

# The NEHU Journal

(A Peer Reviewed Journal)



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**From the Desk of the Vice-Chancellor**



I am delighted to offer my heartfelt congratulations to the editorial team, contributors, and readers of the NEHU Journal for presenting yet another compelling edition. As a leading academic institution in the North-East, North-Eastern Hill University (NEHU) continues to be a beacon of academic excellence, research, and regional development.

The NEHU Journal's latest publication stands as a testament to our shared commitment to knowledge, innovation, and intellectual advancement. In an era of rapid change, academic journals like ours are essential for sharing research that tackles current issues while celebrating and addressing the unique cultural and socio-economic challenges of the North-Eastern region of India.

This edition features a rich array of scholarly articles, reflecting the interdisciplinary approach we champion at NEHU. These contributions highlight the crucial role of academia in fostering sustainable development, particularly in our region, where diverse ecosystems, cultural richness, and development challenges demand creative and inclusive solutions.

I encourage all our readers—students, faculty, and researchers—to immerse themselves in the ideas presented here. They embody our collective drive toward a more sustainable and prosperous future for the North-East.

  
Prof. Prabha Shankar Shukla

## **From the Editorial Desk**

The NEHU Journal is a multi-disciplinary, peer-reviewed bi-annual journal. The present volume looks at research and review articles from various schools of thought, keeping in mind the NEP's requirement for intellectual prowess leading to human resource management and nation building.

The first paper 'Exploring Co-Creation and Service Failures: A Bibliometric Study' by Rani and Sharma investigates the interrelationships among co-creation, co-production, and service failure, with a specific focus on conducting a bibliometric analysis within these domains. The findings confirm that 181 authors were engaged in multiple research projects, and four thematic clusters emerged, emphasizing collaboration, stakeholder engagement, and various aspects of co-creation and service failure research, contributing to the understanding of these concepts in diverse contexts with potential implications for the evolving digital landscape.

The second paper entitled 'Exploring Cultural Views on Prenatal and Postnatal Care in the Khasi-Jaintia Hills: A Traditional Healthcare Approach' by Linda Bessy Lyngdoh delves into the traditional healthcare practices of the Khasi community, specifically focusing on their customs related to pregnancy, childbirth and the well-being of both infants and mothers. The goal is to draw parallels between these indigenous approaches and modern medical advancements, highlighting the potential for holistic care for mothers and infants through their integration.

The third paper 'Interior Scaping for a Better Living – A review' by Mahesh et al. highlights the use of indoor plants as a cost-effective way of indoor air-purification that could be adapted for a variety of environments adding aesthetic value as well as indirectly impacting human health. The goal is to create a synergistic environment for both plants and humans.

The fourth paper entitled 'Exploring the Conservation and Sustainable Utilisation Potential of *Parkia timoriana* (DC) Merr: An Underutilized Multipurpose Tree Bean in North Eastern India', authored by Dinesha et al. explores the sustainable utilisation of *Parkia timoriana* in the North Eastern Region (NER) and also studies the challenges posed by degradation, afforestation and unsustainable harvesting practices. Both flowers and fruit have high demand due to their nutritional and medicinal properties and are grown in home gardens, agroforestry systems and fallow lands of shifting cultivation as a dietary supplement. However, the population of this native

edible fruit species has been steadily declining and needs emphasis on conservation.

The fifth paper 'Contract Farming for Transformation in Agriculture with reference to North East Region', by Jangir et al. looks at a possible strategy for transforming agriculture in North East India through contract farming. Some key factors that play a transformative role include the benefits of institutional credit, farm size, formal visits from extension personnel, personal transportation ownership, market access and public-private partnerships that are pivotal contributors towards higher profit, higher yields and low production costs.

The sixth paper 'Khawhar in as a Space for Mourning and Collective Grieving: Spatial dynamics of mortuary practices among the Zo hnaathlak' by Anup Shekhar Chakraborty analyses the fact that the spatial configuration being discussed includes various forms, such as a physical enclosure in a mortuary establishment and a digital space for virtual commemorations. The provision of this space acknowledges the importance of facilitating open mourning processes, allowing individuals to engage in introspection, recollection, and emotional healing. This study examines the spatial dynamics of mortuary practices among the Zo hnaathlak.

The seventh paper 'Mapping Geographies of Domestic Violence During Covid-19 Lockdown: A Case Study of Chandigarh City, India' by Amit Kumar examines the rise of domestic violence during the first four phases of the Covid-19 lockdown by analysing news clippings and a case study on filed complaints of domestic violence in Chandigarh, India. The high surge in domestic violence complaints during the lockdown shifted the world's attention towards women trapped with their violent partners. Issues labelled responsible for this chaos ranged from the government's inefficient approach to the policing system of the nation. The study locates women trying to adjust amidst a crisis never experienced before and explores the crisis from various dimensions that triggered man's violent nature.

The insights presented in this volume will undoubtedly pave the way forward for the evolving landscape of research disciplines. I would like to thank all the contributors, peer reviewers and the editorial board and look forward to your contribution in the forthcoming issues of the Journal.

**Prof. Sujata Gurudev**

Chief Editor

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## Exploring Co-Creation and Service Failures: A Bibliometric Study

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### Abstract

*Co-production is the collaborative process where employees and customers work together to find solutions and contribute their creativity to products and services while service failure, particularly co-created service failure, refers to a situation in which both the service provider and the customer share responsibility for the failure of a service. This approach acknowledges that interactions between service providers and customers contribute to the production of services, with both parties influencing the overall quality and success of the service. This paper aims to investigate the interrelationships among co-creation, coproduction, and service failure, with a specific focus on conducting a bibliometric analysis within these domains. The study of co-creation and service failures research from 2001 to September 2023 identified 1,289 authors across 531 articles, showcasing the multidisciplinary nature of this research with a preference for collaborative efforts. It finds 181 authors engaged in multiple research projects, and four thematic clusters emerged, emphasizing collaboration, stakeholder engagement, and various aspects of co-creation and service failure research, contributing to the understanding of these concepts in diverse contexts with potential implications for the evolving digital landscape.*

**Keyword:** Co-production, service failures, research, articles, publications.

### Introduction

‘Imagination is the beginning of creation’ is the quote by George Bernard Shaw. Creation is neither secretive skill nor restricted to an insignificant group of geniuses minds. Co-creation is comprised of Create is defined by the Oxford Learners Dictionary as create something to make something happen or exist and co is defined as together with. The employees and customer come together to find solutions along with their creativity in the products and services. Co-creation, in the context of a business, refers to a product or services design process in which input from consumer plays a central

role from beginning to end. Less specifically, the term is also used for any way in which a business allows consumers to submit ideas, designs or content. In service organization, co-creation states to the service process and the service product; service providers aim to co-create with customers and other actors to create unique services, reduce costs or improve service performance (Oertzen et al., 2018). Co-creation refers to inviting participants to participate in a project or to formulate problem-solving process to harvest a mutually valued outcome. Co-creation is conceptualized as the value created and extracted through the interaction of the firm and the consumer (Prahalad and Ramaswamy, 2004). In addition to this value creation is always interactional and that together, the supplier and customers have the opportunity to create value through customized, co-produced offerings (Payne et al., 2008). From traditional business to advanced technologies and informative companies which realized due to good communication between customers and company is a paradigm shift. A low level of contribution in value co-creation in designing product or services, quality control, distribution channel and feedback in traditional business. The pattern of marketing consistently changing from offline to online due to new information technologies and various platforms for interaction and communication correlates with higher involvement of co-creation activities from customers and business. Therefore, there are two roles played as a co-creator as well as consumer by the user of the product and services (Hamidi et al., 2020). Value co-creation progressed in the direction of a co-creation activity due to digitization (Ciasullo et al., 2018; Sharafi et al., 2019) and consumer participation (Martínez-Cañas et al., 2016).

Co-created service failure refers to a condition in which both the service provider and the customer were accountable for the failure or collapse of a service. Co-created service failures distinguish that customers also have responsibility how their service experiences were shaped, in contrast to traditional service failures where the service provider is normally held solely responsible. When a service delivery breakdown or failure is co-created, it means that both the service provider and the service recipient (the consumer) are equally responsible. This approach is based on the notion that interactions between service providers and customers frequently result in the production of services, and that both sides are involved in deciding the overall success and quality of the service.

Customer participation and service failure is an essential aspect of service process management which proceed to introspections on the process with customer involvement and their satisfaction. Bendapudi and Leone (2003) found that when an outcome is not as good as expected because people who choose to co-produce the outcome are more satisfied than are customer those who have not involved. When problems or failures arise during the delivery of a service, it has to do with how energetically customers interact with service providing organisation and how they work together to recover the service. Service failures are defined as obstacles which occur during service delivery that does not meet customer expectations and drops in the established service standards (Zeithaml et al., 2009). These failures can range from minor inconveniences to significant disruptions in the customer's experience. Mattila and Cranage (2005) suggested that consideration of customers to control and how an initial service gets delivered affects their equity evaluations when there is a challenge of service failure.

Dong et al. (2008) considers customer involvement when the service failure itself was co-created. Customers input often used to mechanize the process of detecting service failures, as they prompt to notice while something went wrong. Customers' effective communication is important; however, there is requirement of reporting the issue on time and providing meticulous information to help service providers and to understand loopholes (Smith and Bolton, 2002). Customers' active participation in generating solutions has big impact and influence in the recovery process. Their involvement found instrumental in shaping the recovery process, and their willingness to accept proposed solutions or compromises is a vital part of successful service recovery (McCole et al., 2010). This paper aims to investigate the interrelationships among co-creation, coproduction, and service failure, with a specific focus on conducting a bibliometric analysis within these domains.

### **Review of Literature**

Co-creation of value refers to the process in which a customer and a service provider collaborate, and co-creation of value denotes combined contribution towards value creation by a customer and a business for service recovery (Prahalad and Ramaswamy, 2004). By this way, companies seek opportunities to encourage, engage and team up with their customers. The customer's participation to the evaluation of

value resulting from co-creation capabilities in the context of a service failure and recovery suggests that repurchase intentions are positively correlated with equity and affect toward the recovery (Park and Ha, 2016).

