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Copyright HolderName	The Author(s), under a	exclusive license to Springer Nature Singapore Pte Ltd.
Author	Family Name	Borah
	Particle	
	Given Name	Shikha Jyoti
	Prefix	
	Suffix	
	Role	
	Division	Sustainable Energy & Environmental Nanotechnology (SEEN) Group
	Organization	Special Centre for Nano Sciences, Jawaharlal Nehru University
	Address	Delhi, 110067, India
	Email	
Author	Family Name	Gupta
	Particle	
	Given Name	Abhijeet Kumar
	Prefix	
	Suffix	
	Role	
	Division	Sustainable Energy & Environmental Nanotechnology (SEEN) Group
	Organization	Special Centre for Nano Sciences, Jawaharlal Nehru University
	Address	Delhi, 110067, India
	Email	
Corresponding Author	Family Name	Kumar
	Particle	
	Given Name	Vinod
	Prefix	
	Suffix	
	Role	
	Division	Sustainable Energy & Environmental Nanotechnology (SEEN) Group
	Organization	Special Centre for Nano Sciences, Jawaharlal Nehru University
	Address	Delhi, 110067, India
	Email	kumarv@mail.jnu.ac.in
Author	Family Name	Gupta
	Particle	
	Given Name	Akanksha
	Prefix	
	Suffix	

	Role	
	Division	
	Organization	Department of Science and Technology
	Address	Delhi, 110016, India
	Email	
Author	Family Name	Kant
	Particle	
	Given Name	Ravi
	Prefix	
	Suffix	
	Role	
	Division	Department of Chemistry
	Organization	Zakir Hussain Delhi College
	Address	Delhi, 110002, India
	Email	
Corresponding Author	Family Name	Kumar
	Particle	
	Given Name	Ravinder
	Prefix	
	Suffix	
	Role	
	Division	Department of Chemistry
	Organization	Gurukula Kangri (Deemed to be University)
	Address	Haridwar, 249404, Uttarakhand, India
	Email	ravinder.kumar@gkv.ac.in
Abstract	on illuminating the intr microplastic pollution, dynamic regulatory me repercussions of microp life-threatening impact dermal contact has bee regulations of entities 1 Environment Programm Government, propelling overview of the fundam	ng global concern surrounding microplastic pollution, this chapter takes the reader icate core aspects of microplastic. It delves into fundamental components of including their sources, profound ecological imprint, detection techniques, and th asures implemented throughout the globe. It emphasizes the numerous plastic contamination on aquatic and terrestrial ecosystems. More importantly, the of microplastic on human health potentially through ingestion, inhalation, and n highlighted. Additionally, it provides insights into the visionary policies and ike the European Union, the progressive strategies of the United Nations ne, and the forward-thinking approach of developing nations, like the Indian g global responses to combat microplastic pollution. This chapter offers a valuable nental key points associated with microplastic pollution and a roadmap of the
Keywords		blicymakers toward a sustainable future.
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# Chapter 9 \*Exploring the Core Aspects of Microplastic Pollution: Origin, Distribution, Imprint, Detection, and Policy Solutions



Shikha Jyoti Borah, Abhijeet Kumar Gupta, Vinod Kumar, Akanksha Gupta, Ravi Kant, and Ravinder Kumar

Abstract In the midst of escalating global concern surrounding microplastic pollu-1 tion, this chapter takes the reader on illuminating the intricate core aspects of 2 microplastic. It delves into fundamental components of microplastic pollution, 3 including their sources, profound ecological imprint, detection techniques, and the 4 dynamic regulatory measures implemented throughout the globe. It emphasizes the 5 numerous repercussions of microplastic contamination on aquatic and terrestrial 6 ecosystems. More importantly, the life-threatening impact of microplastic on human 7 health potentially through ingestion, inhalation, and dermal contact has been high-8 lighted. Additionally, it provides insights into the visionary policies and regulations 9 of entities like the European Union, the progressive strategies of the United Nations 10 Environment Programme, and the forward-thinking approach of developing nations, 11 like the Indian Government, propelling global responses to combat microplastic 12 pollution. This chapter offers a valuable overview of the fundamental key points 13 associated with microplastic pollution and a roadmap of the solutions adopted by 14 policymakers toward a sustainable future. 15

<sup>16</sup> Keywords Microplastic · Ecological imprint · Policy · Regulations

S. J. Borah · A. K. Gupta · V. Kumar (🖂)

Sustainable Energy & Environmental Nanotechnology (SEEN) Group, Special Centre for Nano Sciences, Jawaharlal Nehru University, Delhi 110067, India e-mail: kumarv@mail.jnu.ac.in

A. Gupta Department of Science and Technology, Delhi 110016, India

#### R. Kant Department of Chemistry, Zakir Hussain Delhi College, Delhi 110002, India

R. Kumar (🖂)

Department of Chemistry, Gurukula Kangri (Deemed to be University), Haridwar 249404, Uttarakhand, India

e-mail: ravinder.kumar@gkv.ac.in

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## 17 Abbreviations

18	Microplastics	
19		MPs
20	Single-use plastics	
21		SUPs
22	Wastewater treatment plants	WWTPs
23 24	Scanning electron microscopy	W W 115
25		SEM
26	Transmission electron microscopy	
27		TEM
28	Fourier-transform infrared spectroscopy	
29	Extended producer responsibility	FTIR
30 31	Extended producer responsionity	EPR
32	European Union	
33		EU
34	United Nations Environment Program	
35		UNEP
36	European Chemical Agency	ECHA
37 38	Global Partnership on Waste Management	ЕСПА
39	Stobal Factoriship on Wase Management	GPWM
40	Joint Group of Experts on Scientific Aspects of Marine Environmental Protection	
41		GESAMP
42	Sustainable Development Goals	
43		SDG
44	United Nations	UN
45 46	United Nations Environment Assembly	UIN
47		UNEA

# 48 1 Introduction

<sup>49</sup> Microplastic pollution has been recognized as a burgeoning concern, raising alarm <sup>50</sup> among scientists, environmentalists, and the general community due to the expo-<sup>51</sup> nentially growing usage of plastic products in various sectors of the world. Typi-<sup>52</sup> cally, microplastics (MPs) refer to diminutive particles having a size less than 5 mm <sup>53</sup> (Hartmann et al., 2019). These small particles have the potential to pervade various <sup>54</sup> environmental matrices, encompassing aquatic and terrestrial systems, as well as

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atmospheric environments. This can exert both direct or unintended effects on the 55 ecosystem and human health, necessitating urgent and effective mitigation strategies. 56 Numerous recent scientific investigations have emphasized the pronounced risk 57 of freshwater and marine animals ingesting MPs, resulting in physical complica-58 tions and mortality. Various marine species have exhibited deleterious effects on the 59 reproductive health (Sharifinia et al., 2020), growth and development processes, and 60 other biological functions as a consequence of MP ingestion (Galloway, 2015). In 61 freshwater environments, MPs can cause reduced growth in photoautotrophs, higher 62 mortality for certain invertebrates, and genetic alteration in amphibians (Castro-63 Castellon et al., 2022). Furthermore, the infiltration of MPs into the food chain has 64 emerged as a significant concern for human health, as bioaccumulation of MPs in 65 human tissues and organs has been observed, which can yield long-term health ramifi-66 cations (Chen et al., 2023; Prata et al., 2020; Zhang et al., 2022a). In response to these 67 escalating consequences of MPs, several international organizations and govern-68 ments across different countries have proactively adopted comprehensive policies 69 and initiatives aimed at mitigating single-use plastics (SUPs) and the amelioration of 70 waste management practices. Figure 1 summarizes the core aspects of microplastic 71 pollution. It demonstrates growing plastic waste contributes to the generation of MPs, 72 producing significant detrimental consequences on aquatic and terrestrial ecosys-73 tems. Thus, the mitigation of MPs through the adoption of strict regulatory measures 74 and the development of sustainable methods for MP mitigation from the environment 75 is of utmost importance. 76

## 77 **1.1 Sources**

<sup>78</sup> MP pollution is a rapidly advancing environmental threat, demanding a comprehensive understanding of the sources governing MP production. Gaining insights into these sources is vital to disentangle their complex source–pathway–sink interrelationships. The most prevalent origins of MP can be classified into primary and secondary sources (Borah et al., 2023) (Fig. 2).

a. Primary Sources: Sources, which intentionally manufacture MPs, which are
 deliberately produced for various purposes such as in cosmetics, personal care
 products such as scrubs and facials, and industrial applications, are known
 as primary sources of MPs. They are mainly comprised of microbeads and
 microfibers which are often easily released into the environment.

 b. Secondary Sources: Secondary sources refer to the unintentional generation of MPs through the breakdown of bulk plastic materials. Plastic debris can undergo fragmentation due to natural physical, chemical, or biological stressors, operating independently of artificial external factors, ultimately transforming bulk plastic debris into microplastic.

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Fig. 1 A concise overview of the escalating microplastic pollution in the ecosystem and its core aspects



**Fig. 2** Primary and secondary sources of MPs. Borah et al., 2023 Copyright © 2023, The Author(s), under exclusive licence to Springer Science Business Media, LLC, part of Springer Nature ()

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#### 93 1.2 Global Distribution

The distribution of MPs across the globe through different routes and the factors 94 involved in its transportation are important aspects of MP pollution. Recent research 95 reveals that MP is on its way to be ubiquitously present in nearly all global ecosys-96 tems, encompassing ocean, glaciers, freshwater systems, soil, and atmosphere, 97 signifying their extensive distribution throughout the planet. Currently, wastew-98 ater treatment plants (WWTPs), plastic microbeads, synthetic textile production, aa and many other MP sources have been put under the scrutiny of researchers and 100 environmentalists (Tadsuwan & Babel, 2022). 101

Untreated or inadequately treated wastewater from WWTPs and industrial facil-102 ities can harbor MPs from various sources. MPs can be released into their neigh-103 boring environment, including water bodies such as rivers and streams. MPs can 104 be discharged into water bodies or infiltrate terrestrial soil. In marine environments, 105 ocean currents play a significant role in MP transportation, resulting in their global 106 distribution. Similarly, within freshwater systems, microplastics can be transported 107 by the flow of rivers and streams, consequently accumulating in lakes and reservoirs 108 (Lu et al., 2023). Interestingly, recent studies have provided evidence that MPs can 109 also be present in tap water, drinking water, and bottled water (Muhib et al., 2023; 110 Sol et al., 2023; Tse et al., 2022). 111

Furthermore, MPs can leak into the air through various routes. Urban and indus-112 trial locations are major areas where high atmospheric MP content is present; while it 113 has been hypothesized that remote areas may also be equivalently contaminated over 114 the next few years. Subsequently, these atmospheric MPs can remain suspended or 115 deposit over a variety of surfaces (atmospheric deposition), and may further undergo 116 short/long-range transport through influential factors such as wind speed and direc-117 tion (Roblin et al., 2020). Finally, deposited atmospheric MPs can create toxic reper-118 cussions. These pollutants are capable of depositing in a number of habitats, with 119 humans being particularly susceptible to inhalation of suspended atmospheric MPs. 120 Table 1 is a compilation of the MPs detected at various locations, depicting their 121 global distribution. 122

In recent years, the deposition of MPs in remote and seemingly pristine areas, 123 such as mountainous regions (Parolini et al., 2021; Talukdar et al., 2023; Yang et al., 124 2022), arctic regions (Hamilton et al., 2021; Primpke et al., 2022), Antarctic regions 125 (Rota et al., 2022), and glaciers (Dong et al., 2021; Zhang et al., 2022b) has grabbed 126 a surprising pivotal point for researchers. Despite the absence of significant plastic 127 consumption and human interventions in these regions, studies have revealed unex-128 pected and noteworthy levels of MPs. Recent research indicates that atmospheric 129 deposition is a prominent route for detecting MPs in isolated areas (Evangeliou 130 et al., 2020). Consequently, there is a crucial need to assess the occurrence of MPs 131 in distant regions and understand the various trajectories, including wind and water 132 transport. 133

MP	Size	Shape	Deposition	Location	References
PP, RY, PES, PS	50–2210 µm	Fibers, fragments, granules	0.013–0.063 N/m <sup>3</sup>	South China Sea	Ding et al., (2021)
PET, PAN, PP, PA	50 μm–5 mm	Fibers, fragments, films and microbeads	51–178 particles/m <sup>2</sup> / d	Rooftop, China	Huang et al., (2021)
PE and PP	51–67 μm	Fibers	$\begin{array}{c} 1.1 \times 10^3 \pm 0.06 \times \\ 10^3 \text{ to } 3.5 \times 10^3 \pm \\ 0.3 \times 10^3 \text{ particles/} \\ \text{m}^2/\text{day} \end{array}$	Urban waters, China	Sun et al., (2022)
PP, PET, PE, PS, PVC	≤30 μm	Fibers and fragments	178 (±79) MP/m <sup>2</sup> / day	Central Pyrenees	Allen et al., (2021)
MP	<100 µm	Amorphous fragments	$10^5$ items m <sup>-2</sup> d <sup>-1</sup>	Dining/ drinking venues, China	Fang et al., (2022)
PE, PET, PES, HDPE, LDPE	50–1910 μm	Fibers and fragments	$0.39 \pm 0.39$ to $4.91 \pm 2.48$ MPs/L	Aosta Valley, Western Italian Alps	Parolini et al., (2021)
PES and PP	5–5000 μm	Fibers, films, and fragments	$\begin{array}{c} 0 \ m^{-2} d^{-1} \ to \\ 30 \ m^{-2} d^{-1} \end{array}$	Coastal zone, Southern Baltic area	Szewc et al., (2021)
PP, PE, PVC	300–5000 μm	Fibers, films and fragments	71–917 items $m^{-2} d^{-1}$	South of Vietnam	Truong et al., (2021)
PS, PE, PES and Polybutadiene	500–1000 μm	Foam, Fragment and Fibers	$3-40$ particles $m^{-2}d^{-1}$	Jakarta, Indonesia	Purwiyanto et al., (2022)
PS and PE	≤50 μm	Fragment, films, fibers	365 particles m <sup>-2</sup> d <sup>-1</sup>	Saharan-, North African	Allen et al., (2019)
PET, PA, and PVF	<1000 µm	Fibers	$3261.22 \pm 2847.99$ particles $\cdot m^{-2}d^{-1}$	Shanghai, China	Jia et al., 2022)
PET	- 2	Fibers	0.0046 to 0.064 items/m <sup>3</sup>	North-western Pacific Ocean	Ding et al., (2022)
PP, PS, PVC, PE and PET	<11 µm	-	10–367 N m <sup>-2</sup> day <sup>-1</sup>	Weser River catchment	Kernchen et al., (2022)
PET	50–500 μm	Fragments and fibers	$353.83 \text{ N m}^{-2} \text{ d}^{-1}$	Lanzhou, China	Liu et al., (2022)

 Table 1
 Studies carried out across the globe for understanding the widespread deposition of MPs at different locations

PP: Polyethylene; PAN: Polyacrylonitrile; RY: Rayon; PES: Polyester; PS: Polystyrene; PET: Polyethylene Terephthalate; PP: Polypropylene; PVF: Polyvinyl Fluoride; PA: Polyamide; PVC: Polyvinyl Chloride

## 134 2 Microplastic Imprint

#### 135 2.1 Aquatic and Terrestrial System

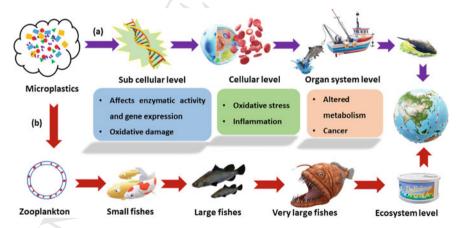
Various organisms may ingest MPs under the assumption that they are food sources.
 Ingestion of MPs has been reported to cause physical injuries, blockages in the
 digestive tract, and hinder nutrient absorption, potentially causing malnutrition and
 mortality. Besides, MPs can infiltrate the soil, thereby altering soil properties, and
 causing harm to microorganisms. Some of the major impacts of MPs on both
 terrestrial and aquatic systems have been highlighted.

142 a. Bioaccumulation and Biomagnification

MPs can penetrate the food chain and cause bioaccumulation, where they gradually accumulate in the tissues of living organisms. Additionally, biomagnification phenomena may also take place in which MP concentration increases as they ascend the food chain. This suggests that apex predators in the food chain may face increased vulnerability (Borah et al., 2023) (Fig. 3). Bioaccumulation of MPs can lead to oxidative stress, inflammation, and damage to cells and tissues.

149 b. Reproduction and Growth

The ability to reproduce may also be hindered as a consequence of MP exposure.
 Recent studies reveal hindered larval development and decreased hatching successes.
 This can have detrimental effects on the dynamics of marine species under long term exposure to MPs. Ingested MPs can cause a lowered ability to absorb nutrients,
 resulting in lower reproduction rates and reduced growth rates. Additionally, the



**Fig. 3** The flow of MPs from lower level to higher level organisms in the food chain. Borah et al., 2023 *Copyright* © 2023, *The Author(s), under exclusive licence to Springer Science Business Media, LLC, part of Springer Nature* ()

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accumulation of MPs in tissues can directly affect the health and growth of offspring,
 leading to reduced survival rates.

