

Source: National Statistical Office (NSO, 2023)

**Demographic Breakdown-** The unemployment rate among youth (15%) in Chhattisgarh is significantly higher than the national average of 12%. Women face an unemployment rate of 10%, compared to 5% for men. These disparities reflect systemic issues in job creation and socio-economic

barriers.

**Economic Impact-** High unemployment rates in Chhattisgarh adversely affect the state's economic growth. Underutilized labour results in decreased productivity and increased dependency on social welfare programs. This situation exacerbates poverty levels and hampers economic development.

**Social Impact-** Unemployment contributes to various social issues, including increased crime rates and a diminished quality of life. Families facing unemployment often experience poor health outcomes and limited access to essential services such as healthcare and education.

**Interpretation-** The study reveals that Chhattisgarh's unemployment issue is particularly severe among youth and women, reflecting broader economic and social challenges. Factors such as insufficient job creation, lack of industrial development, and socio-economic barriers contribute to the high unemployment rates.

**Policy Implications-** To address unemployment in Chhattisgarh, the following measures are recommended:

**Economic Diversification:** Promote investment in industrial and service sectors to create a broader range of job opportunities.

**Skill Development Programs:** Implement targeted training programs to enhance the employability of youth and women.

**Infrastructure Improvement:** Develop infrastructure to attract investment and support local businesses.

**Limitations-** The study faces limitations, including potential data gaps and difficulties in obtaining up-to-date information. The sample may not fully represent all socio-economic conditions in Chhattisgarh, which could affect the generalizability of the findings.

**Conclusion-** Unemployment in Chhattisgarh poses significant economic and social challenges. Addressing these issues through targeted policies and investments in job creation and skill development is essential for improving economic stability and enhancing the quality of life in the state.

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