A main component of the Vargo and Lusch (2004) proposition is the participation of the customers in value creation process. Enterprises play a key role in the creation of value, whether they are engaged in the production of commodities or the delivery of services. This value might take the shape of offerings that satisfy customers' needs and aspirations, such as goods, services, events, or solutions. 'Passive' customers are customer with neutral state of mind regarding the product. The phrase 'passive' customers refer to people or things that might not actively interact with or enjoy the value that businesses create. They could simply use the good or service without actively adding to its worth. Value depletion through consumption implies to some customers may unintentionally damage or drain the value that was previously generated by the business while utilising or consuming the product or service. This may occur as a result of misuse, wasting, or just simple neglect and criticize it.

There is distinction between two types of resources that have the potential to create value. Operand resources include raw materials, for processing in operation or utilized to produce effects in the product (Vargo and Lusch, 2004). These are usually tangible, inert and passive, and require input from an active agent in order to realise its value potential (Arnould et al., 2006). Operant resources are those employed to accomplish endeavour on operand resources and on other operant resources in direction to create value. Value creation can take various forms, including innovation, quality, convenience, and price competitiveness. These resources are usually intangible, such as knowledge, skills and labour (Arnould et al. 2006; Vargo and Lusch, 2004). Although there are various kinds of resources have fundamental value, but the value and potential can be understood by combining them with other resources as intellect of customers. Nevertheless, it is promising to codify and make those operant resources, including the tacit knowledge of the service employees and customer through interaction (Galvagno and Dalli, 2014). This significant shift from product-centric to service-centric marketing considers customers to be “value co-creators” by including innovation, quality, convenience, and price competitiveness (Bendapudi and Leone, 2003; Vargo and Lusch, 2004). Many argue that customer value co-creation is critical for marketing success

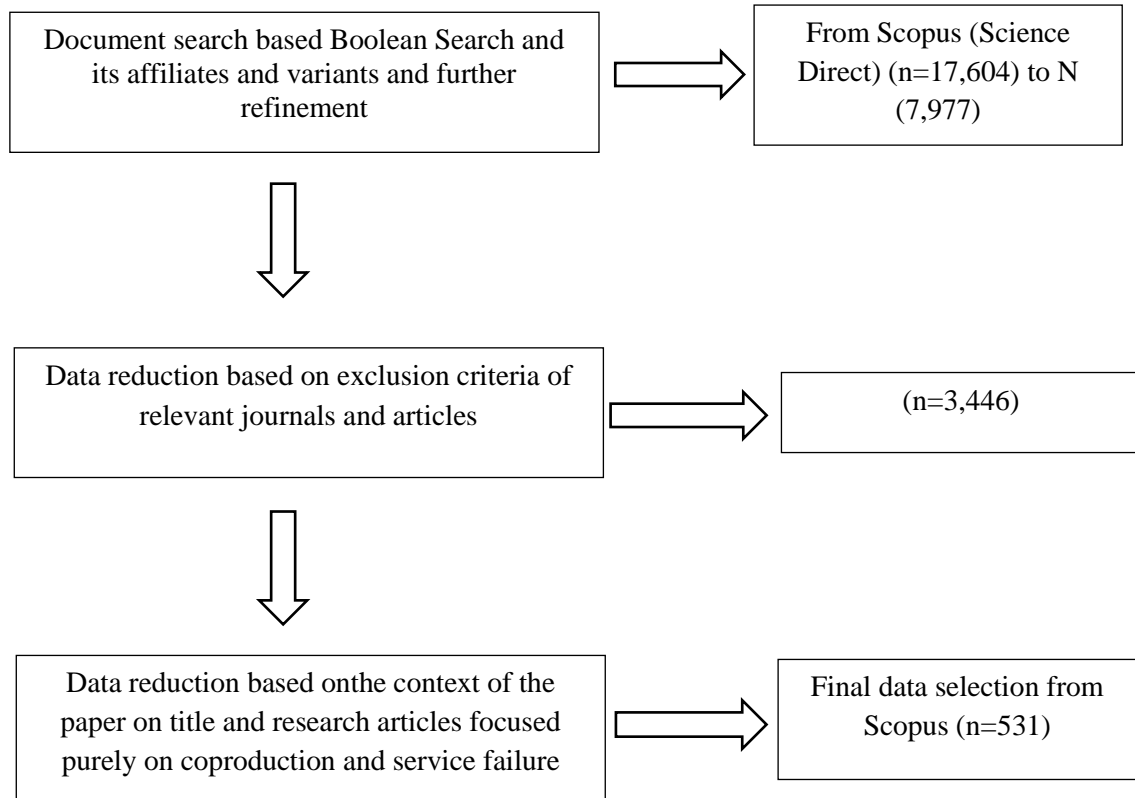
because, under the service-dominant logic, customers are contributing to the process of marketing, consumption and delivery of products/services. This emphasizes the shifts from value addition to value co-creation, products to experiences, value delivery to value propositions, and exchange of operand resources to operant resources (Lusch and Vargo, 2006, Vargo and Lusch, 2004). Moreover, customer co-creation of value benefits customers (e.g., faster speed and lower prices) as well as firms (e.g., enhanced operating efficiencies and greater service value; Claycomb et al., 2001).

### **Methodology**

Bibliometric analysis constitutes an analytical approach employed in the evaluation of publication quality through quantitative methodologies predicated upon the assessment of multiple criteria. This method serves a dual purpose, encompassing the identification of prospective research trajectories and the scrutiny of antecedent scholars' endeavors, while simultaneously elucidating overarching research trends spanning a designated temporal interval. Central to the application of bibliometric analysis is the utilization of assorted software tools designed to elucidate pivotal variables and terms. In this specific study, the data underwent meticulous refinement and analysis through the employment of spreadsheets and VOS viewer. While a multitude of articles addressing bibliometric analysis within the realm of co-creation and service failure are extant, this investigation unearthed a distinct corpus of literature. The primary objective of this paper resides in the comprehensive examination of studies pertaining to co-creation and service failure, along with a deliberate emphasis on forthcoming domains of interest within this thematic domain. The selection of studies possessing transparency and validation underwent a rigorous and transparent selection process. In the pursuit of appropriate keywords for data extraction, a sample of 10 articles sourced from Scopus-indexed journals, which specifically addressed co-creation and service failure, was meticulously chosen. The ensuing analysis entailed the application of a spreadsheet to enumerate the recurrence of words, culminating in the identification of 39 keywords, each accompanied by its respective frequency. Subsequently, these keywords were subjected to a more intricate scrutiny, including an examination of their proximate associations, which culminated in the generation of

thematic clusters. After several iterative refinements, five keywords of paramount significance coalesced, namely "co-creation," "co-created," "co-production," "coproduction," and "service failure." Notably, an assortment of synonymous variants was incorporated to ensure a comprehensive search strategy. The culmination of this preparatory phase culminated in the formulation of a Boolean search query, "co-creation" OR "co-created" OR "coproduction" OR "co-production" AND "service failure," which was subsequently deployed in the Scopus (Science Direct) database as of September 2023. The resultant inquiry yielded a corpus of 17,604 articles, inclusive of contributions emanating from diverse disciplinary domains, including medicine and engineering.

The inclusion and exclusion process of the articles involved an initial exclusion of disciplines such as medicine, agriculture, biosciences, and others, with a subsequent focus on only three specific disciplines: social sciences, business management, and accounting. This meticulous curation yielded a corpus of 8,679 articles. The inclusion criteria were restricted to review papers and research articles, while materials such as case reports and general write-ups were deliberately omitted. This additional screening resulted in the selection of 7,977 pertinent articles. In the subsequent phase of the analysis, a scrutiny of the journal sources was undertaken. Initially, a total of 25 journals emerged from the previous selection process. However, after a comprehensive evaluation, 11 journals were eliminated due to their predominantly generalized content, leaving behind 14 journals directly relevant to the subject of co-creation and service failure. Consequently, a total of 3,446 articles published up to the year 2023 were identified for further examination. During the final curation step, a meticulous assessment of each selected article's title, keywords, and research content was conducted. Articles that did not encompass the key themes of co-created, co-creation, co-production, or service failure were systematically removed from consideration. This rigorous vetting process led to the exclusion of 2,915 articles that did not align with the specific investigative areas of interest. Ultimately, a curated dataset of 531 articles, spanning from the year 2001 to September 2023, was derived for in-depth analysis. These selected articles underwent comprehensive scrutiny, encompassing bibliometric profiling, an examination of their substantive content, and categorization based on the various facets of service failure within the context of co-creation.



**Figure 1. Schematic representation of the systematic literature selection process**

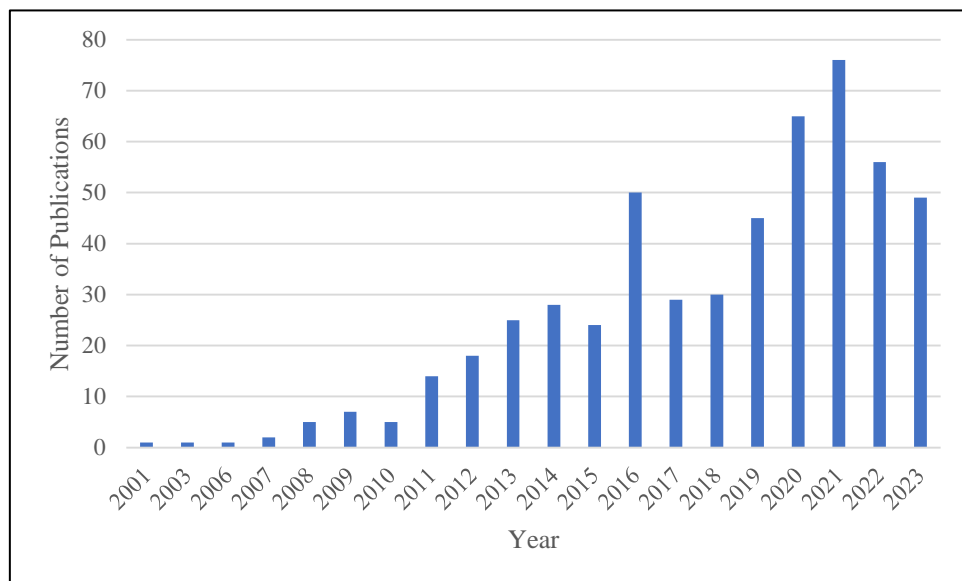
### **Data Analysis**

The data analysis phase involved a comprehensive examination of the article titles, authorship details (including co-authors), and the keywords within the finalized set of journals (n=531). Employing a blended research strategy that integrated both quantitative and qualitative approaches, we undertook an in-depth analysis of the dataset. Qualitative data analysis was facilitated through the utilization of the VOS viewer software. This software was employed to identify prominent authors, ascertain those with the highest publication counts, conduct keyword analyses for the purpose of mapping and assessing thematic clusters, and draw meaningful insights from this qualitative data. To enhance the depth of our analysis, we selected various parameters to represent the dataset within the cluster analysis. In this representation, the size of nodes corresponded to the frequency of occurrence of specific elements. Additionally, the links connecting these nodes symbolized diverse relationships, encompassing

connections, co-occurrences, collaborations, or co-citations among the identified elements.