157 c. Chemical Contamination

Plastic products often contain chemical additives, which are used to enhance 158 their various physical and chemical properties. For instance, bisphenol A has been 150 largely used in various plastic products. The release of plastic additives into the 160 environment alongside MPs can lead to enhanced toxicity. Additionally, MPs may 161 have the ability to interact with pesticides, heavy metals, nano-waste, and other 162 hazardous contaminants, resulting in potentially harmful repercussions. Organisms 163 at the lower end of the food chain ingest MPs, and the associated toxins and chemicals 164 can be transferred up the food chain to higher level predators. 165

## 166 2.2 Human Health

Microplastics present an emerging hazard to human health due to their trivial size and
ubiquitous dispersion in different environments. Figure 4 demonstrates the myriad
pathways that facilitate human exposure to MPs. Through multiple exposure routes,
including consumption, respiration, and dermal absorption, these pollutants can
infiltrate the human physiological system. As research continues, comprehending,
assessing, and mitigating the risks of MPs becomes imperative for ensuring public
safety and environmental well-being.

Humans can be affected by MPs through various pathways:

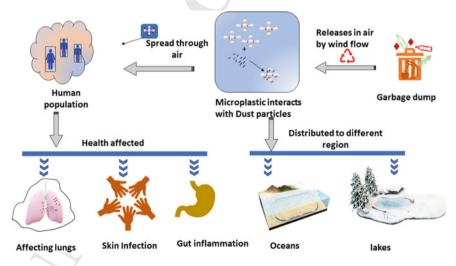


Fig. 4 Interaction of MPs with the human health and the environment

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- 9 \*Exploring the Core Aspects of Microplastic Pollution: Origin ...
- a. Ingestion: MPs can contaminate seafood, bottled water, and the soil. This
  indicates that consuming MP-contaminated seafood and drinking water, or
  eating crops grown in microplastic-contaminated soil can directly expose human
  lifestyle to MPs (Alberghini et al., 2022; Patil et al., 2022). Once ingested, MPs
  may lead to bioaccumulation in the gastrointestinal tract, causing inflammation
  and physical damage.
- b. Inhalation: Airborne MPs can be inhaled, leading to respiratory exposure. Recent reports have concluded a high concentration of fibrous MPs (Vianello et al., 2019; Yuan et al., 2022). Additionally, young children have been reported to be at higher risk of MP inhalation.
- c. Health and Gut: Although research has not achieved advanced stages, there are primitive studies through mouse models and human cell lines, which have reported adverse health effects such as inflammation and oxidative stress (Bahadur et al., 2023). Moreover, bioaccumulation of MPs may also occur due to long-term exposure.
- d. Chemical Contamination: MPs may function as carriers for the transportation of hazardous plastic additives, heavy metals, organic contaminants, airborne viruses such as COVID-19, and other environmental pollutants into the human body (Amato-Lourenço et al., 2022; Pandey et al., 2021). These chemicals and cocontaminants can potentially trigger a wide range of detrimental consequences on human health, including cancer, cardiovascular, and respiratory illness (Osman et al., 2023).

# 197 **3** Detection and Analysis

Numerous advanced techniques are incorporated for the detection and analysis of
 MPs to comprehensively elucidate their spatial dispersal, prevalence, and possible
 repercussions. The key techniques involved in the MPs research and investigations
 have been summarized.

- a. Optical microscopy: Optical microscopy enables visual identification and char acterization of MPs to determine their shape, size, and morphology (Huang et al.,
   2023). This provides essential information on individual particles and often acts
   as the initial step in MP detection and analysis.
- b. Electron Microscopy: Scanning electron microscopy (SEM) and transmission electron microscopy (TEM) enable high-magnification images for even very small particles (Huang et al., 2023). SEM, in particular, confirms the morphology, texture, and shape of MPs through high-resolution images. Additionally, elemental composition and components of chemical additives or other co-contaminants can be analyzed through energy-dispersive X-ray spectroscopy (EDS).
- c. Infrared Spectroscopy: Fourier-transform infrared spectroscopy (FTIR) serves as
   a vital method in characterizing the chemical composition of MPs, enabling the
   differentiation of distinct plastic polymers, and ensuring accurate identification

(Huang et al., 2023). Furthermore, integrating microscopy with FTIR, in the form of  $\mu$ -FTIR, offers a direct analytical approach for MPs, providing comprehensive insights into their chemical attributes. Thus, this integration enhances precision and in-depth analysis.

d. Raman Spectroscopy: This technique is used to analyze the chemical structure of different polymers through molecular vibrations (Huang et al., 2023). Similar to  $\mu$ -FTIR, micro-Raman Spectroscopy combines spectroscopy with Raman, enabling in-situ characterization with enhanced sensitivity.

e. Pyrolysis Gas Chromatography-Mass spectrometry: In this technique, pyrolysis
 is employed to thermally degrade MP, resulting in the release of gases. The anal ysis of these liberated gases allows a comprehensive assessment of the chemical
 composition of MP (Huang et al., 2023).

#### **228 4 Policy and Regulations**

An important global trend in the last ten years has been the adoption of environmental 229 legal authorities to reduce the impact of plastic waste. Current available science and 230 technology may not be able to completely eradicate MPs generated from the enor-231 mous litter accumulated due to the never-ending usage of plastics. However, it is truly 232 possible to reduce the usage and accumulation of plastic waste through the adoption 233 of strict policies. The recent consensus among global experts, leaders, and environ-234 mentalists underscores the necessity for the development of robust plastic policies. 235 Effective measures should not only encompass recycling requirements but also entail 236 restrictions on plastic manufacturing and extended producer responsibility (EPR). 237 Given the possible outcomes of all forms of plastic waste, effective strategies must 238 be devised to holistically address the challenges posed by plastic waste management 239 (Seay & Ternes, 2022). 240

Nearly half a decade ago, the United Nations (UN) highlighted, in its study "Legal 241 Limits on Single-Use Plastics and Microplastics: A Global Review of National Laws 242 and Regulations" published on December 5, 2018, that out of the 192 countries 243 examined, 127 have passed laws governing plastic bags, most often limiting their 244 use in free retail distribution. It also reported that out of the 192 countries, 27 countries 245 had imposed a strict ban on SUPs, an effort that reduces the leakage of SUPs, such 246 as plastic water bottles and polythene carry bags into different ecosystems. In the 247 same, it was reported that 63 nations had introduced extended producer responsibility 248 measures, while 29 had imposed various taxes on SUPs (UNEP, 2018a). Some of the 249 recent policies, amendments, and rules imposed by the international organizations, 250 European Union (EU) and United Nations Environment Program (UNEP), have been 251 briefly discussed. This is also followed by a brief discussion on some of the actions 252 and policies adopted by the Indian government to eliminate plastics. 253

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## 254 4.1 The European Union

When it comes to sustainability and circularity, the EU has been setting the pace. 255 The restriction procedure was initiated by REACH (acronym of the EU chemical 256 regulation), when the European Commission urged the European Chemical Agency 257 (ECHA) to draft a restriction dossier on MPs in November 2017 (European Commis-258 sion, 2017; European Union, 2007). European nations have placed an efficient plastic 259 waste management system (Jambeck et al., 2015). During the period of 2012–2014, 260 these efforts enabled significant improvement in plastic recycling, raising the recy-261 cling rate from 34.7 to 39.5% (Lam et al., 2018). Additionally, the European Commis-262 sion simultaneously unveiled a new project to lower the unintended MP discharge 263 into the environment along with the European Green Deal (European Commission, 264 2015). It seeks to: 265

- Prevent the unintended release of MPs, implement labeling, standardization, certification, and regulatory measures, as well as strategies to increase the capture of MPs at all pertinent points in a product's lifecycle.
- Develop and standardize measurement techniques for accidentally released MPs, particularly from tires and textiles, and offer standardized details on the concentrations of MPs in seawater.
- Address the information gaps about the danger and prevalence of MPs in the air, food, and water supplies.

More recently, the Circular Economy Action Plan was adopted by the EU on March 11, 2020. It covers textiles, electronics, construction, buildings, vehicles, packaging, batteries, plastics, food, water, and nutrients. This approach primarily targets MPs, especially those that are inadvertently emitted from tires and fabrics. One of the major objectives of this plan is to conduct a risk assessment associated with the generation and release of MPs into the environment, as well as explore alternatives such as bio-based plastics (Seay & Ternes, 2022).

#### 281 4.2 United Nations Environment Programme

In 2010, the Global Partnership on Waste Management (GPWM) under the United 282 Nations Environment Programme (UNEP) established a platform for collaboration 283 with international and non-governmental entities for effective waste management. 284 This initiative is considered a viable approach to address plastic pollution in the 285 marine environment through coordinated efforts and alternative strategies. To combat 286 marine plastic pollution, UNEP has played a significant part in synchronizing initia-287 tives within the UN. Collaborating with the Joint Group of Experts on Scientific 288 Aspects of Marine Environmental Protection (GESAMP) and various UN agencies, 289 UNEP actively combats plastic pollution (Kershaw et al., 2019). As a part of its efforts 290 to achieve Sustainable Development Goals (SDG) Indicator 14.1.1b, UNEP actively 291

works for the development of sub-indicators to report marine plastics. GESAMP has proposed potential sub-indicators, which include regulating and reporting beach litter, water column plastics, MPs, floating and seabed plastic, and ingestion of plastics (Walker, 2021). Another effort to reduce pollution and create a cleaner environment is Sustainable Materials Management (UNEP, 2018b). Moreover, to limit the amount of plastic in the environment, a secondary market for recycled materials can also be established (Thushari & Senevirathna, 2020).

In a recent report, titled "For people and planet," the UNEP has developed a 299 new strategy (Medium Term Strategy 2022–2025) which is designed to address 300 critical global challenges, including climate change, loss in biodiversity, and pollution 301 of various forms, during the period from 2022 to 2025 (UNEP, 2022a). In its 5th 302 session, the United Nations Environment Assembly (UNEA) recognized that plastic 303 pollution includes MPs, and thereby adopted the resolution "End Plastic Pollution" 304 on March 2nd,2022 (UNEP, 2022b). It affirmed the necessity of creating globally 305 strong cooperative and coordinated governance for eliminating the long-term plastic 306 life cycle and avoiding further plastic-derived detriment towards all ecosystems. 307

## 308 4.3 Indian Government

India has demonstrated a strong determination to combat the environmental pollu-309 tion stemming from SUP waste. As a proactive participant, at the 4th UNEA, India 310 spearheaded the development of a resolution concerning the growing SUP pollu-311 tion. This highlights India's recognition of the urgent necessity for the international 312 community to prioritize and address the multifaceted challenges posed by SUP waste. 313 A recent amendment (Plastic Waste Management (Amendment) Rules, 2021) was 314 drafted in August 2021 and published in view of the growing MP contamination 315 (MOEFCC, 2021). These rules include: 316

- (I) SUPs such as PS and expanded polystyrene, as well as products like plastic sticks of earbuds, balloon sticks, flags, cups and plates, cutlery like forks, spoons, straws and knives, trays, wrapping or packing films around candy boxes, invitation cards, and cigarette packets, as well as plastic or PVC banners smaller than 100 microns, are prohibited from July 1st,2022.
- <sup>322</sup> (II) To reduce the littering of lightweight plastic carry bags, the thickness of plastic <sup>323</sup> carry bags has been adjusted from 50 to 75  $\mu$  with effect from September 30, <sup>324</sup> 2021. It was further adjusted to 100 and 20  $\mu$  with effect from December 31, <sup>325</sup> 2022. As a result of the increased thickness, such plastic carriers can be reused.

In alignment with the 2016 Plastic Waste Management Rules, specific provisions have been placed to manage plastic packaging waste in an environmentally sustainable manner. While certain SUP items are subject to phase-out measures, plastic packaging waste that falls outside this scope must be collected and handled in an ecologically responsible manner. The management of such plastic wastes has been included under the EPR of the manufacturer, trader, and product owner. Furthermore,

the Swachh Bharat Mission is also working towards creating improvements in the 332 waste management infrastructure. The Indian Government also emphasizes on the 333 importance of education and awareness among children and the youth who essen-334 tially shape the future of our planet. The India Plastic Challenge—Hackathon 2021 335 is a targeted event designed for Higher Educational Institutions and startups that 336 have received recognition under the Startup India Initiative. Its goal is to emphasize 337 and promote innovations to develop alternatives to SUPs and determine adoptable 338 measures and solutions to plastic waste management. 339

For efficiently abolishing SUPs and the successful execution of Plastic Waste 340 Management Rules, 2016, various Indian states and UTs have been instructed to 341 form a Special Task Force. Various actions have been adopted for improving the 342 application of various Plastic Waste Management Rules. For instance, Kerala is 343 one of the Indian states, which has embarked on its mission to develop a plastic-344 free environment (Joshi & Ahmed, 2016). As a part of the project "Zero-waste 345 Kovalam," a "Plastic-free" campaign has been launched at the Kovalam beach by 346 Kerala tourism. People are encouraged to use plastic alternatives like cloth and paper 347 bags. Additionally, plants for recycling plastic wastes to oil have also been set up. 348

However, despite the global recognition and emphasis on plastic waste management and the adoption of improved recycling and mitigation approaches, recent scientific studies reveal that a substantial portion of environmental plastic is still derived by MPs shed from plastics. Capturing these MPs is neither envisaged nor achievable under current strategies (NASEM, 2022). Thus, mitigating MPs shed into our ecosystems needs to be further regulated by imposing more specific legislation regarding the manufacture and usage of primary and secondary sources of MPs.

#### **356 5 Key Recap Points**

This chapter serves as a stepping stone in advancing our knowledge and awareness of MPs, providing a solid foundation for future research aimed at mitigating MPs. The following are the key points highlighted in this exploration of the intricate world of MPs:

- The widespread distribution of MPs can be attributed to both intentional and unintentional generation of MPs. Transportation of MPs is influenced by various factors, such as river water flow, ocean currents, soil infiltration, and wind speed and direction.
- MPs can leave a significant imprint on diverse aquatic and terrestrial ecosystems, posing risks to organisms across all levels of the food chain.
- Human health faces potential risks due to inhalation, ingestion, and chemical contamination of MPs, demanding in-depth investigations to develop a comprehensive understanding.

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- Highly precise and accurate analytical techniques are essential for microplastic detection, often requiring a combination of multiple methods to enhance research efforts.
- Effective mitigation of MPs must begin with sound plastic waste management. Furthermore, strengthening existing policies and regulations associated with plastic pollution, with a primary focus on MP pollution, is imperative to emphasize its urgency.

## 377 6 Conclusion

This chapter provides insights into the fundamental facets of microplastic pollution, 378 emphasizing its global significance and multifaceted influence on both the environ-379 ment and human health. In-depth analysis of sources, detection methodologies, and 380 robust regulatory frameworks play a crucial role in achieving effective MP miti-381 gation. A holistic approach, involving collaborative efforts between policymakers, 382 scientists, industries, and the public is essential for achieving fruitful advancements. 383 Adopting sustainable practices, adopting the 3Rs (reduce, reuse, and recycle), and 384 promoting innovations for the removal of MPs from different systems are vital steps 385 in combatting MP pollution. 386

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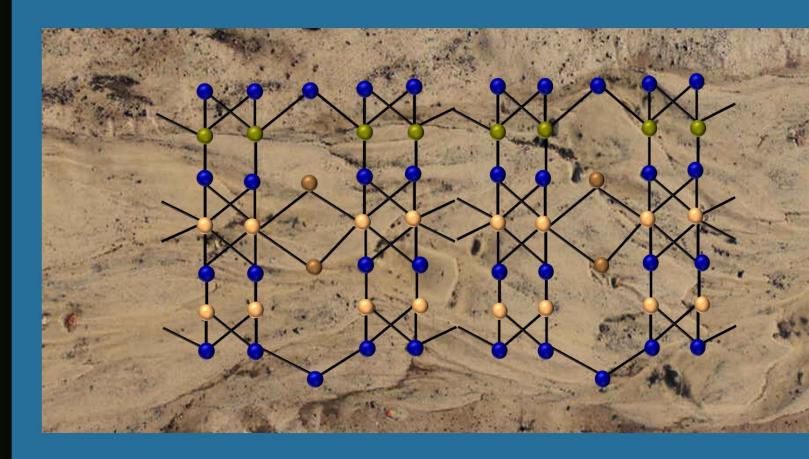
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# Chapter 9

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CHARACTERIZATION AND APPLICATIONS OF CLAY AS A NOVEL MATERIAL



Edited by Neeraj Kumari and Chandra Mohan Characterization and Applications of Clay as a Novel Material

# Characterization and Applications of Clay as a Novel Material

Edited by

Neeraj Kumari and Chandra Mohan

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Edited by Neeraj Kumari and Chandra Mohan

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# CHAPTER 10

# APPLICATION OF CLAY IN CONSTRUCTION INDUSTRY

# MANJEET SINGH BARWA<sup>A</sup>, SHUBHRA BARWA<sup>B</sup> AND CHANDRA MOHAN<sup>C</sup>

<sup>A</sup>Department of Chemistry, Zakir Husain Delhi College, (University of Delhi) New Delhi-110002
 <sup>B</sup>Bhaskaracharya College of Applied Sciences (University of Delhi) New Delhi- 110075
 <sup>c</sup>School of Basic and Applied Sciences, K R Mangalam University, Gurugram – 122103 (India)

# Abstract

Clay is a finely-grained natural stone or soil material, for example, stone and wood. It has been used for construction and development for thousands of years. It is made of at least one earth mineral (like kaolinites or smectites), now and again with little amounts of quartz, metal oxides, and natural matter. Clay is shaped gradually because of enduring and disintegration of rocks containing the mineral gathering known as feldspar. Clay is one of the oldest structure materials utilized for construction. The capacity of this regular material to harden under specific circumstances makes it conceivable to involve it for different purposes in the development of various structures. The defining ingredient of loam is clay, which is one of the oldest building materials on Earth among other antiquated, normally occurring geologic materials, for example, stone and natural materials like wood. About 66% of the total population, traditional societies, and even well-developed nations live or work in buildings made up of clay. Clay is



# STUDY OF CONDUCTING POLYMER PEDOT: PSS AND ITS OPTICAL AND ELECTRICAL PROPERTIES

Arvind Singh<sup>1</sup>, Gayatri Shishodiya<sup>2</sup>, Vishal Goswami<sup>3</sup> and Neelam Pahwa<sup>4\*</sup> <sup>1</sup>Department of Physics, G. N. Khalsa College,

University of Mumbai, NP Marg, Mumbai 400019, Maharashtra, India

<sup>2</sup>Department of Physics, Zakir Husain Delhi College.

University of Delhi, J.L.N. Marg, New Delhi 110001, India

<sup>3</sup>Department of Physics, S.S. & L.S. Patkar Varde College,

University of Mumbai, Goregaon (W), Mumbai 400019, Maharashtra, India

<sup>4</sup>Department of Electronics, Zakir Husain Delhi College,

University of Delhi, J.L.N. Marg, New Delhi 110001, India

\*Corresponding author E-mail: neelam.zhc@gmail.com

#### Abstract:

chapter briefly describes the theoretical background pertinent to This Poly(3,4ethylenedioxythiophene): poly (styrene sulfonic acid) (PEDOT: PSS) conducting polymer. It begins with the theoretical fundamentals of polymers, conducting polymer, PEDOT: PSS and proceeds with PEDOT: PSS polymer thin films. This chapter also discusses influence of the molecular structure on electrical property of PEDOT: PSS with understanding of HOMO and LUMO. The chapter further elaborates optical properties of PEDOT: PSS by discussing its spectroscopic properties and also describes the prospective of thin films for electrical application. Keywords: PEDOT:PSS, conductivity, polymer, molecular structure and optical properties.

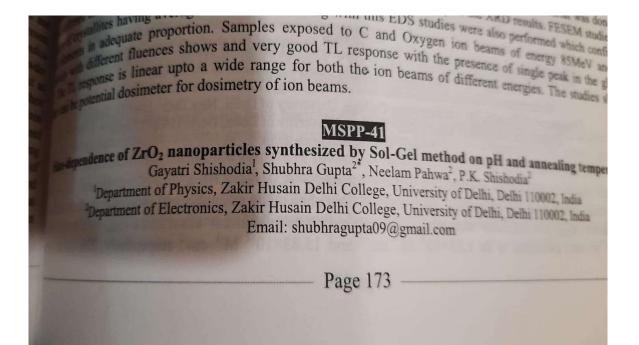
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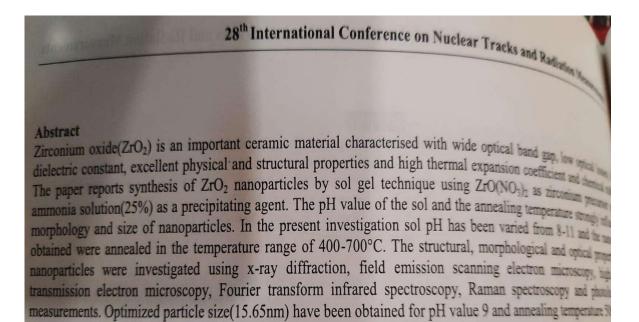
Polymers are a large class of materials consisting of many small molecules (called monomers) which are linked together to form long chains. Lengths of these chains in commercial polymers may vary from 1000 to 10,000 units. Humans have used the versatility of polymers for centuries in the form of oils, tars, resins, and gums. Because of their large size, polymers are classified as macromolecules. Cellulose is an example of a polymeric material which must be substantially modified before processing with the usual methods used for plastics. Every day plastics such as polyethylene and poly(vinyl chloride) have replaced traditional materials like paper, metal, glass, wood and copper for a wide variety of applications. Some plastics, such as hylon and cellulose acetate, are formed into fibers [1-4].

The process of formation of polymers from respective monomers is called polymerization. The monomers generally ' ave a parent compound with a double chemical bond that opens up to form a single bond during the polymerization reaction that forms the polymers. For example,

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	Dr. Anirvan Gupta
	Assistant Professor, School of Basic and Applied Sciences
	JSPM University, Wagholi, Pune Nagar Road,
	Pune - 412207
339	3 Vacuum Pumps
	Dr. K. S. Thakare
	Associate Professor, Department of Physics,
	M.S.G. College, Malegaon Camp, Nashik, 423105
19	4 Vacuum Measurements
	Mr. Nandkishor S. Sangle
	Assistant Professor, Department of Physics,
	KVN's Naik Arts commerce and Science College,
	Canada Corner, Nashik-422002
	5 Mechanism of Thin Film Formation
	Ms. Dighe Priyanka Sukhdey
	Research Lab, Department of Physics,
	Mumbai University, Mumbai 400098
	6 Synthesis of Thin Films
	Dr. Shanware Lalitkumar Marutrao
	Assistant Professor, Department of Physics,
	Netaji Subashchandra Science College,
	7 Diamond-like Carbon Thin Films
	Dr. Nikam S. M.
	Assistant Professor, Department of Electronics,
8	I nin ruins of ruga-remperature superconductors
	Dr. Kale Ankit S.
	Assistant professor, Department of Electronics,
	Ashoka centre For Business and Computer Studies, College,
	Chandshi, Dist: Nashik. Pin: 422013
9	Thin Films of Organic Materials
	Dr. Arvind Rajdeo Singh
	Assistant Professor, Department of Physics,
	G. N. Khalsa College,
	NP Marg, Matunga, Mumbai 400019
10	Thin Film for Sensors
10	Dr. Tanaji P. Gujar
	Assistant Professor, Department of Physics,
	ADT's Shardabai Pawar Mahila Arts, Commerce and Science College,
	Shardanagar, Tal-Baramati, Dist-Pune, 413115
11	Factors Affecting Structure of Thin Films Dr. Dhiware Manisha Daryao
	Assistant Professor, PG Department of Physics,
	KVN Naik Arts, Commerce and Science College,
	Canada Corner, Nashik 422002
12	Properties of Thin Films
	Dr. Bhise Ramesh Baburao
	Assistant Professor, PG Department of Physics,
	DGM's Balasaheb Jadhav College,
	Aale, Tal: Junnar, Dist: Pune 412411
13	Thin Film Thickness Measurement Techniques and Calibration
	Dr. Neelam Pahwa
	Associate Professor, Department of Electronics,
	Zakir Husain Delhi College,
	Zakli Husaili Delli College,
	University of Delhi, J.L.N. Marg,
	University of Delhi, J.L.N. Marg, New Delhi 110001
14	University of Delhi, J.L.N. Marg, New Delhi 110001 Mechanical Properties and Industrial Application of Thin Film
14	University of Delhi, J.L.N. Marg, New Delhi 110001 Mechanical Properties and Industrial Application of Thin Film Dr. Kapure G. P.
14	University of Delhi, J.L.N. Marg, New Delhi 110001 Mechanical Properties and Industrial Application of Thin Film





of the reduction process on functional groups of GO sheets was by Fourier Transform Infrared spectroscopy. The electrical conductivity of the samples was determined by the fourmethod. The gas sensing properties of the synthesizednanocomposite sensors have been studied for different gases at temperature. Synthesized materialprovides sufficient band gap tuning for better gas sensing properties and fulfill tions for room-temperaturegassensors.

## MSPP-35

endural, optical and surface studies of Cadmium Telluride thin films of Nanometer thickness range Neelam Pahwa<sup>1\*</sup>, Arvind R. Singh<sup>2</sup>, Gayatri Shishodia<sup>3</sup>

Department of Electronics, Zakir Husain Delhi College, University of Delhi, J.L.N. Marg, New Delhi 110001, India Department of Physics, G. N. Khalsa College, University of Mumbai, NP Marg, Mumbai 400019, Maharashtra, India <sup>3</sup>Department of Physics, Zakir Husain Delhi College, University of Delhi, J.L.N. Marg, New Delhi 110001, India Email: neelam.zhc@zh.du.ac.in

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28th International Conference on Nuclear Tracks and Radiation Mean

Abstract CdTe thin films grown by thermal evaporation on quartz substrates with thickness varying from 80 nm - 120 nm were and billion in the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a fun CdTe thin films grown by thermal evaporation on quarte substance of the studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties. The modification in the structure and optical properties has been studied as a function of the structure and UV-visible spectroscopy. Surface morphology of Code for their properties. The modification in the structure and optical properties spectroscopy. Surface morphology of Cadmius Teactor (XRD), Micro-Raman spectroscopy and UV-visible spectroscopy. Surface morphology of Cadmius Teactor (AFM). The power values of power spectral denses are the second se Ray Diffraction (XRD), Micro-Raman spectroscopy and of this of the power values of power spectral density (PSD) in the thin films is characterized by using atomic force microscopy (AFM). The power values of power spectral density (PSD) in the thin films is characterized by using atomic force microscopy (EFT) algorithms instead of the pottman. AFM digital data were determined by the fast Fourier transform (FFT) algorithms instead of the root-mean-square (ms) ad peak-to-valley value. The PSD plots of CdTe films are successfully approximated by the k-correlation model. CdTe films we oriented in the (111) and (311) plane in cubic phase. The XRD showed increase in crystallite size with increasing thickness. micro-Raman spectrum, LO and TO modes of CdTe and A,& E modes of Te were observed with blue shift which was found increase with increase in thickness. Intensity of these modes increased with increase in thickness. UV-transmission show pronounced interference fringes, indicating a good quality of the films. Transmittance decreased with increase in thickness of films. The bandgap was found to vary in the range 1.42-1.51 eV with thickness. With PSD analysis and Fractal analysis, it found that surface of the film of thickness 100 nm has better surface morphology with uniform grain size and ideal fractalness

# CONFLICT & COPING TH EAST INDIA

# IN NORTH EAST INDIA the role of memory

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# Chapter - 7

# Violence, Gender and Memory: Remembrance through 'Imaginary History'

# Manashi Misra

Immediately post India's independence, Assam's relationship with the Central Government was marked with bitter contestations over rehabilitation of refugees, economic assistance, and immigration (Misra 2017, 12). As pointed out by Historian Yasmin Saikia (2004), the politics of geography combined with the lack of clarity about its 'political and cultural position' in the newly emerged nation-state led to the 'frontier mentality' about this region and its people (p 9). In addition, the disparity of development and a sense of deprivation vis-à-vis the rest of India translated to increasing public resentment that found expression in a number of mass movements in the decades following independence. Soon, some sections of the population lost their confidence in non-violent protest movements, thereby choosing the path of militancy-imitating insurgents in the neighbouring states of Nagaland and Manipur (Saikia 2004, 9-11). This led to the rise of separatist militancy in Assam in the form of the United Liberation Front of Assam (ULFA). The assertion of the Assamese identity through a reconstruction of a perceived golden past became the focal point of these of these movements; which as one scholar points out to always

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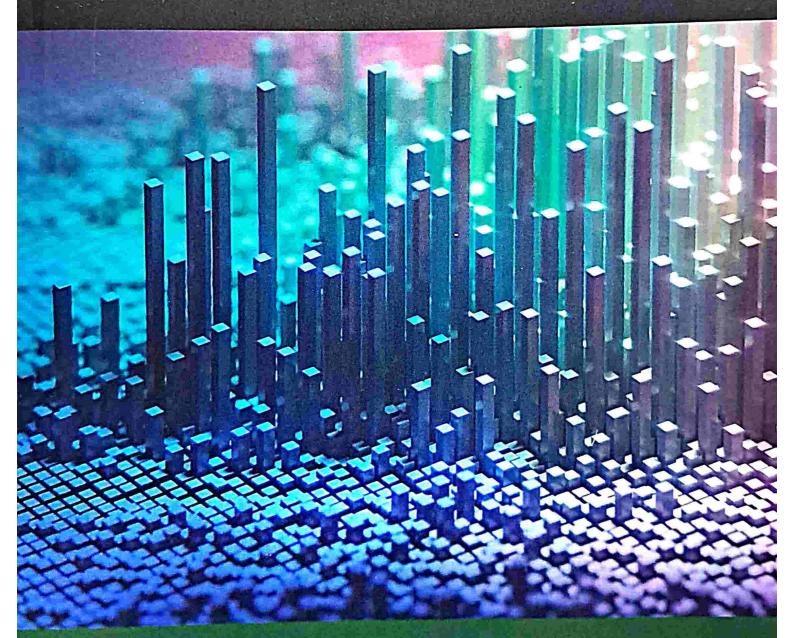
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### INDIA AND INNER ASIA

Commerce, Culture and Connectivity

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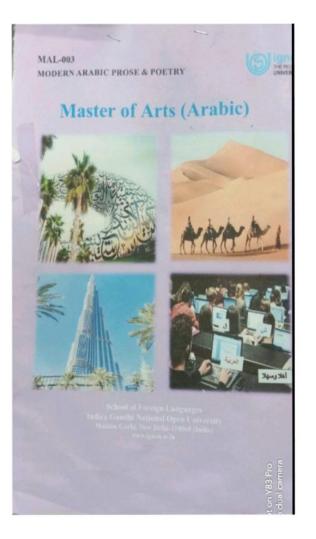
Gatikrushna Mahanta

#### Introduction

The Eurasian region holds economic and strategic significance for India. Although India has established friendly relations with the post-Soviet countries after their independence, it has not been able to use the opportunity to develop vibrant economic cooperation with these states. The former Soviet Union was India's major trade partner. However, India's trade with the 15 post-Soviet countries has varied from about 1.53 per cent to 2.16 per cent in the last eight years ending 2021–2022 (see Table 13.1). Connectivity has been one of the major hurdles in enhancing trade ties with Eurasia.

There is a renewed Indian interest to develop ties with the region. For example, India's Connect Central Asia Policy (2012) reflects her interest to reengage the CARs. The policy emphasizes the need for greater connectivity with the region. Prime Minister Narendra Modi's visit to all five CARs and Russian city of Ufa for the Shanghai Cooperation Organisation (SCO) summit in July 2015 indicates India's interest in strengthening cooperation with Eurasia. India's joining in the SCO in July 2017 as a full member provides India with a common platform to share with four CARs (except Turkmenistan) and two of their significant neighbours Russia and China. India has a strategic partnership with Russia and Kazakhstan, two important members of the EAEU.