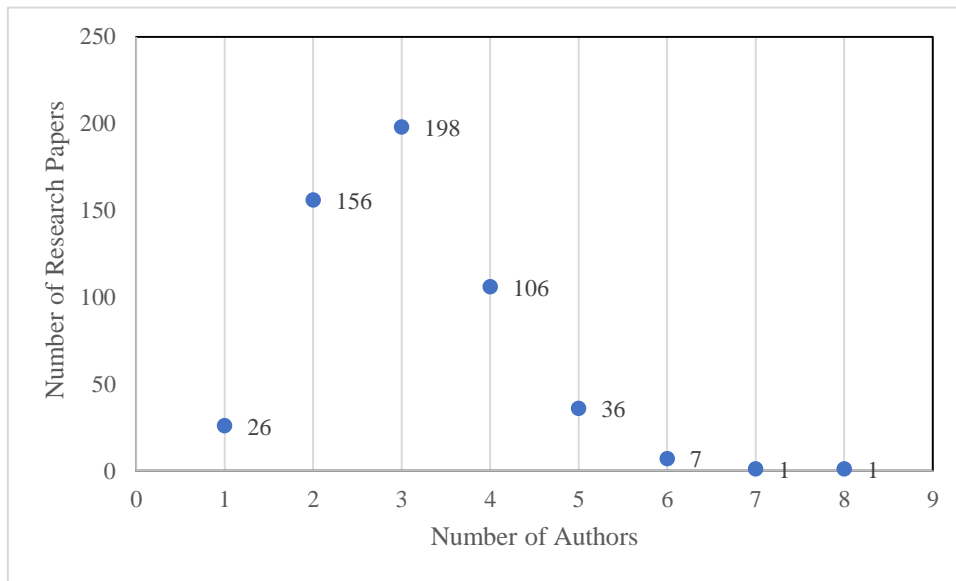
**Authorship Analysis**

A total of 1289 authors were identified in the 531 articles published in tourism, general management, marketing and information technology and social behaviour journals. The break-up of the articles and their authors was presented in Fig.3. 198 were authored by 3 people representing 37.29% which was followed by 156 articles (29.38%) authored by 2 people and 106 articles (19.96%) authored by 4 people. Altogether 2 articles were written with a collaboration between 7 and 8 co-authors. 181 authors had collaborated and contributed more than 2 articles in the field of co-creation and service failure (Fig. 3). The VOSviewer tool was used to analyse co-authorship and found the top 3 authors to be as Kim H (6 collaborations), Hajli N. and Buhalis D. (5 collaborations) (Fig. 4). Other notable authors are Zhang Y., Okumus F., Nadeem W., Mele C., Jang Sshawn and Dey BL; each with at least 4 collaborations in these areas (Fig. 5).

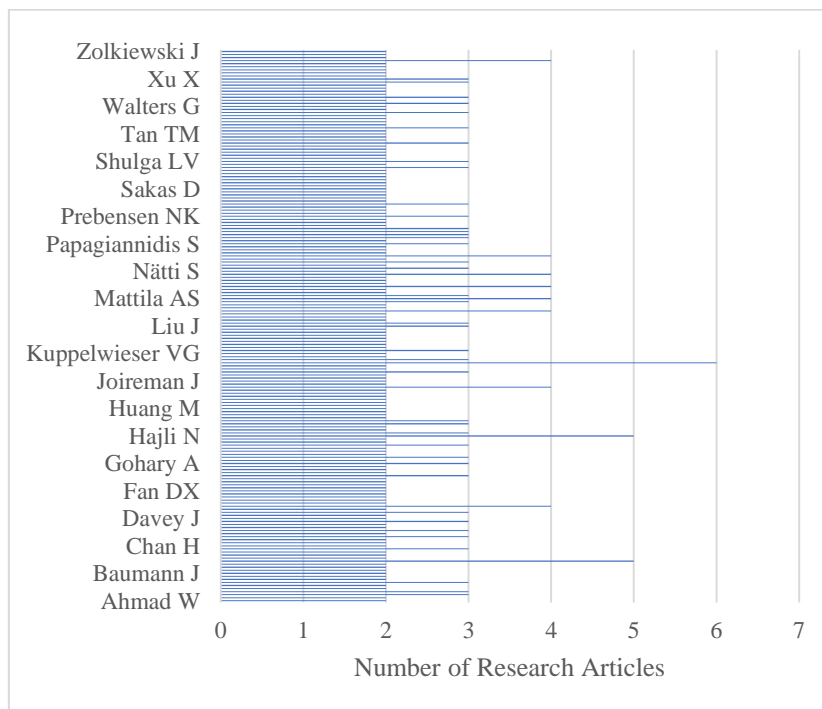


**Figure 2. Number of publications over the period 2001 to 2023**

The high number of collaborations in relation to the number of publications could be that the phenomena had been considered interesting and the number of articles published has been increasing over the period of time.



**Figure 3. Number of authors and their publications**



**Figure 4. Number of articles (at least 2) published by authors**

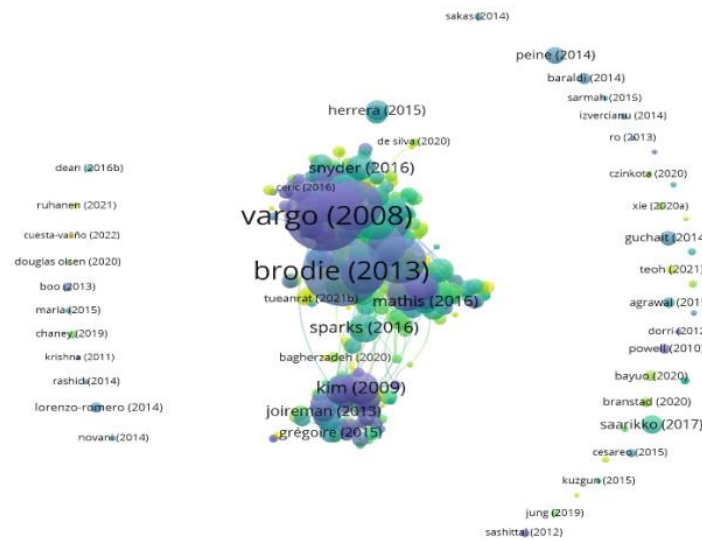
### **Co-citation of articles and author analysis**

Co-citation is a bibliometric method that assesses the extent to which two scholarly articles or documents are co-referenced by other academic publications. When

Rani and Sharma

papers A and B are frequently cited together by multiple third-party papers, it implies a degree of thematic or conceptual affinity between these documents. Co-citation analysis serves as a valuable tool for discerning research domains, subdisciplines, or subject areas that exhibit close associations, even if the documents in question do not explicitly cite one another. This technique excels at unveiling latent relationships embedded within the body of research literature.

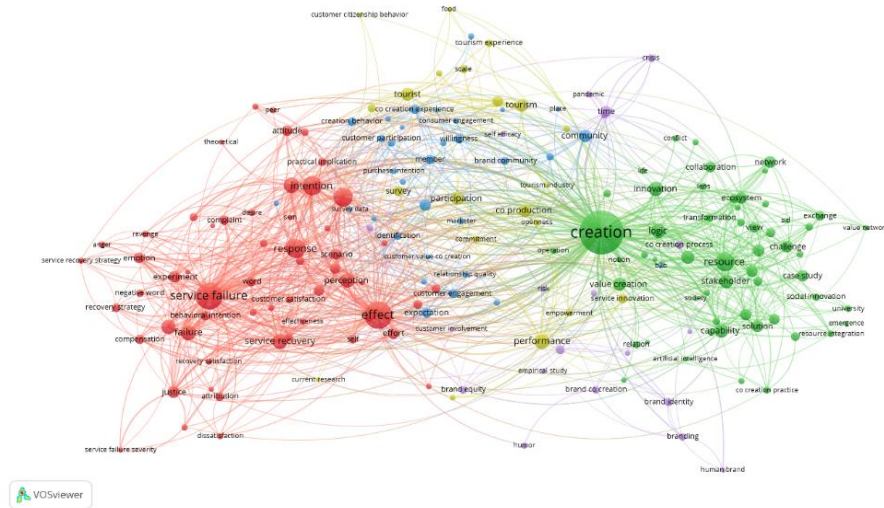
The analysis commenced by setting a minimum citation threshold of 10, and out of the original pool of 531 articles, 396 articles surpassed or met this citation criterion. This outcome indicates a focused examination of a subset of articles that have garnered substantial recognition within the academic community. Subsequently, through the co-citation analysis, five distinctive clusters of articles emerged, each characterized by varying numbers of articles and authors. Within these clusters, noteworthy patterns emerged: Cluster 1, the largest cluster, comprises 81 authors and their co-cited articles, indicating a substantial body of closely related research that has garnered significant attention within the field. Cluster 2, though somewhat smaller with 38 authors, represents another substantial grouping of research. Cluster 3, akin to Cluster 2, signifies a discernible subset of research within the broader domain of study, comprising 37 authors. Meanwhile, Cluster 4, with 32 authors, is somewhat smaller in scale compared to the previous clusters but still represents a noteworthy body of research. Finally, Cluster 5, the smallest among the identified clusters with 24 authors, possibly signifies a more specialized or niche research area within the larger academic domain.