India shares a historical relationship and strategic partnership with Russia, which is India's largest trading partner in the Eurasian region (Patnaik 2017). However, till now India-Russia trade has not achieved its actual potential. The trade between India and the Eurasian region takes place via the European route or East Asian route. Lack of direct access to the region



#### EXPERT COMMITTEE

Prof. Sunil Kumar Gupta Director, SOFL, IGNOU, New Delhi

Prof. Mohammad Nauman Khan, Department of Arabic, University of Delhi

Prof. Habibullah Khan, Department of Arabic, Jamia Millia Islamia, New Delhi

Prof. Mujeebur Rahman, Centre of Arabic & African Studies, JNU, New Delhi

Prof. Naimul Hasan, Department of Arabic, University of Delhi

#### COURSE PREPARATION TEAM

Prof. Habibullah Khan (Unit 19, 20, 25, 26 and 27) Prof. Rizwanur Rahman (Unit 21) Dr. Md. Qutbuddin (Unit 22) Dr. Md. Qasim (Unit 23) Prof. Ubaidur Rahman (Unit 24)

PROGRAMME COORDINATOR

Dr. Mohammad Saleem

#### EDITING TEAM

Dr. Mohammad Saleem Dr. Tufail Ahmad

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Prof. Ashfaq Ahmad, Department of An Banaras Hindu University, Varanasi

Prof. Muzaffar Alam, Department of A English & Foreign Language Universit Hyderabad

Prof. Ubaidur Rahman, Centre of Arab African Studies, JNU, New Delhi

Dr. Thajudeen AS, Department of Arabic, University of H Kerala

#### Prof. Rizwanur Rahman, Centre of Arabic & Dr. Mohd. Qasim, Zakir Husain Delh African Studies, JNU, New Delhi College, University of Delhi

Dr. Mohammad Saleem, SOFL, IGN New Delhi









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#### TO WHOMSOEVER IT MAY CONCERN

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विदेशी भाषा विद्यापीठ School of Foreign Languages T : +91-11-29571635-29571640 : +91-11-29571631-29571632 E : sofi@ignou.ac.in इन्दिरा गाँधी राष्ट्रीय मुक्त विश्वविद्यालय Indira Gandhi National Open University मैदान गढ़ी, नई दिल्ली–110068 भारत | www.hindi.ignou.ac.in Maidan Garhi, New Delhi-110068, INDIA | www.ignou.ac.in



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## हाशिए के लोग

## हरेन्द्र सिंह असवाल

#### हरेन्द्र सिंह असवाल



जन्म : 25 अप्रैल 1962, ग्राम-कपलखील (नवासु) पही बच्छणस्यूं जिला रुद्र प्रयाग, उत्तराखंड । जिस्ता : प्राथमिक जिल्ला, गरुङ खाल पही बच्छणस्यूं, माध्यमिक शिक्षा, राजकीय इन्टर कालेज खेड़ाखाल (नवासु) पही बच्छणस्यूं तत्कालीन जिला पीड़ी गढ़वाल वर्तमान जिला रुद्रप्रयाग, उत्तराखंड, बी.ए. (आनर्स हिन्दी) एवं एम.ए. हिन्दी, दिल्ली विद्यविद्यालय, एम.फिल., पी.एच.डी. जवाहर ताल नेहरु विद्वविद्यालय से प्रो. केदारनाथ सिंह के निर्देशन में 1986-1992 ।

प्रकाशित पुस्तकें : उपन्यास 'उखड़े विखरे लोग', पिता को स्मृति को समर्पित 'पितृ-पुराण' एवं चन्द्रकुंबर बत्वांत की कविताएँ।

साय से अनेक प्रतिष्ठित पत्र-पत्रिकाओं में लेख, कविताएँ, कहानियाँ, पात्रा वृत्तांत एवं एकांकी प्रकाशित । गढ़वाली भाषा में भी कविता लेखन । पिछले तीस वर्षों से अध्ययन-अध्यापन एवं शोध निर्देशन में रत ।

सम्प्रति : जाकित हुसैन दिली कॉलेज, दिली विष्ठविद्यालय के हिन्दी विमाग में प्रोफेसर।

अपनी जड़ों की तलाज में निकलें जिज्ञासु लोग जो अपने गाँव, अपनी परंपरा को जानना चाहते हैं, उनके लिए है यह पुस्तक 'हाजिये के लोग' । इस पुस्तक में लेखक रचयिता नहीं द्रण्टा है, जिसने अपने अनुभव को झब्दों में पिरो दिया है। संस्मरणों के माध्यम से अपने गाँव, समाज और लोक जीवन को जानने का प्रयास है यह संस्मरणात्मक वृतान्त । इस पुस्तक में जो पहाड़ी गाँव, चरित्र और यटनाएँ हैं वे ऐतिहासिक हैं । इसमें पहाड़ के उन लोगों की कया है जिन्हें समाज ने हाजिए पर रखा और ये हाजिए के लोग श्रुति परम्परा के माध्यम से पारंपरिक ज्ञान, भारतीय संस्कृति, साहित्य और कलाओं को निरक्षर होते हुए भी अक्षुण्ण बनाने में मील का पत्थर साबित हुए । इनका इतिहास तो छोड़िए समाज में भी कोई स्थान नहीं है । वे इतिहास और समाज दोनो द्वारा उपेक्षित हैं । यद्यपि इनके बिना न इतिहास बनता है न समाज ।

सिबकी, सत्तरू जातक, गगनीदास, कटगर, बरेली स्वबनू, हेंसूँ, भरोंसी, आदि संस्मरण लेखक के बचपन से किशोरावस्था तक मौजूद थे लेकिन युवावस्था तक आते-आते वे इतिहास पुरुष बन गये। उनकी विद्या, उनका ज्ञान, परंपरा सिमटते-सिमटते आज लुप्त हो गई है। इन अन्तिम पीड़ी के ऋषियों को संस्मरणों के माध्यम से याद किया गया है। ये लोग किसी भी समाज की नीव हैं। नीव जो दिखाई नहीं देती लेकिन उसी पर भव्य भवन का निर्माण होता है। ये भारतीय संस्कृति के संवाहक हैं जिन्हें कभी हम शिल्पकार कहते हैं, कभी कास्तकार, कभी हरिजन, कभी दलित, कभी कामगार नाम से बुलाते है।

पुस्तक में नवासू गाँव की ऐतिहासिकता का वर्णन है। लगभग बारह सी साल का इसका इतिहास है। आज वह महान धरोहर, संस्कृति धत-विधत और नष्ट हो गई है।

गोरखाणी, लास सिंह क्षेत्री, घट, याथ भड़ली, खाँकरा, गोठ, हमारी बग्वाल, नामनाथ पोखरी आदि भी पुस्तक के संस्मरण हैं ।

पुस्तक में पहाड़ी क्षेत्र विशेष की कवाजों के संदर्भ से गौवों के देश और काल, इतिहास और समाज, धर्म और राजनीति, व्यक्ति, भाषा और समाज को समझने की कोशिश की गई है।

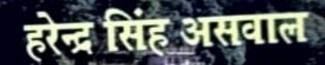


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#### हरेन्द्र सिंह जमनान



जन्म : 25 अप्रैल 1962, ग्राम-कपललील (नवासू) पट्टी बच्छणस्यूं जिला रुद्र प्रयाग, उत्तराखंड।

निता : प्रायमिक शिक्षा, गठड़ खाल पट्टी बच्छणस्यूं, माध्यमिक शिक्षा, राजकीय इन्टर कालेज खेड़ाखाल (नवासु) पट्टी बच्छणस्यूं तत्कालीन जिला पौड़ी गढ़वाल कर्तमान जिला रुद्रप्रयाग, उत्तराखंड, बी.ए. (जानर्स हिन्दी) एवं एम.ए. हिन्दी, दिजी विष्ठविद्यालय, एम. फिल., पी.एय.डी. जवाहर लाल नेहरू विष्ठविद्यालय से प्रो. केदारनाय सिंह के निर्देजन में

1986-19921

प्रकाशित पुस्तकों : उपन्यास 'उखड़े बिखरे लोग', पिता की स्मृति को समर्पित 'पितृ-पुराण' एवं चन्द्रकुंक बर्त्याल की कविताएँ।

साथ ही अनेक प्रतिष्ठित पत्र-पत्रिकाओं में लेख, कविताएँ, कहानियाँ, यात्रा वृत्तात एवं एकांकी प्रकातित । गढ़वाली भाषा में भी कविता लेखन । पिठले तीस वर्षों से अच्ययन-अच्यापन एवं जोध निर्देजन में रत । सम्प्रति : ज़ाकिर हुसैन दिल्ली कॉलेज, दिल्ली विश्वविद्यालय के हिन्दी विभाग में प्रोफेंसर ।

खेड़ाखाल कविता के माध्यम से कवि ने अपने बचपन, अपने गांव, अपनी भूमि, अपने पर्यावरण के साथ अपनी जड़ों को पहचानने की ईमानदार कोशिश की है। पहाड़ की पहाड़ सी ज़िंदगी से मुक्त होकर शहर में रहते हुए भी पहाड़ को न भूल पाने की छटपटाहट और गांव से भावनात्मक लगाव के परिणाम स्वरूप व्यग्यात्मक शैली में लिखे गए इस कविता संग्रह का नाम खेड़ाखाल रखा गया है।

कविता संग्रह में एक तरफ हिमालय, गांव, सूर्योदय, हिमपात, बादल, नदी, पलायन, विकास और विनाझ और सड़क कविताओं के माध्यम से पहाड़ के सौंदर्य और समस्याओं का वर्णन किया गया है। वहीं दूसरी तरफ झहर की गमी, धुंध, बारिश और ठंड का भी वर्णन है। इसमें भारत के अंतर्राष्ट्रीय संबंधों, वर्तमान साहित्य और साहित्यकारों, समाचार चौनलों की स्थिति तथा चुनाव के समय घटने वाली असहनीय पटनाओं से बेचेन मन में उठे बवंडर शब्दों का रूप लेकर उपजे है। इस पुस्तक में स्त्री समाज के प्रति लेखक की संवेदनाशीलता और प्रगतिशील विचारधारा को प्रदर्शित होती है। बेटियां, स्त्री, नारी शीर्षक के अलावा करवाचीय और सालगिरह पर लिखी गई कविता रिश्तों के प्रति संवेदनशीलता प्रदर्शित करती है।

कोरोना काल का मानव जीवन पर प्रभाव दिखाई पड़ता है। आद्ध, राम, हरेला पर्व और सिरमुंडा के महादेव शीर्षक पर कविता लिखना लेखक की धार्मिक मनःस्थिति का घोतक है।



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## हाशिए के लोग

## हरेन्द्र सिंह असवाल

#### हरेन्द्र सिंह असवाल



जन्म : 25 अप्रैल 1962, ग्राम-कपलखील (नवासु) पही बच्छणस्यूं जिला रुद्र प्रयाग, उत्तराखंड । जिस्ता : प्राथमिक जिल्ला, गरुङ खाल पही बच्छणस्यूं, माध्यमिक शिक्षा, राजकीय इन्टर कालेज खेड़ाखाल (नवासु) पही बच्छणस्यूं तत्कालीन जिला पीड़ी गढ़वाल वर्तमान जिला रुद्रप्रयाग, उत्तराखंड, बी.ए. (आनर्स हिन्दी) एवं एम.ए. हिन्दी, दिल्ली विद्यविद्यालय, एम.फिल., पी.एच.डी. जवाहर ताल नेहरु विद्वविद्यालय से प्रो. केदारनाथ सिंह के निर्देशन में 1986-1992 ।

प्रकाशित पुस्तकें : उपन्यास 'उखड़े विखरे लोग', पिता को स्मृति को समर्पित 'पितृ-पुराण' एवं चन्द्रकुंबर बत्वांत की कविताएँ।

साय से अनेक प्रतिष्ठित पत्र-पत्रिकाओं में लेख, कविताएँ, कहानियाँ, पात्रा वृत्तांत एवं एकांकी प्रकाशित । गढ़वाली भाषा में भी कविता लेखन । पिछले तीस वर्षों से अध्ययन-अध्यापन एवं शोध निर्देशन में रत ।

सम्प्रति : जाकित हुसैन दिली कॉलेज, दिली विष्ठविद्यालय के हिन्दी विमाग में प्रोफेसर।

अपनी जड़ों की तलाज में निकलें जिज्ञासु लोग जो अपने गाँव, अपनी परंपरा को जानना चाहते हैं, उनके लिए है यह पुस्तक 'हाजिये के लोग' । इस पुस्तक में लेखक रचयिता नहीं द्रण्टा है, जिसने अपने अनुभव को झब्दों में पिरो दिया है। संस्मरणों के माध्यम से अपने गाँव, समाज और लोक जीवन को जानने का प्रयास है यह संस्मरणात्मक वृतान्त । इस पुस्तक में जो पहाड़ी गाँव, चरित्र और यटनाएँ हैं वे ऐतिहासिक हैं । इसमें पहाड़ के उन लोगों की कया है जिन्हें समाज ने हाजिए पर रखा और ये हाजिए के लोग श्रुति परम्परा के माध्यम से पारंपरिक ज्ञान, भारतीय संस्कृति, साहित्य और कलाओं को निरक्षर होते हुए भी अक्षुण्ण बनाने में मील का पत्थर साबित हुए । इनका इतिहास तो छोड़िए समाज में भी कोई स्थान नहीं है । वे इतिहास और समाज दोनो द्वारा उपेक्षित हैं । यद्यपि इनके बिना न इतिहास बनता है न समाज ।

सिबकी, सत्तरू जातक, गगनीदास, कटगर, बरेली स्वबनू, हेंसूँ, भरोंसी, आदि संस्मरण लेखक के बचपन से किशोरावस्था तक मौजूद थे लेकिन युवावस्था तक आते-आते वे इतिहास पुरुष बन गये। उनकी विद्या, उनका ज्ञान, परंपरा सिमटते-सिमटते आज लुप्त हो गई है। इन अन्तिम पीड़ी के ऋषियों को संस्मरणों के माध्यम से याद किया गया है। ये लोग किसी भी समाज की नीव हैं। नीव जो दिखाई नहीं देती लेकिन उसी पर भव्य भवन का निर्माण होता है। ये भारतीय संस्कृति के संवाहक हैं जिन्हें कभी हम शिल्पकार कहते हैं, कभी कास्तकार, कभी हरिजन, कभी दलित, कभी कामगार नाम से बुलाते है।

पुस्तक में नवासू गाँव की ऐतिहासिकता का वर्णन है। लगभग बारह सी साल का इसका इतिहास है। आज वह महान धरोहर, संस्कृति धत-विधत और नष्ट हो गई है।

गोरखाणी, लास सिंह क्षेत्री, घट, याथ भड़ली, खाँकरा, गोठ, हमारी बग्वाल, नामनाथ पोखरी आदि भी पुस्तक के संस्मरण हैं ।

पुस्तक में पहाड़ी क्षेत्र विशेष की कवाजों के संदर्भ से गौवों के देश और काल, इतिहास और समाज, धर्म और राजनीति, व्यक्ति, भाषा और समाज को समझने की कोशिश की गई है।

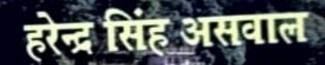


स्वराज प्रकाशन

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#### हरेन्द्र सिंह जमनान



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निता : प्रायमिक शिक्षा, गठड़ खाल पट्टी बच्छणस्यूं, माध्यमिक शिक्षा, राजकीय इन्टर कालेज खेड़ाखाल (नवासु) पट्टी बच्छणस्यूं तत्कालीन जिला पौड़ी गढ़वाल कर्तमान जिला रुद्रप्रयाग, उत्तराखंड, बी.ए. (जानर्स हिन्दी) एवं एम.ए. हिन्दी, दिजी विष्ठविद्यालय, एम. फिल., पी.एय.डी. जवाहर लाल नेहरू विष्ठविद्यालय से प्रो. केदारनाय सिंह के निर्देजन में

1986-19921

प्रकाशित पुस्तकों : उपन्यास 'उखड़े बिखरे लोग', पिता की स्मृति को समर्पित 'पितृ-पुराण' एवं चन्द्रकुंक बर्त्याल की कविताएँ।

साथ ही अनेक प्रतिष्ठित पत्र-पत्रिकाओं में लेख, कविताएँ, कहानियाँ, यात्रा वृत्तात एवं एकांकी प्रकातित । गढ़वाली भाषा में भी कविता लेखन । पिठले तीस वर्षों से अच्ययन-अच्यापन एवं जोध निर्देजन में रत । सम्प्रति : ज़ाकिर हुसैन दिल्ली कॉलेज, दिल्ली विश्वविद्यालय के हिन्दी विभाग में प्रोफेंसर ।

खेड़ाखाल कविता के माध्यम से कवि ने अपने बचपन, अपने गांव, अपनी भूमि, अपने पर्यावरण के साथ अपनी जड़ों को पहचानने की ईमानदार कोशिश की है। पहाड़ की पहाड़ सी ज़िंदगी से मुक्त होकर शहर में रहते हुए भी पहाड़ को न भूल पाने की छटपटाहट और गांव से भावनात्मक लगाव के परिणाम स्वरूप व्यग्यात्मक शैली में लिखे गए इस कविता संग्रह का नाम खेड़ाखाल रखा गया है।

कविता संग्रह में एक तरफ हिमालय, गांव, सूर्योदय, हिमपात, बादल, नदी, पलायन, विकास और विनाझ और सड़क कविताओं के माध्यम से पहाड़ के सौंदर्य और समस्याओं का वर्णन किया गया है। वहीं दूसरी तरफ झहर की गमी, धुंध, बारिश और ठंड का भी वर्णन है। इसमें भारत के अंतर्राष्ट्रीय संबंधों, वर्तमान साहित्य और साहित्यकारों, समाचार चौनलों की स्थिति तथा चुनाव के समय घटने वाली असहनीय पटनाओं से बेचेन मन में उठे बवंडर शब्दों का रूप लेकर उपजे है। इस पुस्तक में स्त्री समाज के प्रति लेखक की संवेदनाशीलता और प्रगतिशील विचारधारा को प्रदर्शित होती है। बेटियां, स्त्री, नारी शीर्षक के अलावा करवाचीय और सालगिरह पर लिखी गई कविता रिश्तों के प्रति संवेदनशीलता प्रदर्शित करती है।

कोरोना काल का मानव जीवन पर प्रभाव दिखाई पड़ता है। आद्ध, राम, हरेला पर्व और सिरमुंडा के महादेव शीर्षक पर कविता लिखना लेखक की धार्मिक मनःस्थिति का घोतक है।



स्वराज प्रकाशन 4648/1, 21, अंसारी रोड, दरियापंत्र नई दिल्ली- 110002 दूरभाष : 011- 23289915 Email: swaraj. prakashan@vahoo.co.in



## (A Study of Selected Mizo Poetry)

## St Xavier's College, Lêngpui

## Tlaizawng (A Study of Selected Mizo Poetry)

#### Edited by

K. Vanlalruati, Rochharzela & F. Lalzuithanga

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dment of Mizo St. Xavier's College

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## TREATMENT OF TRAUMA IN THE POEM 'THO LA, DING TA CHE'

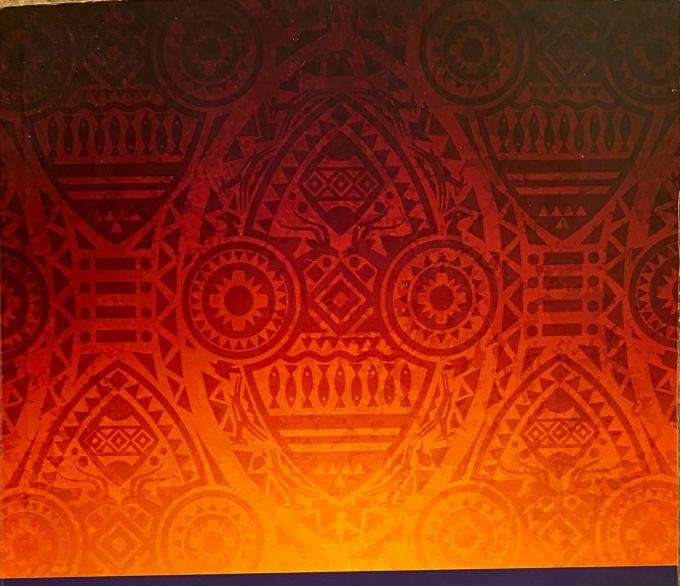
Grace Lalkhawngaihi Asst .Professor Department of Psychology

St Xavier's Colleg

#### INTRODUCTION

Tun thlenga Mizote khawvela hun sawi hlawh leh pawimawh ber chu kum 1966 -1986 chhunga "Mizo National Movement" chanchin hi a ni. Kan hnam pasaltha Mizo National Front (MNF) hruaitute rilruah phei chuan, Mizote zalenna leh chanvo diktak sualchhuahna hun pawimawh tak a nih avangin, "Rambuai lai" tia sawi mai pawh hian he hun pawimawhna leh hlutna hi a tinep zawk hialin a hriat a; "Mizo National Movement" tih hian he hun nihna dik tak hi a phawkchhuak ber zawk a ni. MNF te thiltum pawimawh han tarlang hmasa ila-Mizoramin zalenna sâng ber neih a, Mizo hnahthlakte rorelna pakhat hnuaia awm te, Kristian sakhua humhim tlat leh Mizo hnam tihmasawn leh chawisan te hi a ni ( Lalchamliana & Zosangliana, 2017).

Min thlahtu ni hauh lote enkawlna hnuaiah awmin, kan biak <sup>Pathian</sup> be lo te'n ro min relsak a. Fa tak dinhmun nei lo ta chu *"Secular* <sup>State</sup>"inti mah se India chuan kan danglamna hmangin min enhrang tho



### LIFE WRITING, REPRESENTATION AND IDENTITY GLOBAL PERSPECTIVES

Edited by MUKUL CHATURVEDI



#### Globalization and Planetary Ethics

New Terrains of Consciousness

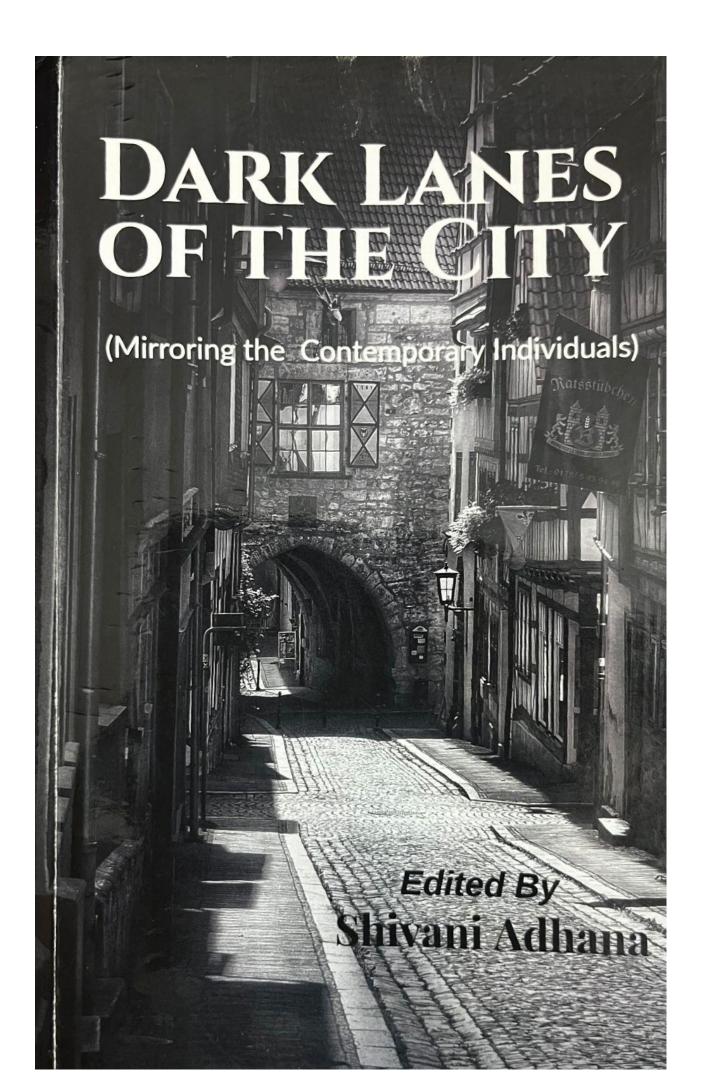
Edited by Simi Malhotra, Shraddha A. Singh, and Zahra Rizvi



**Globalization and Sense-Making Practices** Phenomenologies of the Global, Local and Glocal

Edited by Simi Malhotra, Zahra Rizvi, and Shraddha A. Singh





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Dark Lanes of the City (An Anthology)

#### Aditi Sharma

#### **My Poetic Inspiration:**

'Delhi Nights' seeks to present an image of a woman who lives on the roadside in the capital city and lurks in the darkness while fighting the men that rule the street in the dark. The poem seeks to display the fear that is present in a woman bereft of a feeling of belongingness because she has no home; no safe haven. It begins with her claiming that she has been "in your shoes" which apprises the reader that the woman might have had a home before arriving at the fact that she was not born on the streets. However, she has grown accustomed to themaccustomed to the shadows of the dark and all the monstrosities the night shrouds within. The poem is inspired by the many homeless women who are no strangers to the recurrent violence, that is present in the streets of the capital city- rape, loot, and murder, and dodge it to live another day.

[About the poetess: Aditi Sharma is an Assistant Professor in the Department of English, Rajdhani College, and the University of Delhi. Currently, she is pursuing Ph.D. and her research work is on Cityscape primarily pertaining to Contemporary Delhi.]

#### **Delhi Nights**

She lived by the roadside Claiming she had been in your shoes With colour of the deepest hues Her *potli* bereft of a noose As the morning came along She rose, she froze To live the long night. which I could hide; cheese was made on that farm and I slept in my

Miss Priscilla said my essay had a knack of making everything sound verv interesting and I should think of becoming a writer when I grew up. But I would have to pay more attention to my punctuation, she added.

I felt quite happy returning the bus home in that afternoon; I was quite excited about becoming a writer. I would write like Enid Blyton and everyone would love my books. They would be so much fun.

But I had a niggling doubt. My parents often said that good writing comes from

observation and experience. How would I experience a farm like Green Meadows? I would have to go to England to find a hollow oak as there were no oaks growing in Rajasthan; nor was there any plump cow called Daisy. All the cows here were so thin and bony.

Could I visit an Indian farm that grows jawar and bajra and where there was never enough to eat for livestock and make it fun in my writing?

Anuradha Marwah

#### Reflect on

- What languages do you read in for fun and why? What languages would you write in if you were a writer and why?
- If you were a writer, what kinds of things would you want to
- Do you feel you are more exposed to foreign culture through books and visual media than you are to Indian realities? How do you feel about that?

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### INTELLECTUAL RESONANCE

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J.P. Das (Trans.). Vinita Gupta Chaturvedi (Ed.). 2023. In Our Own Voice: Poems by Odia Women Poets. Black Eagle Books. 217 Pp. 146. Uplabdhi Sangwan

**Contributors** 

#### Editorial

We are delighted to in an annual double-blin brought out by Delhi of Delhi. The journal domain of research a areas of knowledge : and mass communic undergone a rigorous happy to note that a the journal and our di strove to ensure that deepens our understa

The present volume and a book review. T culture address questi literary portrayal of a with the economy, sc changing nation and it included in the curre functioning of financ transformed by digita and a changing wo contributors. Various been examined from case studies. The incl add variety and value

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Intentions (2011-2021) the Impact of Authentic Leadership on Employee Jumma Navigating Turnover Tides: A Decade-long Meta-analysis

## Bhupinder

University of Delhi Delhi College of Arts and Commerce Department of Commerce Associate Professor

## Shweta Raj

Shwetaraj86@gmail.com Kalindi College, University of Delhi Department of Commerce Assistant Professor

## Kanwal Jeet Singh

Ramanujan College, University of Delhi Associate Professor

## **Bharat Bhatt**

Zakir Hussain Delhi College, University of Department of Commen Associate Professor

## **Anil Kumar**

Shyam Lal College(1) University of Delhi Associate Professor Department of Commons

Department of Commerce

## Abstract

of -0.30 underscores Authentic Leadership's protective influence against Turnover studies, revealing a nuanced and robust correlation. The negative overall correlation imperative. for talent retention, cultivating Authentic Leadership emerges as a strategic for organizations enhance the credibility of the findings. As organizations strive Intention. Reporting bias analysis, heterogeneity measures, and practical implications The study, guided by PRISMA guidelines, amalgamates findings from 14 primary Intention through a comprehensive meta-analysis spanning a decade (2011-2021) research delves into the relationship between Authentic Leadership and Turnovo understanding leadership styles' impact on employee outcomes is crucial. This In the dynamic landscape of organizational behaviour and management

Keywords: authentic leadership, turnover intention, meta-analysis

INTELLECTUAL RESONANCE. DCAC JOURNAL OF INTERDISCIPLIMARY STUDIES, DEC. 2023. VOL. 6. ISSN: 2321-2594

## ploration of leadership styles and their impact on employee Armanic landscape of organizational behaviour and management, HILEHON

imples of transparency, self-awareness, and ethical decisionand substantial attention is "Authentic Leadership." Rooted in in and behaviours. authentic leadership is postulated to foster positive employee in has become imperative. One such leadership approach that

milipating turnover intentions among employees. Turnover intention, relationship between authentic leadership and turnover intention. incal aspect of organizational effectiveness lies in understanding mentions for organizational stability, productivity, and the overall environment. Consequently, there is a growing interest in scrutinizing considered a precursor to actual turnover, carries significant

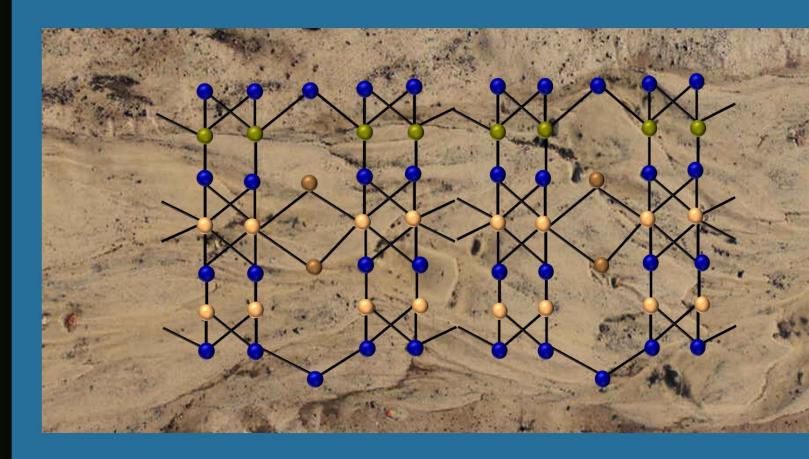
molving dynamics between authentic leadership and turnover intention, and external influences over the years. invidering potential shifts in organizational cultures, leadership practices metrame allows us to capture a comprehensive understanding of the um a decade-long span, ranging from 2011 to 2021. The chosen mowledge by conducting a meta-analysis, synthesizing findings proposed research endeavours to contribute to the existing body

# 14 Rationale for the Meta-Analysis:

- 1.1.1 Cumulative Insight: Meta-analysis offers a systematic and studies, providing a more nuanced understanding by synthesizing comprehensive approach to amalgamate findings from individual a diverse range of research outcomes.
- 1.1.2 Temporal Analysis: Examining the relationship over an extended potential modifications in the authentic leadership-turnove period facilitates the identification of trends, variations, and sustainability of this leadership style. intention dynamics, offering insights into the adaptability an
- 1.1.3 Holistic Perspective: By incorporating studies from variou industries, geographical locations, and organizational context the meta-analysis aims to provide a holistic perspective on ho

INTELLECTUAL RESONANCE, DCAC JOURNAL OF INTERDISCIPLINARY STUDIES, DEC. 2023. VOL. 6, ISSN: 2321-2394

CHARACTERIZATION AND APPLICATIONS OF CLAY AS A NOVEL MATERIAL



Edited by Neeraj Kumari and Chandra Mohan Characterization and Applications of Clay as a Novel Material

### Characterization and Applications of Clay as a Novel Material

Edited by

Neeraj Kumari and Chandra Mohan

**Cambridge Scholars** Publishing



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Edited by Neeraj Kumari and Chandra Mohan

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### CHAPTER 10

## APPLICATION OF CLAY IN CONSTRUCTION INDUSTRY

## MANJEET SINGH BARWA<sup>A</sup>, SHUBHRA BARWA<sup>B</sup> AND CHANDRA MOHAN<sup>C</sup>

<sup>A</sup>Department of Chemistry, Zakir Husain Delhi College, (University of Delhi) New Delhi-110002
 <sup>B</sup>Bhaskaracharya College of Applied Sciences (University of Delhi) New Delhi- 110075
 <sup>c</sup>School of Basic and Applied Sciences, K R Mangalam University, Gurugram – 122103 (India)

#### Abstract

Clay is a finely-grained natural stone or soil material, for example, stone and wood. It has been used for construction and development for thousands of years. It is made of at least one earth mineral (like kaolinites or smectites), now and again with little amounts of quartz, metal oxides, and natural matter. Clay is shaped gradually because of enduring and disintegration of rocks containing the mineral gathering known as feldspar. Clay is one of the oldest structure materials utilized for construction. The capacity of this regular material to harden under specific circumstances makes it conceivable to involve it for different purposes in the development of various structures. The defining ingredient of loam is clay, which is one of the oldest building materials on Earth among other antiquated, normally occurring geologic materials, for example, stone and natural materials like wood. About 66% of the total population, traditional societies, and even well-developed nations live or work in buildings made up of clay. Clay is



#### STUDY OF CONDUCTING POLYMER PEDOT: PSS AND ITS OPTICAL AND ELECTRICAL PROPERTIES

Arvind Singh<sup>1</sup>, Gayatri Shishodiya<sup>2</sup>, Vishal Goswami<sup>3</sup> and Neelam Pahwa<sup>4\*</sup> <sup>1</sup>Department of Physics, G. N. Khalsa College,

University of Mumbai, NP Marg, Mumbai 400019, Maharashtra, India

<sup>2</sup>Department of Physics, Zakir Husain Delhi College.

University of Delhi, J.L.N. Marg, New Delhi 110001, India

<sup>3</sup>Department of Physics, S.S. & L.S. Patkar Varde College,

University of Mumbai, Goregaon (W), Mumbai 400019, Maharashtra, India

<sup>4</sup>Department of Electronics, Zakir Husain Delhi College,

University of Delhi, J.L.N. Marg, New Delhi 110001, India

\*Corresponding author E-mail: neelam.zhc@gmail.com

#### Abstract:

chapter briefly describes the theoretical background pertinent to This Poly(3,4ethylenedioxythiophene): poly (styrene sulfonic acid) (PEDOT: PSS) conducting polymer. It begins with the theoretical fundamentals of polymers, conducting polymer, PEDOT: PSS and proceeds with PEDOT: PSS polymer thin films. This chapter also discusses influence of the molecular structure on electrical property of PEDOT: PSS with understanding of HOMO and LUMO. The chapter further elaborates optical properties of PEDOT: PSS by discussing its spectroscopic properties and also describes the prospective of thin films for electrical application. Keywords: PEDOT:PSS, conductivity, polymer, molecular structure and optical properties.