**Figure 5. Co-citation of authors**

Brodie’s (2013) paper delves into the concept of consumer engagement within virtual brand communities, highlighting its multifaceted nature, dynamic attributes, and its repercussions on various dimensions, including but not limited to, loyalty, satisfaction, trust, and commitment. Additionally, it addresses the collaborative generation of value among participants in these online communities. Kim’s (2009) investigation focuses on the impact of three dimensions of justice—distributive, procedural, and interactional—on customer satisfaction following service recovery in luxury hotels. It further delves into the intricate interplay between satisfaction post-recovery and subsequent customer behaviours such as trust, word-of-mouth promotion, and intention to revisit. Furthermore, Vargo’s (2008) work presents an innovative outlook on the creation of value, focusing on the roles of service systems and the service-dominant logic paradigm. The argument posits that value is mutually generated through the interaction of resources within service systems, emphasizing the primacy of value-in-use over exchange-based value. In the analysis of these papers, it is found that they are frequently cited together in the context of discussions related to the broader concepts of consumer engagement, customer satisfaction, and value co-creation within service-oriented research. The co-citation analysis reveals the interconnectedness of these topics through the following possible potential co-cited topics: consumer engagement, online brand

communities, netnographic methodology, value co-creation, perceived justice, customer satisfaction, service recovery, trust, word-of-mouth, value co-creation, service systems, service-dominant logic and value-in-use.



**Figure 6. Co-occurrence of keywords from co-creation and service failure**

In the process of conducting this study, a meticulous examination was carried out on the selected research articles to identify and extract pertinent keywords. From a pool of 531 articles, a total of 1,773 relevant keywords were amassed. Subsequently, employing a minimum occurrence threshold of 10, a subset of 330 keywords met this criterion, thus forming the basis for the subsequent analysis. This analysis unveiled the existence of four primary clusters, as illustrated in Figure 6. The foremost cluster exhibited a pronounced focus on the conceptual domains of creation and resource allocation. It was prominently associated with keywords such as "stakeholder," "collaboration," "capability," "actor," "network," and "co-production." This suggests an underlying emphasis on collaborative research endeavours and the facilitation of partnerships and resource sharing among diverse stakeholders within specific contexts. The subsequent significant cluster centered on themes related to service failure and was linked to keywords encompassing aspects of "effect," "intention," "behaviour," "experimentation," "justice," "complaint," and "apology." This cluster appeared to be directed towards the examination of service quality, customer behaviour, and the resolution of service-related shortcomings. Cluster 3, characterized by a preponderance

of the keyword "participation," encompassed concepts such as "tourism," "community," "tourist," "customer," "intention," "effect," and "creation." This cluster seemingly explored the active involvement of various stakeholders, including tourists and communities, within the domain of tourism, with a particular focus on their intentions and the consequences of their participation. The fourth and final main cluster pertained to co-created processes and was prominently associated with keywords such as "brand co-creation," "identity," "branding," "crisis," "COVID," "identity," and "multiple stakeholders." This cluster delved into the intricate dynamics of brand identity, branding strategies, and crisis management, potentially within the context of the COVID-19 pandemic and the active engagement of multiple stakeholders. It is noteworthy that these clusters exhibit a discernible commonality in their emphasis on collaboration and the involvement of stakeholders. The principal cluster underscores the significance of collaborative efforts and resource-sharing among stakeholders. Collectively, these clusters enrich our comprehension of stakeholder engagement, service quality, participation, and co-creation across diverse contexts, conceivably within the domains of business and service industries.

## **Discussion**

The concept of co-creation fundamentally challenges the prevailing notion that creative endeavours are the exclusive purview of enigmatic savants, contending instead that creative processes are open and accessible to a broader demographic. Co-creation, as a construct, involves a collaborative synergy wherein employees and customers converge (Chathoth et al., 2013), harnessing their collective creativity to exert influence over the contours of products and services. Within the domain of business, co-creation delineates a comprehensive paradigm wherein consumers occupy a central role throughout the entirety of the product or service design continuum, encompassing facets such as idea generation, design conception, and content contribution (Pohlmann and Kaartemo, 2017). In the context of service-oriented entities, co-creation extends its ambit to encompass the entirety of service processes and products, thereby fostering a collaborative milieu conducive to the generation of distinctive services, the amelioration of cost structures, and enhancements in service performance. Co-creation, at its core, revolves around the dynamic interplay that characterizes interactions between firms and

consumers, with value emerging as a byproduct of this interactive symbiosis (von Wallpach et al., 2017). This paradigmatic shift, precipitating a transition from conventional business models to digital landscapes, underscores the changing landscape, primarily driven by robust and enhanced communication channels between consumers and corporations. Within this digital milieu, consumers assume a dual role, concurrently functioning as co-creators and consumers, as technological advancements proliferate and communication platforms burgeon. The digital transformation of value co-creation is propelled by heightened consumer participation and exemplifies a transformative shift in the *modus operandi* of business-consumer engagement.

Several studies address the needs for examining the relationship between co-creation and service failures. This study focused on co-creation and service failures research from 2001 to September 2023 in business journals. The turn of the century and the presence of few articles on co-creation has been taken as an anchor point for the study. All the articles examined in this study are related to co-creation and service failures. An analysis of 531 articles across diverse academic journals related to tourism, management, marketing, information technology, and social behaviour revealed insights into authorship and collaboration trends in the fields of co-creation and service failure. A total of 1289 authors were identified, highlighting the multidisciplinary nature of research in these domains. Most articles were authored by small teams, with 37.29% having three authors and 29.38% having two authors. Only a few articles involved larger collaborations of four or more authors. Notably, 181 authors were engaged in multiple research projects within these fields, indicating sustained interest and growth in these research areas over time. The analysis also identified top collaborative authors, such as Kim H, Hajli N., and Buhalis D., underscoring the significance of cooperation in advancing understanding in co-creation and service failure. The data analysis of 531 research articles revealed four key thematic clusters. The first cluster focuses on creation and resource allocation, emphasizing collaboration and partnerships among stakeholders (Schiavone et al., 2021). The second cluster centres on service failure, exploring service quality and customer behaviour. The third cluster highlights participation, particularly within tourism, and examines the intentions and consequences of stakeholder engagement (Zhang, 2023). The fourth cluster delves into co-created processes, including brand identity, branding strategies, and crisis management, often

within the context of the COVID-19 pandemic. Collectively, these clusters emphasize collaboration and stakeholder involvement, enriching our understanding of stakeholder engagement, service quality, participation, and co-creation across diverse contexts, with potential implications for business and service industries.

## **Conclusion**

The objective of this scholarly article is to scrutinize research articles focusing on co-creation and service failures, with a particular emphasis on the areas of interest within the business sector during the inception of the co-creation concept at the turn of the century. Co-creation challenges the conventional belief that creativity is a privilege of a select few, emphasizing its accessibility to a broader demographic (Zhang, 2023). It entails a collaborative synergy between employees and customers, allowing them to collectively shape products and services across diverse domains. The comprehensive analysis of co-creation and service failures research spanning from 2001 to September 2023 illuminates the evolving research landscape in these fields. This investigation identified 1,289 authors contributing to 531 articles in a range of academic journals, highlighting the multidisciplinary nature of this research. Most articles were collaborative efforts, suggesting a preference for teamwork. Notably, 181 authors engaged in multiple research endeavours, indicating sustained interest and growth in these domains. The study also identified prominent collaborative authors, such as Kim

H, Hajli N., and Buhalis D., underscoring the significance of cooperation in advancing knowledge pertaining to co-creation and service failure. Furthermore, the analysis of these research articles revealed four distinct thematic clusters, enriching the comprehension of co-creation and service failure. These clusters emphasize collaboration, stakeholder engagement (Babu et al., 2020), and various facets of these research domains, including creation, resource allocation, service quality, customer behavior, participation, and co-created processes (Zhou et al., 2014). Collectively, these findings enhance our understanding of stakeholder involvement, the enhancement of service quality, dynamics of participation, and co-creation practices within diverse contexts. These insights may hold potential implications for the business and service industries within the evolving digital landscape.

### **Limitations and Future Research**

This study has certain limitations that merit discussion. Firstly, the articles used for analysis were primarily sourced from a single database, specifically Science Direct by Scopus. Consequently, there exist limitations concerning the potential omission of relevant articles related to co-creation and service failure that fall beyond the scope of Scopus. Secondly, the methodology employed in this study imposes constraints that necessitate a cautious interpretation of the findings. The qualitative technique adopted herein precludes the generalizability of the conclusions to other contexts or situations involving the studied phenomenon. Moreover, it is worth noting that co-creation is an evolving process, and research on co-creation and service failure has been burgeoning at an accelerated pace. The criteria used for sample selection may have inadvertently excluded journals addressing policy and business practices published in offline formats. Therefore, future research endeavours may consider incorporating additional clusters into their bibliometric investigations to identify potential cross-disciplinary research gaps.

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## **Exploring Cultural Views on Prenatal and Postnatal Care in the Khasi-Jaintia Hills: A Traditional Healthcare Approach**

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### **Abstract**

*This article delves into the traditional healthcare practices of the Khasi community, specifically focusing on their customs related to pregnancy, childbirth and the well-being of both infants and mothers. It provides an examination of the rituals and ceremonies associated with different stages of pregnancy. By doing so, the article aims to uncover the traditional healthcare methods utilized by the Khasi people for prenatal and postnatal care, emphasizing their deep integration with cultural beliefs. It explores practices such as prenatal massages, childbirth rituals designed to protect mothers from malevolent entities and postnatal naming ceremonies. The goal is to draw parallels between these indigenous approaches and modern medical advancements, highlighting the potential for holistic care for mothers and infants through their integration.*

**Keywords** - Prenatal, Postnatal, rituals, *Tap Kpoh*, *Jer Khun*.

### **Introduction**

Nestled in the picturesque Khasi-Jaintia Hills of Northeast India, the Khasi community boasts a unique cultural approach to prenatal and postnatal care. Their traditional healthcare methods incorporate a rich tapestry of rituals and ceremonies aimed at ensuring the health and prosperity of both the mother-to-be and the newborn. These customs are firmly grounded in their cultural heritage, placing significant emphasis on divine guidance and ancestral blessings. This article explores the Khasi-Jaintia Hills' cultural outlook on prenatal and postnatal care, offering insights into their time-honoured healthcare practices. It is crucial to remember that these rituals and ceremonies are practised and enforced since pre-colonial times (Gurdon, 1906) and continue to be carried out until the present (Nongspung, 2012)

Pregnancy is significant in Khasi society as it stems from their deep-rooted beliefs that developing life has an inherent value. From conception to birth, the

reverence and value for the unborn child is reflected in the sacred customs and passages associated with birth. It is a common belief among the Khasis that the Ancestress and the Godhead directly protect the unborn child (Mawrie, 1981). Such beliefs in which divine entities play a vital role in the growth and development of a human being is reflective of the spiritual worldview of the Khasis. *The Khasi Milieu* (Mawrie, 1981) describes the beliefs that emphasize such practices as abstinence from using derogatory language around or toward the unborn child. The Khasis consider the unborn child to be a manifestation of God's design, which underscores the foetus's worthiness and evokes the general admiration of the community. Such beliefs prohibit ill-treatment towards the child since it contradicts all core values the Khasi society upholds. Rather than stating the time of conception of their child, mothers are advised to refer to the rough period for which they have been taking care of the child (Mawrie, 1981) - a linguistic distinction that takes attention away from the act of conception to the act of caring. By shifting the focus from conception to a motherly act of kindness and caring for the unborn child, Khasi society fosters an environment wherein expectant mothers can nurture and look after the welfare of their unborn child. In addition to all the norms that people have to adhere to throughout the gestation period of a child, society as a whole treats pregnant women with much respect. There are measures in place that ensure their well-being, such as offering them nutritious food, preventing them from sleeping on the floor, exempting them from heavy work in order to safeguard their health as well as the health of their unborn child.