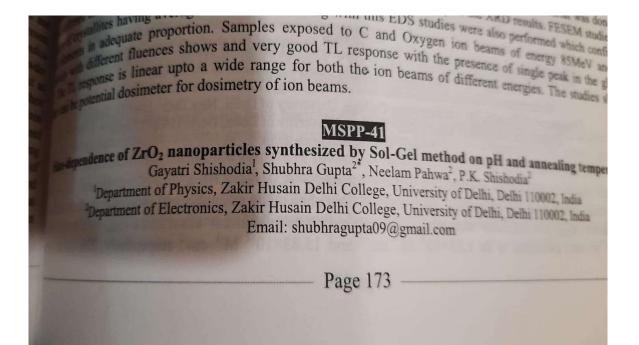
Introduction:

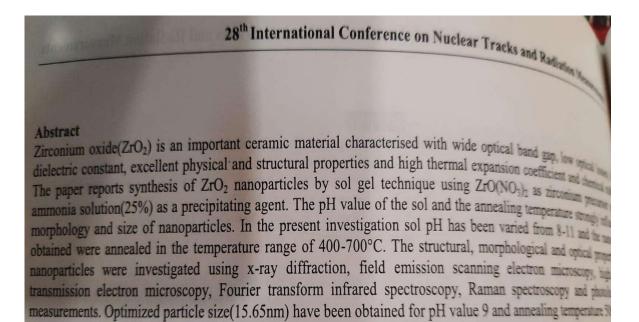
Polymers are a large class of materials consisting of many small molecules (called monomers) which are linked together to form long chains. Lengths of these chains in commercial polymers may vary from 1000 to 10,000 units. Humans have used the versatility of polymers for centuries in the form of oils, tars, resins, and gums. Because of their large size, polymers are classified as macromolecules. Cellulose is an example of a polymeric material which must be substantially modified before processing with the usual methods used for plastics. Every day plastics such as polyethylene and poly(vinyl chloride) have replaced traditional materials like paper, metal, glass, wood and copper for a wide variety of applications. Some plastics, such as hylon and cellulose acetate, are formed into fibers [1-4].

The process of formation of polymers from respective monomers is called polymerization. The monomers generally ' ave a parent compound with a double chemical bond that opens up to form a single bond during the polymerization reaction that forms the polymers. For example,

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	Dr. Anirvan Gupta
	Assistant Professor, School of Basic and Applied Sciences
	JSPM University, Wagholi, Pune Nagar Road,
	Pune - 412207
329	3 Vacuum Pumps
	Dr. K. S. Thakare
	Associate Professor, Department of Physics,
	M.S.G. College, Malegaon Camp, Nashik, 423105
18	4 Vacuum Measurements
	Mr. Nandkishor S. Sangle
	Assistant Professor, Department of Physics,
	KVN's Naik Arts commerce and Science College,
	Canada Corner, Nashik-422002
	5 Mechanism of Thin Film Formation
	Ms. Dighe Priyanka Sukhdey
	Research Lab, Department of Physics,
	Mumbai University, Mumbai 400098
	6 Synthesis of Thin Films
	Dr. Shanware Lalitkumar Marutrao
	Assistant Professor, Department of Physics,
	Netaji Subashchandra Science College,
	7 Diamond-like Carbon Thin Films
	Dr. Nikam S. M.
	Assistant Professor, Department of Electronics,
8	I nin ruins of ruga-remperature superconductors
	Dr. Kale Ankit S.
	Assistant professor, Department of Electronics,
	Ashoka centre For Business and Computer Studies, College,
	Chandshi, Dist: Nashik. Pin: 422013
9	Thin Films of Organic Materials
	Dr. Arvind Rajdeo Singh
	Assistant Professor, Department of Physics,
	G. N. Khalsa College,
	NP Marg, Matunga, Mumbai 400019
10	Thin Film for Sensors
10	Dr. Tanaji P. Gujar
	Assistant Professor, Department of Physics,
	ADT's Shardabai Pawar Mahila Arts, Commerce and Science College,
	Shardanagar, Tal-Baramati, Dist-Pune, 413115
11	Factors Affecting Structure of Thin Films Dr. Dhiware Manisha Daryao
	Assistant Professor, PG Department of Physics,
	KVN Naik Arts, Commerce and Science College,
	Canada Corner, Nashik 422002
12	Properties of Thin Films
	Dr. Bhise Ramesh Baburao
	Assistant Professor, PG Department of Physics,
	DGM's Balasaheb Jadhav College,
	Aale, Tal: Junnar, Dist: Pune 412411
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	Dr. Neelam Pahwa
	Associate Professor, Department of Electronics,
	Zakir Husain Delhi College,
	Zakli Husaili Delli College,
	University of Delhi, J.L.N. Marg,
	University of Delhi, J.L.N. Marg, New Delhi 110001
14	University of Delhi, J.L.N. Marg, New Delhi 110001 Mechanical Properties and Industrial Application of Thin Film
14	University of Delhi, J.L.N. Marg, New Delhi 110001 Mechanical Properties and Industrial Application of Thin Film Dr. Kapure G. P.
14	University of Delhi, J.L.N. Marg, New Delhi 110001 Mechanical Properties and Industrial Application of Thin Film





of the reduction process on functional groups of GO sheets was by Fourier Transform Infrared spectroscopy. The electrical conductivity of the samples was determined by the fourmethod. The gas sensing properties of the synthesizednanocomposite sensors have been studied for different gases at temperature. Synthesized materialprovides sufficient band gap tuning for better gas sensing properties and fulfill tions for room-temperaturegassensors.

#### MSPP-35

endural, optical and surface studies of Cadmium Telluride thin films of Nanometer thickness range Neelam Pahwa<sup>1\*</sup>, Arvind R. Singh<sup>2</sup>, Gayatri Shishodia<sup>3</sup>

Department of Electronics, Zakir Husain Delhi College, University of Delhi, J.L.N. Marg, New Delhi 110001, India Department of Physics, G. N. Khalsa College, University of Mumbai, NP Marg, Mumbai 400019, Maharashtra, India <sup>3</sup>Department of Physics, Zakir Husain Delhi College, University of Delhi, J.L.N. Marg, New Delhi 110001, India Email: neelam.zhc@zh.du.ac.in

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28th International Conference on Nuclear Tracks and Radiation Mean

Abstract CdTe thin films grown by thermal evaporation on quartz substrates with thickness varying from 80 nm - 120 nm were and billion in the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties has been studied as a fun CdTe thin films grown by thermal evaporation on quarte substance of the studied as a function of the structure and optical properties has been studied as a function of the structure and optical properties. The modification in the structure and optical properties has been studied as a function of the structure and UV-visible spectroscopy. Surface morphology of Code for their properties. The modification in the structure and optical properties spectroscopy. Surface morphology of Cadmius Teactor (XRD), Micro-Raman spectroscopy and UV-visible spectroscopy. Surface morphology of Cadmius Teactor (AFM). The power values of power spectral denses are the second se Ray Diffraction (XRD), Micro-Raman spectroscopy and of this of the power values of power spectral density (PSD) in the thin films is characterized by using atomic force microscopy (AFM). The power values of power spectral density (PSD) in the thin films is characterized by using atomic force microscopy (EFT) algorithms instead of the pottman. AFM digital data were determined by the fast Fourier transform (FFT) algorithms instead of the root-mean-square (ms) ad peak-to-valley value. The PSD plots of CdTe films are successfully approximated by the k-correlation model. CdTe films we oriented in the (111) and (311) plane in cubic phase. The XRD showed increase in crystallite size with increasing thickness. micro-Raman spectrum, LO and TO modes of CdTe and A,& E modes of Te were observed with blue shift which was found increase with increase in thickness. Intensity of these modes increased with increase in thickness. UV-transmission show pronounced interference fringes, indicating a good quality of the films. Transmittance decreased with increase in thickness of films. The bandgap was found to vary in the range 1.42-1.51 eV with thickness. With PSD analysis and Fractal analysis, it found that surface of the film of thickness 100 nm has better surface morphology with uniform grain size and ideal fractalness

# CONFLICT & COPING TH EAST INDIA

## IN NORTH EAST INDIA the role of memory

Series NO. 19

edited by Anurag Das

#### Chapter - 7

## Violence, Gender and Memory: Remembrance through 'Imaginary History'

#### Manashi Misra

Immediately post India's independence, Assam's relationship with the Central Government was marked with bitter contestations over rehabilitation of refugees, economic assistance, and immigration (Misra 2017, 12). As pointed out by Historian Yasmin Saikia (2004), the politics of geography combined with the lack of clarity about its 'political and cultural position' in the newly emerged nation-state led to the 'frontier mentality' about this region and its people (p 9). In addition, the disparity of development and a sense of deprivation vis-à-vis the rest of India translated to increasing public resentment that found expression in a number of mass movements in the decades following independence. Soon, some sections of the population lost their confidence in non-violent protest movements, thereby choosing the path of militancy-imitating insurgents in the neighbouring states of Nagaland and Manipur (Saikia 2004, 9-11). This led to the rise of separatist militancy in Assam in the form of the United Liberation Front of Assam (ULFA). The assertion of the Assamese identity through a reconstruction of a perceived golden past became the focal point of these of these movements; which as one scholar points out to always

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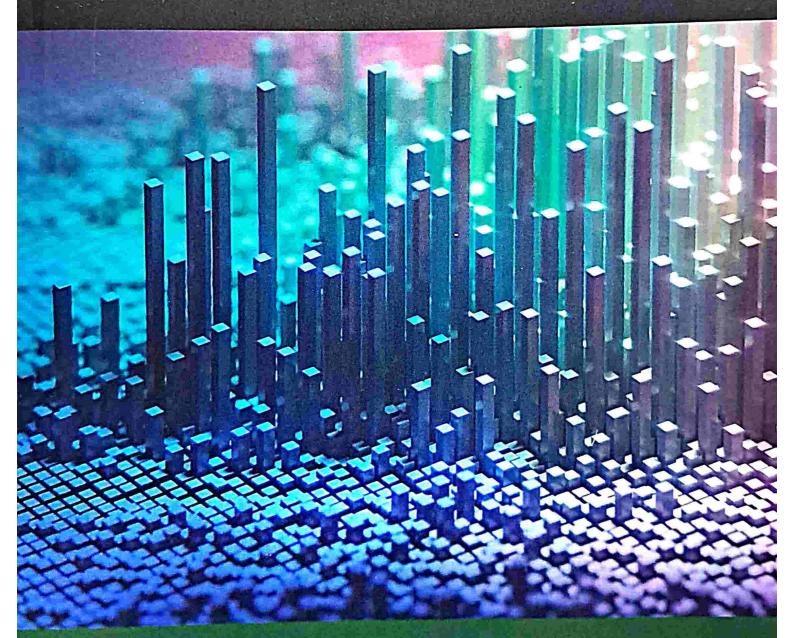
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# India and Inner Asia

## **Commerce, Culture and Connectivity**



Edited by Mahesh Ranjan Debata and Selbi Hanova



# INDIA AND INNER ASIA

Commerce, Culture and Connectivity

Edited by Mahesh Ranjan Debata and Selbi Hanova



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<sub>INSTC</sub> and India-Iran-Afghanistan-Central <sub>Asia</sub> Transport and Transit Corridor

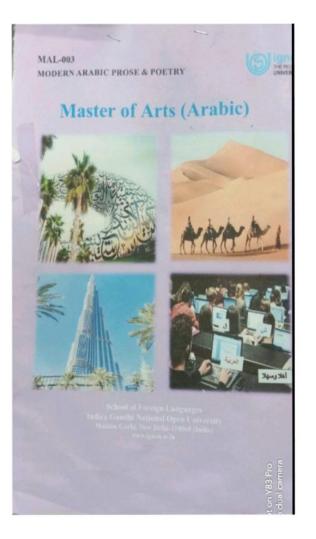
Gatikrushna Mahanta

#### Introduction

The Eurasian region holds economic and strategic significance for India. Although India has established friendly relations with the post-Soviet countries after their independence, it has not been able to use the opportunity to develop vibrant economic cooperation with these states. The former Soviet Union was India's major trade partner. However, India's trade with the 15 post-Soviet countries has varied from about 1.53 per cent to 2.16 per cent in the last eight years ending 2021–2022 (see Table 13.1). Connectivity has been one of the major hurdles in enhancing trade ties with Eurasia.

There is a renewed Indian interest to develop ties with the region. For example, India's Connect Central Asia Policy (2012) reflects her interest to reengage the CARs. The policy emphasizes the need for greater connectivity with the region. Prime Minister Narendra Modi's visit to all five CARs and Russian city of Ufa for the Shanghai Cooperation Organisation (SCO) summit in July 2015 indicates India's interest in strengthening cooperation with Eurasia. India's joining in the SCO in July 2017 as a full member provides India with a common platform to share with four CARs (except Turkmenistan) and two of their significant neighbours Russia and China. India has a strategic partnership with Russia and Kazakhstan, two important members of the EAEU.

India shares a historical relationship and strategic partnership with Russia, which is India's largest trading partner in the Eurasian region (Patnaik 2017). However, till now India-Russia trade has not achieved its actual potential. The trade between India and the Eurasian region takes place via the European route or East Asian route. Lack of direct access to the region



#### EXPERT COMMITTEE

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Prof. Habibullah Khan, Department of Arabic, Jamia Millia Islamia, New Delhi

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PROGRAMME COORDINATOR

Dr. Mohammad Saleem

#### EDITING TEAM

Dr. Mohammad Saleem Dr. Tufail Ahmad

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December 12, 2023

#### TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Dr. Mohd. Qasim**, Department of Arabic, Zakir Husain Delhi College, University of Delhi, has prepared the following two Units for the course 3 titled: **"Modern Arabic Prose and Poetry"** and Course 7 titled **"Classical Arabic Prose and Poetry"** of M.A. in Arabic Programme of IGNOU in the year 2023.

Course	Unit	Title
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# हाशिए के लोग

# हरेन्द्र सिंह असवाल

#### हरेन्द्र सिंह असवाल



जन्म : 25 अप्रैल 1962, ग्राम-कपलखील (नवासु) पही बच्छणस्यूं जिला रुद्र प्रयाग, उत्तराखंड । जिस्ता : प्राथमिक जिल्ला, गरुङ खाल पही बच्छणस्यूं, माध्यमिक शिक्षा, राजकीय इन्टर कालेज खेड़ाखाल (नवासु) पही बच्छणस्यूं तत्कालीन जिला पीड़ी गढ़वाल वर्तमान जिला रुद्रप्रयाग, उत्तराखंड, बी.ए. (आनर्स हिन्दी) एवं एम.ए. हिन्दी, दिल्ली विद्यविद्यालय, एम.फिल., पी.एच.डी. जवाहर ताल नेहरु विद्वविद्यालय से प्रो. केदारनाथ सिंह के निर्देशन में 1986-1992 ।

प्रकाशित पुस्तकें : उपन्यास 'उखड़े विखरे लोग', पिता को स्मृति को समर्पित 'पितृ-पुराण' एवं चन्द्रकुंबर बत्वांत की कविताएँ।

साय से अनेक प्रतिष्ठित पत्र-पत्रिकाओं में लेख, कविताएँ, कहानियाँ, पात्रा वृत्तांत एवं एकांकी प्रकाशित । गढ़वाली भाषा में भी कविता लेखन । पिछले तीस वर्षों से अध्ययन-अध्यापन एवं शोध निर्देशन में रत ।

सम्प्रति : जाकित हुसैन दिली कॉलेज, दिली विष्ठविद्यालय के हिन्दी विमाग में प्रोफेसर।

अपनी जड़ों की तलाज में निकलें जिज्ञासु लोग जो अपने गाँव, अपनी परंपरा को जानना चाहते हैं, उनके लिए है यह पुस्तक 'हाजिये के लोग' । इस पुस्तक में लेखक रचयिता नहीं द्रण्टा है, जिसने अपने अनुभव को झब्दों में पिरो दिया है। संस्मरणों के माध्यम से अपने गाँव, समाज और लोक जीवन को जानने का प्रयास है यह संस्मरणात्मक वृतान्त । इस पुस्तक में जो पहाड़ी गाँव, चरित्र और यटनाएँ हैं वे ऐतिहासिक हैं । इसमें पहाड़ के उन लोगों की कया है जिन्हें समाज ने हाजिए पर रखा और ये हाजिए के लोग श्रुति परम्परा के माध्यम से पारंपरिक ज्ञान, भारतीय संस्कृति, साहित्य और कलाओं को निरक्षर होते हुए भी अक्षुण्ण बनाने में मील का पत्थर साबित हुए । इनका इतिहास तो छोड़िए समाज में भी कोई स्थान नहीं है । वे इतिहास और समाज दोनो द्वारा उपेक्षित हैं । यद्यपि इनके बिना न इतिहास बनता है न समाज ।

सिबकी, सत्तरू जातक, गगनीदास, कटगर, बरेली स्वबनू, हेंसूँ, भरोंसी, आदि संस्मरण लेखक के बचपन से किशोरावस्था तक मौजूद थे लेकिन युवावस्था तक आते-आते वे इतिहास पुरुष बन गये। उनकी विद्या, उनका ज्ञान, परंपरा सिमटते-सिमटते आज लुप्त हो गई है। इन अन्तिम पीड़ी के ऋषियों को संस्मरणों के माध्यम से याद किया गया है। ये लोग किसी भी समाज की नीव हैं। नीव जो दिखाई नहीं देती लेकिन उसी पर भव्य भवन का निर्माण होता है। ये भारतीय संस्कृति के संवाहक हैं जिन्हें कभी हम शिल्पकार कहते हैं, कभी कास्तकार, कभी हरिजन, कभी दलित, कभी कामगार नाम से बुलाते है।

पुस्तक में नवासू गाँव की ऐतिहासिकता का वर्णन है। लगभग बारह सी साल का इसका इतिहास है। आज वह महान धरोहर, संस्कृति धत-विधत और नष्ट हो गई है।

गोरखाणी, लास सिंह क्षेत्री, घट, याथ भड़ली, खाँकरा, गोठ, हमारी बग्वाल, नामनाथ पोखरी आदि भी पुस्तक के संस्मरण हैं ।

पुस्तक में पहाड़ी क्षेत्र विशेष की कवाजों के संदर्भ से गौवों के देश और काल, इतिहास और समाज, धर्म और राजनीति, व्यक्ति, भाषा और समाज को समझने की कोशिश की गई है।

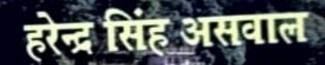


स्वराज प्रकाशन

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#### हरेन्द्र सिंह जमनान



जन्म : 25 अप्रैल 1962, ग्राम-कपललील (नवासू) पट्टी बच्छणस्यूं जिला रुद्र प्रयाग, उत्तराखंड।

निता : प्रायमिक शिक्षा, गठड़ खाल पट्टी बच्छणस्यूं, माध्यमिक शिक्षा, राजकीय इन्टर कालेज खेड़ाखाल (नवासु) पट्टी बच्छणस्यूं तत्कालीन जिला पौड़ी गढ़वाल कर्तमान जिला रुद्रप्रयाग, उत्तराखंड, बी.ए. (जानर्स हिन्दी) एवं एम.ए. हिन्दी, दिजी विष्ठविद्यालय, एम. फिल., पी.एय.डी. जवाहर लाल नेहरू विष्ठविद्यालय से प्रो. केदारनाय सिंह के निर्देजन में

1986-19921

प्रकाशित पुस्तकों : उपन्यास 'उखड़े बिखरे लोग', पिता की स्मृति को समर्पित 'पितृ-पुराण' एवं चन्द्रकुंक बर्त्याल की कविताएँ।

साथ ही अनेक प्रतिष्ठित पत्र-पत्रिकाओं में लेख, कविताएँ, कहानियाँ, यात्रा वृत्तात एवं एकांकी प्रकातित । गढ़वाली भाषा में भी कविता लेखन । पिठले तीस वर्षों से अच्ययन-अच्यापन एवं जोध निर्देजन में रत । सम्प्रति : ज़ाकिर हुसैन दिल्ली कॉलेज, दिल्ली विश्वविद्यालय के हिन्दी विभाग में प्रोफेंसर ।

खेड़ाखाल कविता के माध्यम से कवि ने अपने बचपन, अपने गांव, अपनी भूमि, अपने पर्यावरण के साथ अपनी जड़ों को पहचानने की ईमानदार कोशिश की है। पहाड़ की पहाड़ सी ज़िंदगी से मुक्त होकर शहर में रहते हुए भी पहाड़ को न भूल पाने की छटपटाहट और गांव से भावनात्मक लगाव के परिणाम स्वरूप व्यग्यात्मक शैली में लिखे गए इस कविता संग्रह का नाम खेड़ाखाल रखा गया है।

कविता संग्रह में एक तरफ हिमालय, गांव, सूर्योदय, हिमपात, बादल, नदी, पलायन, विकास और विनाझ और सड़क कविताओं के माध्यम से पहाड़ के सौंदर्य और समस्याओं का वर्णन किया गया है। वहीं दूसरी तरफ झहर की गमी, धुंध, बारिश और ठंड का भी वर्णन है। इसमें भारत के अंतर्राष्ट्रीय संबंधों, वर्तमान साहित्य और साहित्यकारों, समाचार चौनलों की स्थिति तथा चुनाव के समय घटने वाली असहनीय पटनाओं से बेचेन मन में उठे बवंडर शब्दों का रूप लेकर उपजे है। इस पुस्तक में स्त्री समाज के प्रति लेखक की संवेदनाशीलता और प्रगतिशील विचारधारा को प्रदर्शित होती है। बेटियां, स्त्री, नारी शीर्षक के अलावा करवाचीय और सालगिरह पर लिखी गई कविता रिश्तों के प्रति संवेदनशीलता प्रदर्शित करती है।

कोरोना काल का मानव जीवन पर प्रभाव दिखाई पड़ता है। आद्ध, राम, हरेला पर्व और सिरमुंडा के महादेव शीर्षक पर कविता लिखना लेखक की धार्मिक मनःस्थिति का घोतक है।



स्वराज प्रकाशन 4648/1, 21, अंसारी रोड, दरियापंत्र नई दिल्ली- 110002 दूरभाष : 011- 23289915 Email: swaraj. prakashan@vahoo.co.in



# हाशिए के लोग

# हरेन्द्र सिंह असवाल

#### हरेन्द्र सिंह असवाल



जन्म : 25 अप्रैल 1962, ग्राम-कपलखील (नवासु) पही बच्छणस्यूं जिला रुद्र प्रयाग, उत्तराखंड । जिस्ता : प्राथमिक जिल्ला, गरुङ खाल पही बच्छणस्यूं, माध्यमिक शिक्षा, राजकीय इन्टर कालेज खेड़ाखाल (नवासु) पही बच्छणस्यूं तत्कालीन जिला पीड़ी गढ़वाल वर्तमान जिला रुद्रप्रयाग, उत्तराखंड, बी.ए. (आनर्स हिन्दी) एवं एम.ए. हिन्दी, दिल्ली विद्यविद्यालय, एम.फिल., पी.एच.डी. जवाहर ताल नेहरु विद्वविद्यालय से प्रो. केदारनाथ सिंह के निर्देशन में 1986-1992 ।

प्रकाशित पुस्तकें : उपन्यास 'उखड़े विखरे लोग', पिता को स्मृति को समर्पित 'पितृ-पुराण' एवं चन्द्रकुंबर बत्वांत की कविताएँ।

साय से अनेक प्रतिष्ठित पत्र-पत्रिकाओं में लेख, कविताएँ, कहानियाँ, पात्रा वृत्तांत एवं एकांकी प्रकाशित । गढ़वाली भाषा में भी कविता लेखन । पिछले तीस वर्षों से अध्ययन-अध्यापन एवं शोध निर्देशन में रत ।

सम्प्रति : जाकित हुसैन दिली कॉलेज, दिली विष्ठविद्यालय के हिन्दी विमाग में प्रोफेसर।

अपनी जड़ों की तलाज में निकलें जिज्ञासु लोग जो अपने गाँव, अपनी परंपरा को जानना चाहते हैं, उनके लिए है यह पुस्तक 'हाजिये के लोग' । इस पुस्तक में लेखक रचयिता नहीं द्रण्टा है, जिसने अपने अनुभव को झब्दों में पिरो दिया है। संस्मरणों के माध्यम से अपने गाँव, समाज और लोक जीवन को जानने का प्रयास है यह संस्मरणात्मक वृतान्त । इस पुस्तक में जो पहाड़ी गाँव, चरित्र और यटनाएँ हैं वे ऐतिहासिक हैं । इसमें पहाड़ के उन लोगों की कया है जिन्हें समाज ने हाजिए पर रखा और ये हाजिए के लोग श्रुति परम्परा के माध्यम से पारंपरिक ज्ञान, भारतीय संस्कृति, साहित्य और कलाओं को निरक्षर होते हुए भी अक्षुण्ण बनाने में मील का पत्थर साबित हुए । इनका इतिहास तो छोड़िए समाज में भी कोई स्थान नहीं है । वे इतिहास और समाज दोनो द्वारा उपेक्षित हैं । यद्यपि इनके बिना न इतिहास बनता है न समाज ।

सिबकी, सत्तरू जातक, गगनीदास, कटगर, बरेली स्वबनू, हेंसूँ, भरोंसी, आदि संस्मरण लेखक के बचपन से किशोरावस्था तक मौजूद थे लेकिन युवावस्था तक आते-आते वे इतिहास पुरुष बन गये। उनकी विद्या, उनका ज्ञान, परंपरा सिमटते-सिमटते आज लुप्त हो गई है। इन अन्तिम पीड़ी के ऋषियों को संस्मरणों के माध्यम से याद किया गया है। ये लोग किसी भी समाज की नीव हैं। नीव जो दिखाई नहीं देती लेकिन उसी पर भव्य भवन का निर्माण होता है। ये भारतीय संस्कृति के संवाहक हैं जिन्हें कभी हम शिल्पकार कहते हैं, कभी कास्तकार, कभी हरिजन, कभी दलित, कभी कामगार नाम से बुलाते है।

पुस्तक में नवासू गाँव की ऐतिहासिकता का वर्णन है। लगभग बारह सी साल का इसका इतिहास है। आज वह महान धरोहर, संस्कृति धत-विधत और नष्ट हो गई है।

गोरखाणी, लास सिंह क्षेत्री, घट, याथ भड़ली, खाँकरा, गोठ, हमारी बग्वाल, नामनाथ पोखरी आदि भी पुस्तक के संस्मरण हैं ।

पुस्तक में पहाड़ी क्षेत्र विशेष की कवाजों के संदर्भ से गौवों के देश और काल, इतिहास और समाज, धर्म और राजनीति, व्यक्ति, भाषा और समाज को समझने की कोशिश की गई है।

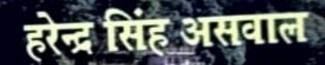


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#### हरेन्द्र सिंह जमनान



जन्म : 25 अप्रैल 1962, ग्राम-कपललील (नवासू) पट्टी बच्छणस्यूं जिला रुद्र प्रयाग, उत्तराखंड।

निता : प्रायमिक शिक्षा, गठड़ खाल पट्टी बच्छणस्यूं, माध्यमिक शिक्षा, राजकीय इन्टर कालेज खेड़ाखाल (नवासु) पट्टी बच्छणस्यूं तत्कालीन जिला पौड़ी गढ़वाल कर्तमान जिला रुद्रप्रयाग, उत्तराखंड, बी.ए. (जानर्स हिन्दी) एवं एम.ए. हिन्दी, दिजी विष्ठविद्यालय, एम. फिल., पी.एय.डी. जवाहर लाल नेहरू विष्ठविद्यालय से प्रो. केदारनाय सिंह के निर्देजन में

1986-19921

प्रकाशित पुस्तकों : उपन्यास 'उखड़े बिखरे लोग', पिता की स्मृति को समर्पित 'पितृ-पुराण' एवं चन्द्रकुंक बर्त्याल की कविताएँ।

साथ ही अनेक प्रतिष्ठित पत्र-पत्रिकाओं में लेख, कविताएँ, कहानियाँ, यात्रा वृत्तात एवं एकांकी प्रकातित । गढ़वाली भाषा में भी कविता लेखन । पिठले तीस वर्षों से अच्ययन-अच्यापन एवं जोध निर्देजन में रत । सम्प्रति : ज़ाकिर हुसैन दिल्ली कॉलेज, दिल्ली विश्वविद्यालय के हिन्दी विभाग में प्रोफेंसर ।

खेड़ाखाल कविता के माध्यम से कवि ने अपने बचपन, अपने गांव, अपनी भूमि, अपने पर्यावरण के साथ अपनी जड़ों को पहचानने की ईमानदार कोशिश की है। पहाड़ की पहाड़ सी ज़िंदगी से मुक्त होकर शहर में रहते हुए भी पहाड़ को न भूल पाने की छटपटाहट और गांव से भावनात्मक लगाव के परिणाम स्वरूप व्यग्यात्मक शैली में लिखे गए इस कविता संग्रह का नाम खेड़ाखाल रखा गया है।

कविता संग्रह में एक तरफ हिमालय, गांव, सूर्योदय, हिमपात, बादल, नदी, पलायन, विकास और विनाझ और सड़क कविताओं के माध्यम से पहाड़ के सौंदर्य और समस्याओं का वर्णन किया गया है। वहीं दूसरी तरफ झहर की गमी, धुंध, बारिश और ठंड का भी वर्णन है। इसमें भारत के अंतर्राष्ट्रीय संबंधों, वर्तमान साहित्य और साहित्यकारों, समाचार चौनलों की स्थिति तथा चुनाव के समय घटने वाली असहनीय पटनाओं से बेचेन मन में उठे बवंडर शब्दों का रूप लेकर उपजे है। इस पुस्तक में स्त्री समाज के प्रति लेखक की संवेदनाशीलता और प्रगतिशील विचारधारा को प्रदर्शित होती है। बेटियां, स्त्री, नारी शीर्षक के अलावा करवाचीय और सालगिरह पर लिखी गई कविता रिश्तों के प्रति संवेदनशीलता प्रदर्शित करती है।

कोरोना काल का मानव जीवन पर प्रभाव दिखाई पड़ता है। आद्ध, राम, हरेला पर्व और सिरमुंडा के महादेव शीर्षक पर कविता लिखना लेखक की धार्मिक मनःस्थिति का घोतक है।



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# (A Study of Selected Mizo Poetry)

# St Xavier's College, Lêngpui

# Tlaizawng (A Study of Selected Mizo Poetry)

## Edited by

K. Vanlalruati, Rochharzela & F. Lalzuithanga

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dment of Mizo St. Xavier's College

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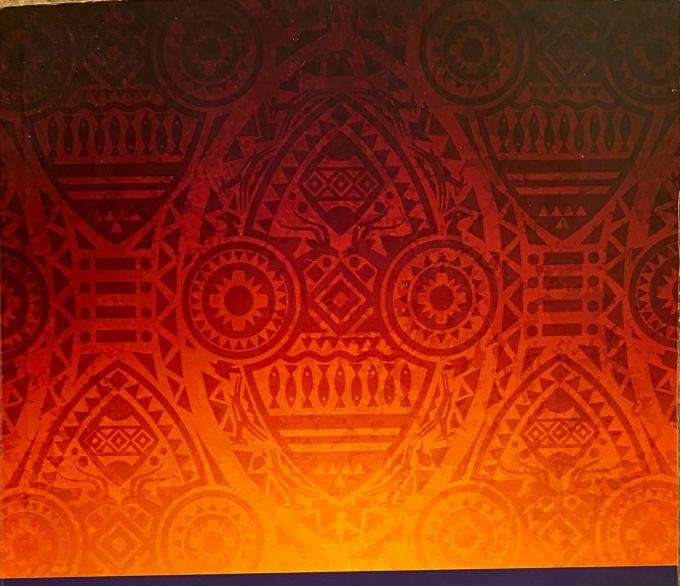
Grace Lalkhawngaihi Asst .Professor Department of Psychology

St Xavier's Colleg

#### INTRODUCTION

Tun thlenga Mizote khawvela hun sawi hlawh leh pawimawh ber chu kum 1966 -1986 chhunga "Mizo National Movement" chanchin hi a ni. Kan hnam pasaltha Mizo National Front (MNF) hruaitute rilruah phei chuan, Mizote zalenna leh chanvo diktak sualchhuahna hun pawimawh tak a nih avangin, "Rambuai lai" tia sawi mai pawh hian he hun pawimawhna leh hlutna hi a tinep zawk hialin a hriat a; "Mizo National Movement" tih hian he hun nihna dik tak hi a phawkchhuak ber zawk a ni. MNF te thiltum pawimawh han tarlang hmasa ila-Mizoramin zalenna sâng ber neih a, Mizo hnahthlakte rorelna pakhat hnuaia awm te, Kristian sakhua humhim tlat leh Mizo hnam tihmasawn leh chawisan te hi a ni ( Lalchamliana & Zosangliana, 2017).

Min thlahtu ni hauh lote enkawlna hnuaiah awmin, kan biak <sup>Pathian</sup> be lo te'n ro min relsak a. Fa tak dinhmun nei lo ta chu *"Secular* <sup>State</sup>"inti mah se India chuan kan danglamna hmangin min enhrang tho



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## Globalization and Planetary Ethics

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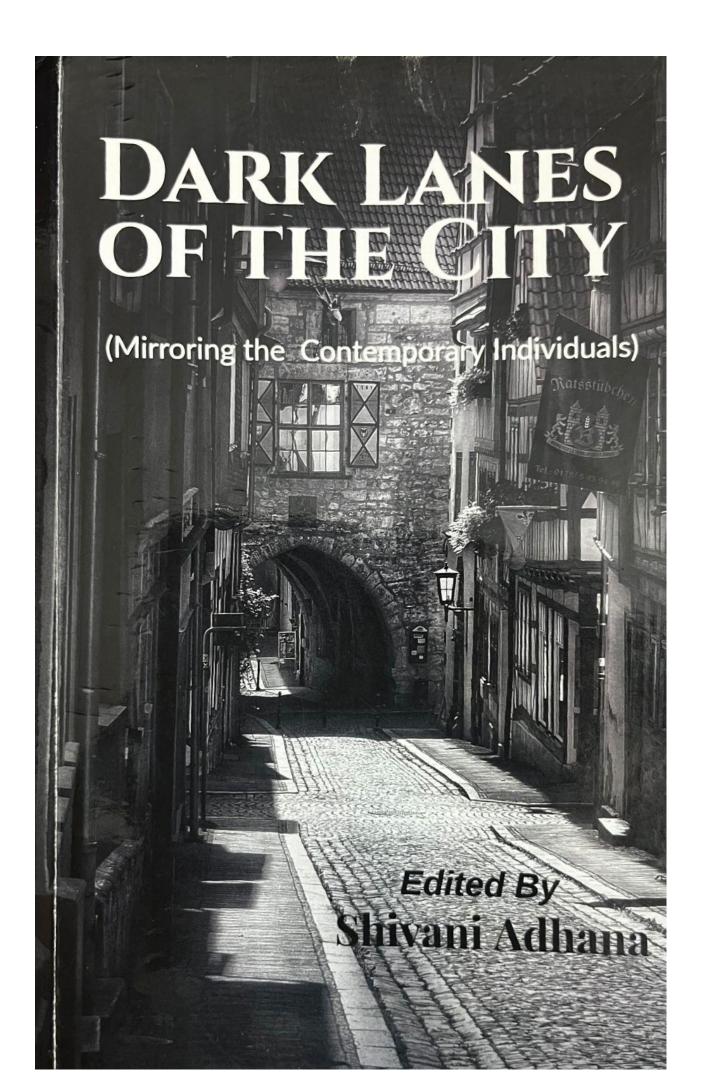
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**Globalization and Sense-Making Practices** Phenomenologies of the Global, Local and Glocal

Edited by Simi Malhotra, Zahra Rizvi, and Shraddha A. Singh





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Dark Lanes of the City (An Anthology)

#### Aditi Sharma

#### **My Poetic Inspiration:**

'Delhi Nights' seeks to present an image of a woman who lives on the roadside in the capital city and lurks in the darkness while fighting the men that rule the street in the dark. The poem seeks to display the fear that is present in a woman bereft of a feeling of belongingness because she has no home; no safe haven. It begins with her claiming that she has been "in your shoes" which apprises the reader that the woman might have had a home before arriving at the fact that she was not born on the streets. However, she has grown accustomed to themaccustomed to the shadows of the dark and all the monstrosities the night shrouds within. The poem is inspired by the many homeless women who are no strangers to the recurrent violence, that is present in the streets of the capital city- rape, loot, and murder, and dodge it to live another day.