### **Survey of Literature**

When it comes to understanding traditional conceptions of disease and the evolution of healing practices in the Khasi- Jaintia Hills, the works of Snaitang, (2010) and Passah (2009) are vital sources of information. Though the works include several discerning details about traditional healing practices and the involvement of traditional priests, they do not offer insight into midwives' contributions to providing healthcare services and other ceremonies performed during pregnancy. The need for sufficient information and exposition on the contributions of midwives is a gap in the existing literature on traditional healthcare practices of the Khasi- Jaintia Hills. Similarly, Bhat (1986) article contains a detailed insight into the conceptualization, causation, treatment and diagnosis of diseases in the Pnar community. However, it omits detailed discussions on the various rituals and cultural ceremonies associated with healing within the Pnar

community. The lack of emphasis on the above topics presents avenues for future research since they can deepen our understanding of comprehensive healthcare practices within the Khasi- Jaintia Hills. An interesting study on the realm of indigenous Khasi healers of Meghalaya called ‘Doktor Kot Doktor Sla’ (Albert and Green, 2019) presents distinct expertise through interviews and observations. It sheds light on traditional healing from a patient-centred approach and adaptations that fill gaps in the biomedical approach, highlighting the importance of localism in India’s pluralistic medical healthcare environment. In Ahmed and Borthakur (2005) records, we find a more precise focus on the various herbal remedies that are used in healing, along with a discussion on disease concepts.

In the work of Das (1994) we delve into a detailed introduction to the Khasi-Jaintia conceptualization of illnesses along with an extensive compilation of herbal remedies for several ailments. The list of remedies presented by Das (1994) encompasses herbal aids for ailments such as dysentery, poisoning and toothaches, in addition to remedies for pregnant women who experience pain in the later stages of their pregnancy, remedies to enhance fertility, address menstruation issues, ease labour difficulties and cease postpartum bleeding. Gurdon (1906) offers an academic outlook on the Khasi community by examining their religious practices, concepts of disease and the roles of divination in healing. Additionally, his book offers an in-depth analysis of cultural practices of pregnancy, such as the rituals and traditions associated with birth and the naming tradition, *Kaba Jer Khun*. Lyngdoh (2013) identifies three significant pregnancy practices that offer a glimpse into the cultural practices associated with the gestation period. Although insightful, Homiwell Lyngdoh’s account of rituals is inconclusive when it comes to understanding a broader spectrum of ceremonies, as indicated in the records of Mawrie (1981). The records and observations made by Mawrie emphasise gender restrictions imposed particularly on men during the pregnancy phase of their wives. To understand the gender roles imposed on women, we must consult the more in-depth analysis of this aspect in the work of Nongspung (2012). In a study conducted by Kharmujai et al., (2018) they identified and emphasised several factors that influence the choice of delivery location among rural women.

While several individual works address specific nuances of the ceremonies associated with childbirth in Khasi society, there is a pressing need for a more

comprehensive and thorough analysis. Ideally, an inclusive scholarly work must encompass all aspects of rituals and ceremonies of childbirth, including the role of the community, midwives and any further research that needs to be done in uncovering other traditional practices or ceremonies. Therefore, this article attempts to bridge such a knowledge gap through comprehensive studies that aim to compile all known childbirth ceremonies by ensuring a holistic understanding of their cultural significance.

### **Prenatal Beliefs and Pregnancy**

As per the tenets of traditional Khasi culture, a pregnant woman is expected to follow certain rituals and a set of norms that dictate their behaviour and healthcare practices. Cultural norms advocate that a woman during her pregnancy should not try to separate herself from her husband, such as by seeking a divorce (Nongspung, 2012). She is also prevented from engaging in any activity that would distance herself from her husband. Ultimately, the norms highlight an inherent significance of marital and family unity in the Khasi culture and propose that the period of pregnancy should, in effect, strengthen the bond between married couples. During pregnancy, it is also crucial for fathers to be cautious and considerate in their actions. For example, when their wives are pregnant, men are restricted from handling red-hot iron since it is believed that this could cause purple or red birthmarks on their child's body (Mawrie, 1981). Additionally, men are also prevented from handling a gun, hunting or killing snakes (Mawrie, 1981). The stories of children born with deformities in Nongsteng and Mawlong because their fathers were impervious to these precautions further serve as a deterrent for most men from engaging in the activities mentioned above (Mawrie, 1981). Apart from potential actions that can jeopardise the health of their unborn child, it is believed that when women experience breathing difficulties during childbirth, it is caused by their husband engaging in adultery. Associating adultery with unnatural birth or complications during childbirth reflects a social emphasis on the sanctity of monogamy. The rituals and restrictions highlight interplay between social norms, cultural beliefs and medical knowledge, which shaped the Khasi society, understands of childbirth and pregnancy. The practices described in this section also reflect social restrictions and gender roles imposed on women and men, in addition to the health benefits and attention they get during childbirth.

### **The Sacred Ritual of *Ka Tap Kpoh***

Prior to reaching their ninth month of pregnancy, the Khasi community holds a *Tap Kpoh* ceremony that aims to promote and ensure the well-being of a pregnant woman. In addition to the *Tap Kpoh*, there are special arrangements, such as preparing different vessels, which are prepared by the time the mother nears her labour phase. The different vessels, including the *khiew saw* (Nongspung, 2012) for hot water, the *ktang sohpet* (Nongspung, 2012) for cold water, and the *khiew shynnai* (Nongspung, 2012) for the placenta, play a vital role in these preparations. The vessels themselves hold practical and cultural significance for the Khasis. During childbirth, they facilitate care practices such as cleaning and bathing a newborn and managing the placenta and the umbilical cord.

The ritual of *Ka Tap Kpoh* is a symbolic equivalent of the Consecration of a mother's womb, (Mawrie, 1981) believed to preserve the physical health of the mother and the child. *Ka Tap Kpoh* proceeds through several ceremonious steps, the most common of which involves sacrificing a hen (Mawrie, 1981) The hen chosen for the sacrifice must be prepared specially for the ritual, one of the requirements being that it should have spotless legs (Mawrie, 1981) regardless of its colour. Another requirement is that the expectant mother sits to the right of the person who performs the sacrifice and hands them the hen. After they thank God for his divine design that humankind follows for their posterity, the person performing the sacrifice interprets the signs presented by the intestines of the hen. It is a belief that the sacrificed hen's intestines indicate if God approves of the ritual. If the signs are not appropriate, the sacrifice is repeated.

The Khasis believe that a morbid phenomenon causes prenatal and postnatal deaths called the *ka iap tyrut ka iap smear*, (Mawrie, 1981) and one purpose of the *Ka Tap Kpoh* is to prevent it from happening. *Ka Tyru* (Ahmed and Borthakur, 2005) is the spirit of accidental deaths, and it is believed to cause misfortune to the family, which means women, especially pregnant ones, are advised not to attend the funerals of victims who died from such causes. Performing a *Mait Tyrut* (Mawrie, 1981) ceremony can supposedly clean a family of the *Tyru*. This involves offering a black hen (Mawrie, 1981) to the spirit to prevent further deaths from befalling the family or the community.

### **The Delivery Process and After**

Traditional birth attendants (TBAs) are revered for their practices and services in the Khasi community. They are mostly experienced women who offer their assistance to expectant mothers throughout their period of pregnancy. They possess undocumented knowledge related to pregnancy. There is a belief that specific prenatal massages that they perform can help encourage the foetus to assume and maintain an optimal position, potentially facilitating an easier delivery (Kharshandi, 2023). Just as the comprehension of herbal remedies lacked formalisation or standardisation, the understanding of pregnancy followed a similar pattern. Rather than relying on formalised systems, it drew upon ancestral wisdom transmitted across generations, knowledge gained through apprenticeship, an intrinsic potential termed *kasap*, and practical experience accumulation (Albert and Green, 2019). Generations of practice have garnered them profound trust from the communities they serve.

Generally, in the Khasi society, women give birth in the comfort of their own house or the residence of a birth attendant, with the preference of the expectant mother taking precedence in deciding the place of birth (Mynsong, 2023). A birth attendant tends to a mother's need diligently over the entire term of pregnancy with the sole need of promoting smooth childbirth. There are several techniques that midwives employ during, before and after labour to promote accessible, painless childbirth. The techniques that they employ include massages, breathing techniques and the utilisation of a *jain sala* or cotton cloth for postpartum clean-up (Kharshandi, 2023). In some instances, a male healer might also assist childbirth through vocal encouragement that supposedly stimulates the birthing process through utterances of phrases such as 'come out, oh child of *Iawbei* (Ancestress), it is your time' (Nongspung, 2023). Although the current childbirth processes still honour the ancestral traditions, certain cases that present unforeseen complications are dealt with through hospital transfers.

There are several symbolic associations to traditions and practical hygiene needs in the post-birth rituals of Khasi birthing practices. Measuring a child's umbilical cord, which is extended from the right knee for male infants and the left knee for female infants (Nongspung, 2012) can be seen as an action that ascribes gender-specific characteristics to these infants shortly after their birth. To sever the umbilical cord, Khasis use a bamboo instrument (Nongspung, 2012) since it aligns with traditional practices and is also considered gentle and natural, although recently some have even

resorted to using blades. There are designated containers for the placenta, known as the *khiew ranei*, the positioning of which indicates respect and ensures traditional disposal of the placenta after birth.