[About the poetess: Aditi Sharma is an Assistant Professor in the Department of English, Rajdhani College, and the University of Delhi. Currently, she is pursuing Ph.D. and her research work is on Cityscape primarily pertaining to Contemporary Delhi.]

#### **Delhi Nights**

She lived by the roadside Claiming she had been in your shoes With colour of the deepest hues Her *potli* bereft of a noose As the morning came along She rose, she froze To live the long night. which I could hide; cheese was made on that farm and I slept in my

Miss Priscilla said my essay had a knack of making everything sound verv interesting and I should think of becoming a writer when I grew up. But I would have to pay more attention to my punctuation, she added.

I felt quite happy returning the bus home in that afternoon; I was quite excited about becoming a writer. I would write like Enid Blyton and everyone would love my books. They would be so much fun.

But I had a niggling doubt. My parents often said that good writing comes from

observation and experience. How would I experience a farm like Green Meadows? I would have to go to England to find a hollow oak as there were no oaks growing in Rajasthan; nor was there any plump cow called Daisy. All the cows here were so thin and bony.

Could I visit an Indian farm that grows jawar and bajra and where there was never enough to eat for livestock and make it fun in my writing?

Anuradha Marwah

#### Reflect on

- What languages do you read in for fun and why? What languages would you write in if you were a writer and why?
- If you were a writer, what kinds of things would you want to
- Do you feel you are more exposed to foreign culture through books and visual media than you are to Indian realities? How do you feel about that?

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## INTELLECTUAL RESONANCE

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**Contributors** 

#### Editorial

We are delighted to in an annual double-blin brought out by Delhi of Delhi. The journal domain of research a areas of knowledge : and mass communic undergone a rigorous happy to note that a the journal and our di strove to ensure that deepens our understa

The present volume and a book review. T culture address questi literary portrayal of a with the economy, sc changing nation and it included in the curre functioning of financ transformed by digita and a changing wo contributors. Various been examined from case studies. The incl add variety and value

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Intentions (2011-2021) the Impact of Authentic Leadership on Employee Jumma Navigating Turnover Tides: A Decade-long Meta-analysis

# Bhupinder

University of Delhi Delhi College of Arts and Commerce Department of Commerce Associate Professor

# Shweta Raj

Shwetaraj86@gmail.com Kalindi College, University of Delhi Department of Commerce Assistant Professor

# Kanwal Jeet Singh

Ramanujan College, University of Delhi Associate Professor

# **Bharat Bhatt**

Zakir Hussain Delhi College, University of Department of Commen Associate Professor

# **Anil Kumar**

Shyam Lal College(1) University of Delhi Associate Professor Department of Commons

Department of Commerce

# Abstract

of -0.30 underscores Authentic Leadership's protective influence against Turnover studies, revealing a nuanced and robust correlation. The negative overall correlation imperative. for talent retention, cultivating Authentic Leadership emerges as a strategic for organizations enhance the credibility of the findings. As organizations strive Intention. Reporting bias analysis, heterogeneity measures, and practical implications The study, guided by PRISMA guidelines, amalgamates findings from 14 primary Intention through a comprehensive meta-analysis spanning a decade (2011-2021) research delves into the relationship between Authentic Leadership and Turnovo understanding leadership styles' impact on employee outcomes is crucial. This In the dynamic landscape of organizational behaviour and management

Keywords: authentic leadership, turnover intention, meta-analysis

INTELLECTUAL RESONANCE. DCAC JOURNAL OF INTERDISCIPLIMARY STUDIES, DEC. 2023. VOL. 6. ISSN: 2321-2594

# ploration of leadership styles and their impact on employee Armanic landscape of organizational behaviour and management, HILEHON

timiples of transparency, self-awareness, and ethical decisionand substantial attention is "Authentic Leadership." Rooted in in and behaviours. authentic leadership is postulated to foster positive employee in has become imperative. One such leadership approach that

milipating turnover intentions among employees. Turnover intention, relationship between authentic leadership and turnover intention. incal aspect of organizational effectiveness lies in understanding mentions for organizational stability, productivity, and the overall environment. Consequently, there is a growing interest in scrutinizing considered a precursor to actual turnover, carries significant

molving dynamics between authentic leadership and turnover intention, and external influences over the years. invidering potential shifts in organizational cultures, leadership practices metrame allows us to capture a comprehensive understanding of the um a decade-long span, ranging from 2011 to 2021. The chosen mowledge by conducting a meta-analysis, synthesizing findings proposed research endeavours to contribute to the existing body

# 14 Rationale for the Meta-Analysis:

- 1.1.1 Cumulative Insight: Meta-analysis offers a systematic and studies, providing a more nuanced understanding by synthesizing comprehensive approach to amalgamate findings from individual a diverse range of research outcomes.
- 1.1.2 Temporal Analysis: Examining the relationship over an extended potential modifications in the authentic leadership-turnove period facilitates the identification of trends, variations, and sustainability of this leadership style. intention dynamics, offering insights into the adaptability an
- 1.1.3 Holistic Perspective: By incorporating studies from variou industries, geographical locations, and organizational context the meta-analysis aims to provide a holistic perspective on ho

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#### Empowering Libraries, Connecting Communities Innovation, Collaboration and Entrepreneurship

#### **Editors**

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#### Paradigm Shift in Reliance on e-Resources by the Users of Academic Libraries during Pre and Post COVID-19 Pandemic: A Study

Imran Khan\*

#### ABSTRACT

During the COVID-19 pandemic, the importance of e-resources grew phenomenally. Though the e-resources had already started making their presence felt among the library users, the impact made by the pandemic due to closure of physical libraries and non availability of any printed material, gave impetus to the electronic resources. A number of e-resources were made available free and mostly educational institutions had shifted from physical to virtual. Users' preferences have been seen to be more for e-resources and digital libraries during this critical situation. The paper highlights different advantages felt by the users in using the e-resources, and the shift in trend from print to electronic media. This paper analyses and presents the status of electronic resources, facilities, and services provided by the libraries before and after the COVID-19 pandemic.

*Keywords:* Academic Libraries, e-Resources, Electronic Resources, COVID-19 and Libraries, Digital Libraries, Remote Access, Electronic Media.

#### Introduction

The COVID-19 pandemic has completely changed the way and the scenario the world used to live and work. The pandemic forced the governments worldwide to place their countries under full or partial lockdown to contain the spread of the deadly virus. The immediate and emergency announcement of the closure of the entire activities by the governments world over was a knee-jerk reaction because nobody was mentally prepared for this but because of the known and unknown severeness of the virus, nobody wanted to take any risk with the lives of the people. The other reason for this reaction and announcements of closure of all the activities was that the governments world over wanted to prepare themselves to combat the virus and also were watchful of how the others are reacting and facing the pandemic.

However, these closures and lockdowns came with severe economic and social consequences. In India especially, the response to the lockdown by the labourers of exodus from the metros towards their villages was much publicised, where many lives were lost as people started off on-foot for their native places as they were unaware of their livelihood and jobs. The impact of the pandemic on the economies is known to all. At the same time the impact on the workplace, jobs and education sector has been immense.

While the educational institutions had been impacted so greatly, the libraries, whether as part of educational institutions or otherwise, have faced the same impact. The closure of libraries of the educational institutions had directly impacted the educational system whereas the public libraries, special libraries

\* Librarian, Zakir Husain Delhi College (Day), University of Delhi, New Delhi-110002, E-mail: ikhan@zh.du.ac.in

# Department of Distance and Continuing Education University of Delhi



Master of Library and Information Science (MLISc) Semester -II Course Credit - 5 Paper - M-109

INFORMATION LITERACY APPLICATIONS IN LIS -Editorial Board -

Dr. Projes Roy Prof. Shailendra Kumar

-Content Writers-

Ms. Rekha Devi, Dr. Imran Khan, Mr. Ajit Kumar Jha, Ms. Nilofar, Dr. Gururaj S. Hadagali, Dr. Deepak Kumar, Dr. Jyoti Devi, Mr. Vikas Bhushan, Dr. Premananda Mukherjee, Dr. Somesh Vishwakarma

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M-109-INFORMATION LITERACY APPLICATIONS LIS



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#### **LESSION-2**

#### AREAS OF INFORMATION LITERACY

#### Dr. Imran Khan

Librarian Zakir Husain Delhi College (Day) Univeristy of Delhi, Delhi ikhan@zh.du.in

#### STRUCTURE

- 2.1 Learning Objectives
- 2.2 Introduction
- 2.3 Areas of Information Literacy
  - 2.3.1 Stages of Information Literacy
  - 2.3.2 Key Areas of Information Literacy
  - 2.3.3 Importance and Applications of Information Literacy

#### 2.4 Summary

- 2.5 Glossary
- 2.6 Answers to In-Text Questions
- 2.7 Self-Assessment Questions
- 2.8 References
- 2.9 Suggested Readings

#### 2.1 LEARNING OBJECTIVES

After going through the contents of this lesson, the students are expected to:

- Get an understanding of the key areas of Information Literacy.
- Learn about the significance of the areas of Information Literacy.
- Understand and Learn about the application of these areas for the benefit of the institutions and the society.

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#### **LESSON-4**

#### **ROLE OF INSTITUTION IN INFORMATION LITERACY**

#### Dr. Imran Khan

Librarian Zakir Husain Delhi College (Day) University of Delhi, Delhi ikhan@zh.du.ac.in

#### STRUCTURE

- 4.1 Learning Objectives
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- 4.3 Information Institutions
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- 4.4 Summary
- 4.5 Glossary
- 4.6 Answers to In-Text Questions
- 4.7 Self-Assessment Questions
- 4.8 References
- 4.9 Suggested Readings

#### **4.1 LEARNING OBJECTIVES**

After reading this lesson, the learners are expected to:

- Identify the different types of Information Institutions.
- Learn about the Significance of these institutions.
- Learn about the roles of these institutions in the dissemination of information and Information Literacy to the individuals, groups, and other institutions.

#### **4.2 INTRODUCTION**

The learners may have acquired adequate understanding of the definition, concept, need, aims, areas, standards, and models of information literacy after carefully studying the preceding three lessons. The present lesson has been prepared and organized with a view to

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# Department of Distance and Continuing Education University of Delhi



Master of Library and Information Science (MLISc) Semester -II Course Credit - 5 Paper - M-111(c)

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- 1.4.2 National Social Science Documentation Centre (NASSDOC)
- 1.4.3 INDO-DUTCH Program on Alternatives in Development (IDPAD)
- 1.4.4 Documentation Centre for Asian Studies (DOCAS)
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M-111(c) - Print and Electronic Sources and Literature in Social Sciences



#### **LESSON 2**

#### CONTRIBUTIONS MADE BY THE PROMINENT SOCIAL SCIENTISTS IN THE FIELD OF HISTORY, POLITICAL SCIENCE, ECONOMICS AND SOCIOLOGY

Dr. Imran Khan

Librarian Institute: Zakir Husain Delhi College (Day) University: University of Delhi, Delhi Email Id: ikhan@zh.du.ac.in

#### STRUCTURE

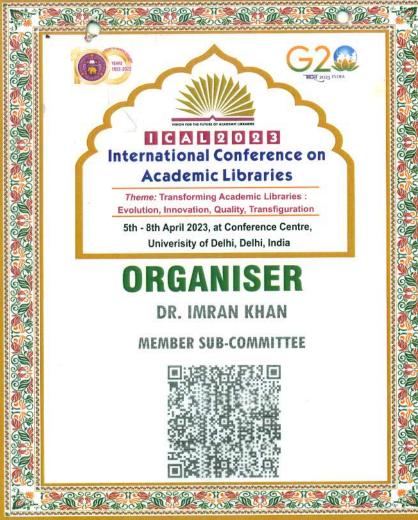
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- 2.5 Glossary
- 2.6 Answers to In-Text Questions
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- 2.9 Suggested Readings

#### 2.1 LEARNING OBJECTIVES

After reading this lesson, the learners are expected to:

- Understand Social Science as a subject and its global significance.
- · Learn about the types of Social Scientists.
- Learn about the Prominent Social Scientists along with their significant contributions in their respective fields of expertise.

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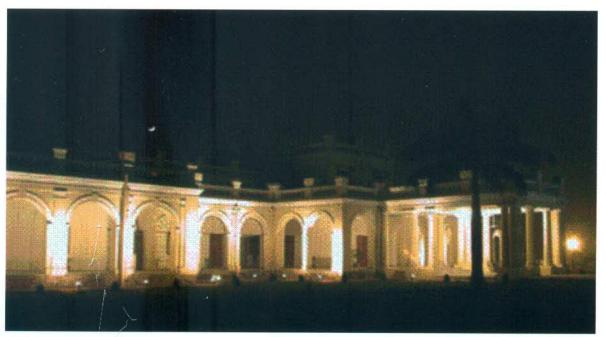


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### UNIVERSITY OF DELHI, DELHI 5th to 8th April, 2023

## **Book of Abstracts**

### **TRANSFORMING ACADEMIC LIBRARIES** EVOLUTION, INNOVATION, QUALITY, TRANSFIGURATION



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#### IMPACT OF E-RESOURCES AND EVIDENCE BASED LIBRARY SERVICES IN EDUCATIONAL INSTITUTIONS

Rekha Patel and Alok Kumar Tripathi

Department of Library and Information Science, NGB(DU), Prayagraj, U.P., 221505, India \*Corresponding author: Rekha Patel • Email: rekha6770@gmail.com

*Abstract:* The growth of technical education is directly related to the economic stability of any country. Every industry has a significant demand for skilled workers, and using ICT-based or digital technology job seekers to get desirable positions at both the national and international levels of industrial and academic organizations. The present paper discuss that it is crucial for our technical education to regularly assess the curriculum and subject matter of the technical programs to make sure they are current and effectively meeting the nation's technological needs at par with worldwide standards.

Keywords: e-resources, Library Services, ICT, Academics, Libraries' Goals.

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#### DESIGN AND DEVELOPMENT OF USER-CENTRED SERVICES AT MIRZA MEHMOOD BEG LIBRARY, ZAKIR HUSAIN DELHI COLLEGE (UNIVERSITY OF DELHI), NEW DELHI: A STUDY

#### Imran Khan

Librarian, Zakir Husain Delhi College (Day). (University of Delhi), New Delhi

*Abstract:* In the higher education sector, libraries serve as centres of learning and play a crucial role in education, learning, teaching, and research. User-centred systems and services are primarily designed to offer their users the highest quality services to enhance their capacity for learning. The services that libraries provide vary depending on the kinds of institutions and the subjects/courses that are taught there. In order to provide user-centred library services, the Mirza Mehmood Beg Library of Zakir Husain Delhi College (Day) has adopted new techniques and technology. This study aims to highlight these new trends and innovations. This paper also makes an effort to examine and assess the process of designing user-centred services.

*Keywords*: Academic Libraries, User Centred Services, User Based Services, Library Automation, Smart Library, Emerging Technologies in Libraries, User Centric Services.

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Editors

Dr. Akhtar Hussain

Dr. Meeta Rathod V

Dr. Imran Khan

Head-Library, IMT Ghaziabad

Dean, Faculty of Humanities, Sarvajanik University, Surat







Dr. Meghana Sanjeeva Librarian, Vivekanand Education Societys College of Arts, Science & Commerce, Chembur, Mumbai

Librarian, Zakir Husain Delhi College (University of Delhi), New Delhi

#### **Managing Editor**



**Dr. Akhtar Parvez** University Librarian, MANUU, Hyderabad

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