Bathing rituals begin after placenta placement, and it involves using warm water, which is a result of blending the contents of both *khiew saw* and the *khiew umsohpet* containers. The TBAs perform this ritual. The separate blending process involved in the preparation of warm water shows how traditional rituals create a controlled bathing environment promoting the well-being of infants. Until the umbilical cord separates, the ritual uses only the specific water that is prepared in the *khiew saw* and the *ktang umsohpet* receptacles (Nongspung, 2012).

In the order of their precedence, the ceremony that follows the bathing ceremony is the *Jer Khun* or the naming ceremony (Mawrie, 1981). *Jer Khun* is of great importance in Khasi culture since; in addition to assigning an identity to a newborn, this ceremony appeases the *Dawiing*, a composite entity comprising the Godhead, Ancestress, Ancestor, Ancestral Uncle, and deceased close relatives (Mawrie, 1981). *Jer Khun* involves selecting a name through divination rituals which would ensure that the future of the child would be marked by happiness and good fortune.

A naming ceremony typically begins the following day after a child's birth, and one of the characteristic features of this ritual is that it uses symbols to establish the child's gender. As we mentioned in the previous sections, Khasi society emphasises the importance of gender roles through rituals associated with childbirth. Particular articles are placed beside the child in the naming ceremony, depending on their gender. The hearth keeps a sword, bow and arrow (Mawrie, 1981) if the child is a boy. If the child is a girl, *ka khoh* and *u star* (Mawrie, 1981) are placed there.

Since the Khasis believe in the possibility that they might offend the *Dawiing* if they pick a bad name for their child, they often suggest three options. The selection process is characterised by a step known as divination, in which the family consults the God of the Clan or Godhead. Several methods exist for divination, including egg-breaking, dropping bamboo or spilling liquor from a gourd (Nongspung, 2012). A sacrificer performs all these rituals in the presence of some family and friends. When spilling the liquor ritual, the sacrificer takes a plantain leaf (*'la kait*), places it on the floor, and sprinkles water on top of it. Then he takes another leaf and performs the

sacrifice, invoking God and the ancestors who have given birth to boys and girls for generations, asking for the baby's name. Once the ritual is completed, the parents reveal their name for their baby. The sacrificer pours some alcohol into a gourd and checks if it sticks to the mouth of the gourd. If it does not stick, he asks them to choose another name until the alcohol stays in the mouth of the gourd, indicating a proper name for the baby (Nongspung, 2012).

Finally, the sacrificer calls upon God, saying:

'Hear and listen, oh God,

Whose name is secure and steadfast,

May the baby grow old and grow healthy' (Nongspung, 2012).

Despite the several procedures in the naming ceremony meant to appease the gods and ancestors, people still have a lingering fear of offending the Godhead, Ancestress and other ancestors. If the Gods are not pleased, there is a potential that a composite *Dawing* associated with the child would be disrupted, thereby affecting the child's future. To address such concerns and to provide additional protection to the child, a supplementary ceremony called *ka Tap Lubri* (Mawrie, 1981) or confirmation ceremony, is performed.

A confirmation ceremony happens after a child has been assigned a name, and it involves presenting them with a new garment, such as a *jymphong* (Mawrie, 1981) for a boy and a *jain kyrshah* (Mawrie, 1981) for a girl. In a few cases, when people observe persistent illness (Lyngdoh, 2013) in the child after the naming ceremony, they associate it with the discontentment of spiritual entities. When an infant has health issues after the birthing ceremony, the *Rngiew* and *ka bok ka rwiang*, representing the child's spirit and soul, respectively, must be established on a firm foundation. The firm foundation here means they are given a name, supposedly giving them a new identity and peace in their spirits. In case the child still does not show any improvement in their health, they are entrusted to their paternal grandmother through a process known as *Ka Kyrbah Nongkha* (Mawrie, 1981). The paternal grandmother then assumes complete guardianship of the child. She offers prayers to God for the child's health, growth and prosperity. The *Ka Kyrbah Nongkha*, or surrendering of the child from one family

member to another, highlights the importance of intergenerational knowledge transfer and the role of elders in upholding cultural and religious practices.

In addition to the protection and guardianship of the Ancestress and the Godhead, the divine entities are also responsible for several occurrences in a child's early stages of development. For example, children pass solid stools when they have not yet consumed solid food- known as *ka eit iawbei* (Mawrie, 1981) or 'Ancestress stool,' and it supposedly establishes a connection between the child and the Ancestress. Similarly, when children spontaneously laugh or smile before they become self-aware, it is considered to be a response to the amicable interaction of the Ancestress, dubbed as the *rkhie iawbei* or *rain iawbei* (Mawrie, 1981). When a child moves their lips in a sucking motion when they are not being breastfed, people believe that the Godhead and the Ancestress are feeding the child. The observance of *ka eit iawbei*, *rkhie iawbei* and other interpretations of infant activities symbolises the spiritual presence of the divine in the child's life right from its inception.

In Khasi culture, divinity is also believed to take physical manifestations in stretch marks on the mother's belly or a head full of hair on an infant not older than one year. The stretch marks on the belly of the mother are considered to be *ka trud iawbei* (Mawrie, 1981) or 'Ancestress scratch.' The origin of hair on a child younger than a year is thought of as *u niuh iawbei* (Mawrie, 1981) or 'Ancestress's hair.' Cutting the Ancestress's hair is avoided until the child crosses one year since it is believed that cutting this hair would deprive the child of *ka rngiew*, a spiritual essence (Mawrie, 1981).

The birth of twins is considered bad luck in Khasi culture since it is often interpreted as the Godhead's displeasure and the disruption of the *Ka Dawiing*. Twins are therefore treated with absolute equality, and much attention goes into ensuring equal treatment at home and outside, including getting similar garments, food and care. It is believed that any inequality in treatment may jeopardise their lives, potentially leading to the demise of one of the twins.

### **Challenges and Preservation**

Empirical research conducted in Bhoiryimbong in 2016 reveals that the majority of women in Meghalaya (52%) opt for a TBA-assisted birth (Mawrie, 1981) While

traditional Khasi customs and ceremonies related to childbirth among those following the traditional Khasi religion remain intact, the choice of TBAs as a delivery method is a personal decision made by mothers, regardless of their religious affiliation. The preference for delivering their children at home is higher among mothers residing in rural areas, averaging around 61% (Kharmujai et al., 2018). The study concludes that the choice of mode of birth depends on external factors such as financial limitations, concerns about out-of-pocket expenses, restricted access to roads and modes of transportation, distance of healthcare facility from home, the sense of privacy, safety and comfort at one's house and the ability to tend to any manageable household matters, such as taking care of older children; and limited awareness of healthcare programs such as the Janani Suraksha Yojana (JSY), Janani Shishu Suraksha Karyakram (JSSK) or Meghalaya Maternity Benefit Scheme (MMBS) (Kharmujai et al., 2018). In some cases, the perceived indifference and seemingly callous behaviour of health professionals impact the preferred mode of delivery (Kharmujai et al., 2018).

One major drawback of choosing one's house as the place of delivery is that, unlike hospitals or other medical institutions, a house is not equipped to handle birth-related complications. Due to the lack of institutionalised training, TBAs typically need to gain the expertise or knowledge to address or manage potential complications during childbirth. As a result, some cases are transferred to hospitals for medical intervention, which poses a risk of potential delays in procuring institutional intervention. Further, TBAs are not trained in universal hygiene practices or protocols. For example, some TBAs use aged bamboo to sever the umbilical cord, while others choose a new or old blade that is sterilised through boiling (Kharmujai et al., 2018) risking contracting tetanus.

To address challenges in TBA-assisted births effectively, a multifaceted approach is crucial. First and foremost, specialized training programs must be instituted for TBAs. These programs should focus on equipping TBAs with the necessary skills and knowledge to handle potential complications during childbirth. Emphasizing universal hygiene practices and safe procedures is vital to mitigate infection risks like tetanus. Regular refresher training programs, conducted in collaboration with healthcare professionals, should also be offered to ensure that TBAs stay updated on best practices. In parallel, increasing awareness among expectant mothers and their families about government healthcare programs is of paramount importance. Initiating informational

campaigns in rural areas can ensure that mothers are well-informed about the benefits and support available through programs such as JSY, JSSK and MMBS. Moreover, creating incentives for institutional deliveries through these schemes can motivate more mothers to opt for healthcare facilities when giving birth. Furthermore, improving accessibility to healthcare facilities in rural areas is a critical step. This can be achieved through investments in better roads and transportation options, as well as an increase in the number of healthcare centres. Simultaneously, it is essential to ensure that these healthcare facilities are adequately staffed with trained professionals who can provide quality care during childbirth. Addressing concerns related to the safety and comfort of hospitals is also crucial to encourage mothers to choose institutional deliveries confidently. Another significant aspect is the attitudes of healthcare professionals. Sensitization and empathy training should be implemented to enhance their interactions with expectant mothers and their families. By treating mothers with respect and compassion, healthcare providers can significantly influence their choice of delivery location. A supportive and caring attitude from healthcare professionals can go a long way in building trust among expectant mothers. Moreover, to reduce the risk of infections, including tetanus, it is crucial to promote proper hygiene and infection control practices. Providing sterile birth kits to TBAs and training them in their proper use is essential. Additionally, TBAs should be encouraged to use safe and sterile tools for procedures like cutting the umbilical cord. These measures can significantly enhance the safety of home births and reduce infection-related risks. Lastly, the implementation of a robust system for monitoring and evaluating the performance of TBAs, healthcare facilities, and the overall maternal healthcare system is vital. Data and feedback gathered through this system can inform policy decisions and help identify areas that require improvement. Continuous assessment and refinement of strategies will ensure the effectiveness and sustainability of efforts to promote safer and more informed choices for expectant mothers in Meghalaya.

Choosing institutional healthcare facilities for childbirth should not be seen as a complete replacement for traditional birthing ceremonies and practices. It is essential to find a balance between offering high-quality, safe healthcare services to mothers while preserving cultural traditions. For example, some mothers have already shown a willingness to embrace aspects of modern healthcare, such as seeking pre-birth

massages before delivering in a hospital (Kharshandi, 2023). To achieve this cultural preservation, collaborative efforts are crucial in creating a healthcare system that combines the holistic approach of Khasi traditions with the reliability of modern medical practices. This collaboration should involve traditional healers, healthcare professionals and policymakers.

### **Conclusion**

The significant insight drawn from the traditional practices surrounding prenatal and postnatal care in the Khasi-Jaintia Hills is the profound sense of familial, cultural, and community bonds they foster. These rituals, intricately woven into infancy, childbirth, and post-birth ceremonies, exemplify the deep commitment of the community to support and nurture the child as they embark on their life journey. What makes these practices truly captivating is their potential to complement modern maternal healthcare services while safeguarding the safety of both the mother and child. While modern healthcare practices continually advance to enhance pregnancy outcomes, the traditional beliefs offer a holistic approach that encompasses not only the physical health but also the emotional and cultural well-being of the mother and child. In this harmonious blend of tradition and progress, we witness the beauty of a community's collective effort in preserving their heritage while embracing the benefits of contemporary healthcare.

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## Interior Scaping for a Better Living-A Review

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### Abstract

*With the rapid urbanization and population explosion, the air quality has declined over the years which have resulted in stress, depression and multiple respiratory diseases. As density of people has increased over a given area, proportionately the need of clean and fresh air has also increased. Horticulture science has come up with very unique idea of interiorscaping as a solution to all problems. Plants not only help to groom the interiors but also contribute to the psychological well-being of humans. Indoor plants play a significant role in improving indoor air quality, due to their capacity to absorb toxins and carbon dioxide and regulating the humidity level. The use of indoor plants could prove to be a cost-efficient way of indoor air-purification that could be adapted for a variety of environments and can also add an aesthetic value that can have an indirect impact on human health. Many species of ornamental shrubs and herbaceous landscape plants have been identified as phytoremediator to improve indoor and outdoor air quality. During the Covid-19 pandemic, the use of indoor plants has gained attention as a new possible eco-friendly tool for indoor air purification and for reducing the spread of COVID-19 in confined places. The goal is to create a synergetic environment for both plants and humans.*

**Keywords:** Foliage plants, Horticulture, human well-being, indoor plants, aesthetic value.

### Introduction

Indoor plants have been an integral part of our lives providing environmental, economic and social benefits to the society. Plants have been rightly called as the ‘lungs of the cities’ due to their ability to combat pollution (Mcpherson, 2005). The global death toll was estimated to be more than 4.2 million people who are indirectly related to

indoor air pollution (World Health Organization, 2021). Out of this, 8% suffered from lung cancer, 18% had stroke, 27% ischemia heart problem, 20% chronic obstructive pulmonary disease and 27% pneumonia. The declining indoor air quality are driven by factor such as chemicals present in household products, burning of solid fuels for cooking and heating in households, molds present in home, increasing air temperature, high humidity, etc. All these factors collectively contribute to a phenomenon known as the 'sick building syndrome'. Indoor air quality (IAQ) has become a grave cause of concern, as it is two to five times worse than the ambient air. Facing the potentially deadly air quality outside, with the rise in pollution levels in urban areas, people are now desperate and ready to pay to breathe in clean air. To deal with such situation, the first oxygen bar 'Oxy Pure' was started by Aryavir Kumar and Margarita Kuritsyana in 2019 at New Delhi where one had to pay Rs 300 to 500 to inhale 80 to 90 per cent pure oxygen air, fused with different essential oils for about 15 minutes. However, it is not possible for all section of people to pay for a breathable air.

In January 2019, when nearly 102 cities in India failed to comply with the air pollution standards, the Ministry of Environment, Forest and Climate Change (MoEFCC) launched National Clean Air Programme (NCAP) with an aim to improve air quality and to achieve reductions up to 40% or achievement of National Ambient Air Quality Standards for Particulate Matter<sub>10</sub> (PM<sub>10</sub>) concentrations by 2025-26. The fact that indoor air pollution is a realistic threat to human health as agreed by environmental scientists and government agencies, the question now arises as to how the problem can be solved.

Interior scaping is one of the most promising and economical solution for alleviating the 'sick building syndrome' associated with many new, energy efficient buildings. It involves the art of growing and arranging plants indoor or in the house for its best use for function and its aesthetic value. It is the least expensive way to clean the air and keep the human bodies fresh and in healthy working state. This works on the concept that the plant root soil zone is the most effective area that destroys the pathogenic viruses, bacteria, and the organic chemicals, which eventually converts all of these air pollutants into new plant tissue. Trees works as the air purifiers of the atmosphere and indoor plants functions the same way but inside a closed space. These plants absorb noise as well hence help in reduction of noise pollution.

Many scientific studies today describe the interactions between people and plants, both inside and outside. A wide range of advantages have been identified, including better air quality (Wood et al., 2002), less stress (Dijkstra et al., 2008), and quicker recovery from illness. An increase in the usage of plants to address environmental and health issues is being attributed to studies based on their advantages. The tangible impacts, such as the elimination of air pollution, have a relatively well-understood physical source. The most efficient use of plants to address these concerns is hampered by a lack of theoretical grounding. This article reviews some of the research undertaken that have proven the health benefits of plants, with an emphasis on indoor plants. The objective is to illustrate the value of flowers, beautiful plants, and gardens as activities that promote wellbeing and sound mental health.

### **Indoor plants for a healthy lifestyle**

Growing and maintaining indoor plants have emerged as a new way to a healthy lifestyle in a polluted indoor environment. It not only improves the indoor living space but also has a positive effect on human attitudes, behaviours and physiological responses, influencing overall health and happiness to a great extent. Due to the changing lifestyle, stress related disorders in work environments are on the rise and there is a need for understanding the relationship between plants and human well-being (Singh, 2023).

### **Improvement of Indoor Air Quality**

Indoor plants are effective in phytoremediation that purifies the air and absorbs the harmful pollutants like ammonia, formaldehyde, carbon monoxide, benzene, etc. The bacteria that grow on the plant rhizosphere play a significant role in decreasing the pollution. As per the studies conducted by NASA, roughly two plants per 100 square feet are recommended to filter the air indoors. Early research on utilising plants to purify the air in space stations was financed by the U.S. National Aeronautics and Space Administration. The volatile organic compounds (VOCs), particulate matter, ozone and biological contaminants contribute to the air pollution indoors. Plants have the ability to either remove or lower down the level of VOCs (Volatile Organic Compounds) from indoors through stomatal uptake, absorption, and adsorption to plant surfaces. Hong et al. (2017) in their studies revealed that *Ficus spp.* had the ability to lower down the levels of VOCs pollutants in the room like benzene, ethylbenzene, xylene, styrene, formaldehyde, acetaldehyde, and toluene. Plant

species such as *Epipremnum aureum*, *Polypodium formosanum*, *Lavandula spp.*, *Selaginella tamariscina*, *Pteris multifida*, *Pelargonium spp.*, *Aloe vera* have been reported by Kim et al. (2010) to be effective in removing formaldehyde from indoor air. Aydogan and Montoya (2011) revealed the efficacy of plants such as *Hedera helix*, *Chrysanthemum morifolium*, *Dieffenbachia compacta*, and *Epipremnum aureum* in reducing the levels of formaldehyde upto 90% within 24 hours' time. A study conducted by Garg et al. (2021) have shown that benzene can be efficiently removed from indoor air by plants like *Aglaonema modestum*, *Aloe vera*, *Chrysanthemum morifolium*, *Dracaena marginata*, *Epipremnum aureum*, *Gerbera jamesonii*, *Hedera helix* and *Spathiphyllum wallisii*.

**Table 1. Indoor plants suitable to combat air pollution**

Plant species	Common name	Pollutants removed
<b>Foliage plants</b>		
<i>Aglaonema spp.</i>	Chinese evergreen	Benzene, formaldehyde
<i>Epipremnum aureum</i>	Money plant	Benzene, formaldehyde, xylene
<i>Chlorophytum comosum</i>	Spider plant	Benzene, formaldehyde, xylene, carbon monoxide, Sulphur dioxide
<i>Hedera helix</i>	English ivy	Benzene, formaldehyde, trichloroethylene, carbon monoxide, particulate matter
<i>Sansevieria trifasciata</i>	Snake plant	Benzene, formaldehyde, trichloroethylene, carbon dioxide
<i>Dracaena marginata</i>	Dragon plant	Formaldehyde, trichloroethylene, xylene
<i>Dypsis lutescens</i>	Areca palm	Acetone, xylene, formaldehyde, toluene
<i>Ficus elastica</i>	Indian rubber plant	Carbon dioxide, formaldehyde, benzene, xylene.
<i>Neprolepis exaltata</i>	Boston fern	Formaldehyde, xylene, carbon monoxide
<i>Schefflera spp.</i>	Umbrella plant	Benzene, formaldehyde, toluene
<i>Ficus benjamina</i>	Weeping fig	Formaldehyde, xylene, toluene, Nitrous oxide
<i>Philodendron spp.</i>	Philodendron	Formaldehyde, benzene, carbon monoxide
<i>Aloevera spp.</i>	Aloevera	Formaldehyde, benzene

<i>Chamaedorea seifrizi</i>	Bamboo palm	Formaldehyde, toluene, xylene
<b>Flowering plants</b>		
<i>Gerbera jamesonii</i>	African Daisy	Benzene, formaldehyde, trichloroethylene
<i>Chrysanthemum morifolium</i>	Queen of the East	Benzene, formaldehyde, xylene, ammonia
<i>Spathiphyllum spp.</i>	Peace lily	Benzene, formaldehyde, trichloroethylene, xylene, toluene, Nitrous oxide
<i>Anthurium scherzianum</i>	Flamingo Lily	Benzene, trichloroethylene
<i>Dendrobium spp.</i>	Dendrobium orchid	Benzene, trichloroethylene, ammonia
<i>Phalaenopsis spp.</i>	Moth orchid	Benzene, trichloroethylene, ammonia

### **Increasing the relative humidity levels**

High concentration of CO<sub>2</sub> coupled with low relative humidity levels can cause health issues in human beings. It has been reported by Gubb et al. (2018) that RH levels below 30% causes eye irritation and skin dryness and below 10% causes dryness of the nasal mucous membrane. On the other hand, high RH levels above 60 % encourages the microbial growth in the indoor space which deteriorates the building materials and makes the space damp and unhealthy (Bin, 2002; Zhang and Yoshino, 2010; Frankel et al., 2012). The relative humidity of the air should be within the recommended range of 30% to 60% for human comfort. It has been demonstrated by Gubb et al. (2018) that *Spathiphyllum wallisii* cultivars and *Hedera helix* had the highest transpiration rate suggesting its potential for increasing the relative humidity in indoor environment. In another study by Kerschen et al. (2016), it was recommended to place 25 spider plants (*Chlorophytum comosum*) in four inch-diameter pots for increasing the humidity levels of an interior bedroom from 20 % RH to a more comfortable 30% RH under bright interior light conditions. In a very recent study conducted by Ran (2024), placing of an evergreen indoor plant *Radermachera hainanensis* significantly led to a reduction in room temperature and increased the humidity levels.

### **Removal of Particulate Matter**

The presence of particulate matters in the air poses a potential threat to human health resulting in about one in nine premature deaths worldwide. Most of the people spend their time indoors and are constantly exposed to particulate matter (PM).

Prolonged exposure to particulate matter can lead to heart attacks, respiratory problems, impaired lung functions and other health complications (Hamanaka et al., 2018, Baudet et al., 2022, Zhang et al., 2022). Indoor plants have been suggested as a potential solution for removing particulate matter indoors. Lohr and Pearson-Mims (1996) stated that particulate matter accumulation in indoor areas can be reduced to as low as 20% by placing the indoor plants. Broad leaved plants like *Ficus elastica* and *Ficus lyrata* with densely arranged grooves and ridges were known to remove particulate matter more effectively than the narrow leaved plants (Katoch and Kulshrestha, 2022). Budaniya and Rai (2023) opined that large numbers of indoor plants would be required to achieve even modest reductions in indoor PM concentrations. In the same year, Selvan et al. (2023) concluded that indoor plants viz. *Chrysalidocarpus lutescens*, *Epipremnum aureum* and *Sansevieria trifasciata* effectively removed the particulate matter from indoor environment.

### **Impact on the feeling of well-being**

Ornamental plants are known to stimulate positive emotions by influencing directly human psychology and indirectly human health. Right selection of plants and its placement in the indoor environment is important to invoke positive feelings and comfort of the people (Yeo, 2020). A study conducted by Lohr and Pearson-Mims (2000) compared the effect of placing indoor plants, colourful objects and non-colourful objects on human feelings. It was concluded that in comparison to the room with or without ornamental objects, people felt more "carefree or playful" and "friendly or affectionate" in the room with indoor plants. A study conducted by Ramzan et al. (2007) reported that 72.5% of the people bought indoor plants for improving their indoor living environment, while 25% respondents adopted it as a hobby and the rest 2.5 % purchased it for some other reasons. Igarashi et al. (2015) opined that ornamental plants could induce feelings of comfort and relaxation in human beings.

### **Stress reduction**

The lockdown period during COVID-19 pandemic had led to increased levels of stress, depression, anxiety and insomnia among people. With more people spending time indoors, it is imperative to provide a suitable environment both at work or at home. One of the ways of uplifting the mood and reducing the stress is to have plants nearby.

Proximity to plants and interaction with nature can have a huge impact on human attitude, behaviour and physiological responses as has been studied by several researchers. According to Ulrich et al. (1991), 'Stress reduction theory states that the presence of nature brings about evolutionary psychological responses related to safety and survival' and which in turn activates humans' parasympathetic nervous system and helps in promoting recovery from psychophysiological stress. The psychological work pressure on working class is on the rise causing stress related problems. It has been proven that keeping plants nearby or in work space and just by looking at them reduce the mental stress and causes relaxation and comfort to humans (Grinde and Patil, 2009; Piotti et al., 2021). Dijkstra et al. (2008) also stated that indoor plants had a stress relieving effect as those of nature. By simply working with plants can also help boost the production of happy hormones like dopamine and serotonin. This led to increase the efficiency of the people using the space and also for stress reduction by consideration of natural elements throughout the construction of buildings and skyscrapers, whether they are in residential complexes, workplaces, or public spaces. In a study conducted by Li and Sullivan (2016), it was noted that when students were exposed to natural views both outside or inside the classroom, it had profound influence on the psychology of students thereby helping them reduce fear and stress and improve the focusing ability. Gu et al. (2022) also opined that placing indoor plants or painting the walls green both at workplace and at home had effectively helped in reducing stress.

### **Health Improvement**

Humans have a close association with nature and its integration into the indoor living space can effectively increase our engagement with nature which provides relaxation and comfort along with added benefits to human health. There is growing public awareness about the risks connected with inadequate indoor environments because 80–90% of individuals living in urban areas spend their time indoors. Indoor plants not only play a significant role in combating air pollution but also improves the indoor environment providing a positive psychological impact and promoting the health and comfort of the people (Han 2009; Xu et al., 2011).

Fjeld et al. (1998) noted that the improvement in health was obtained by introduction of foliage plants in to the office environment, which shows a significant reduction in neuropsychological symptoms and mucous membrane symptoms. Ali Khan et al. (2016) in their survey demonstrated that a hospital ward filled with potted plants

and flower arrangements provided a “satisfying, relaxing, comfortable, colourful, calm, and attractive” atmosphere for patients, resulting in improved vital signs in patients’ (including blood pressure, respiration rate, heart rate, and temperature), and reduced Intake of analgesic, thereby helping the patient to discharge early from hospitals. El-Tanbouly et al. (2021) in their study on role of indoor plants in context of COVID-19 pandemic concluded that use of indoor plants had proved to be cost-effective in purifying the indoor air as well improved the aesthetic which had indirectly influence over human health.

### **Conclusion**

As discussed above, the benefits of quietly observing plants for relieving stress and adding plants can dramatically improve how people feel about a space and their mental health. According to studies on how plants affect humans, having access to plants is crucial for people to function at their best. We require plants in our daily lives since they are everywhere. They make our surroundings more civilised and sympathetic.

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## **Exploring the Conservation and Sustainable Utilization Potential of *Parkia timoriana* (DC.) Merr: An Underutilized Multipurpose Tree Bean in North-Eastern India**

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### **Abstract**

*Parkia timoriana* (DC) Merr., commonly known as the Tree Bean (Family: Fabaceae), is a versatile and underutilized legume tree species with significant ecological, economic, and cultural importance in North-Eastern Indian States, Bangladesh and several South-East Asian countries. This species is primarily distributed in evergreen rain forest, moist mixed deciduous and dry evergreen forests with an altitudinal variation ranging between 0 and 600 m, but rarely reaches 1300 m in North East India and Bangladesh. Both flower and fruits of this species have high demand due to its nutritional and medicinal properties and people of North-Eastern states of India growing it in home gardens, agroforestry systems and fallow lands of shifting cultivation for their dietary supplements. However, due to the factors such as overexploitation, insect infestation, shortening of fallow period, urbanization, drier climate, lack of awareness, and discontinuity in traditional culture and knowledge, the conservation and utilization of this native underutilized edible fruit species (UEFS) has been steadily declining. Hence, this review paper comprehensively explores the conservation and sustainable utilization potential of *Parkia timoriana* in the North-eastern region (NER). The paper synthesizes existing literature on the botanical characteristics, distribution patterns, nutritional composition, medicinal properties, and ecological significance of *Parkia timoriana* in North-Eastern India through systematic review (PRISMA protocol). It examines the challenges facing the conservation of this valuable species, including habitat degradation, deforestation, and unsustainable harvesting practices. Finally, the paper identifies opportunities for collaborative efforts involving researchers, policymakers, local communities, and conservation organizations to promote the conservation and sustainable utilization of *Parkia timoriana* for biodiversity conservation, economic development, and human well-being in North-Eastern India.

**Keywords:** Tree bean, conservation, sustainable utilization, North-eastern India, biodiversity, traditional knowledge

## Introduction

*Parkia timoriana* (DC.) Merr., commonly known as "Tree Bean," is an underutilized multipurpose leguminous tree species native to the tropical regions of Asia, including North-Eastern India. This species belongs to the Fabaceae family and holds significant ecological, economic, and cultural value in the region (Hynniewta et al., 2015). These species have been traditionally utilized by indigenous communities of the North-eastern region (NER) for various purposes, including food, medicine, timber, and fodder, reflecting its importance in local livelihoods and cultural practices (Borthakur et al., 2016). Despite its potential, the tree bean remains relatively understudied and underutilized, posing challenges to its conservation and sustainable utilization in the region (Dkhar et al., 2019). In NER, this species is normally grown in natural forests, and people are also growing it in home gardens and fallow lands of shifting cultivation for their dietary supplements (Plate 1). Both flowers and fruits of this species have high demand due to its nutritional and medicinal properties (Rathi et al., 2012). In recent years, there has been a growing interest in exploring the ecological and socio-economic significance of *Parkia timoriana* in NER. This interest is driven by the recognition of its diverse uses and the need for conservation and sustainable management of forest resources in the region (Singh et al., 2020). The unique agro climatic conditions of North-Eastern India provide an ideal habitat for the growth and proliferation of *Parkia timoriana*, making it an integral component of the region's biodiversity (Nongrum, 2019).



**Plate 1. Some glimpses of *Parkia timoriana*: a) Prevalent in the Homegardens of Tura, Meghalaya; b) Ripened fruit pods and c) Selling fruit pod bunch in the local market.**

Besides natural threats such as extreme climatic conditions, flood, tectonic movement and unpredictable rainfall, the North-eastern region (NER) is also overburdened due to non-judicious management of soil, water and other natural resources (Singh and Singh, 2015). The fertile cultivable lands are replaced by mining, urbanization and other human induced activities. Nowadays, land degradation is becoming a global challenge as it poses high risk on land productivity, food and livelihood security. Hence, it is an alarming sign to conserve biodiversity and maintain ecological balance of the NER. Fortunately, home gardens of NER are repositories of many multipurpose trees that are grown for food, fuel, and fodder. These trees have a remarkable potential to increase food and nutritional security for dependent and other vulnerable populations. However, factors such as habitat degradation, deforestation, insect infestation, shortening of fallow period, drier climate and unsustainable harvesting practices threaten the survival of this valuable species, emphasizing the urgency of conservation efforts (Roy et al., 2014; Hynniewta et al., 2015). By synthesizing existing research and field data in NER, the paper aims to highlight the ecological, economic, and socio-cultural importance of this species while identifying knowledge gaps and recommending strategies for its conservation and sustainable management.

### **Botanical Characteristics and Distribution**

*Parkia timoriana* is commonly distributed in several South-east Asian nations, including Indonesia, Japan, Malaysia, Philippines, Thailand, and Vietnam, as well as evergreen, deciduous, and dry evergreen forests in India, Bangladesh, and other Asian countries. Its altitudinal variation ranges from 0 and 600 m, but it rarely reaches 1300 m in North East India and Bangladesh (Thangjam et al., 2019). In north eastern states such as Meghalaya, Manipur, Mizoram, Assam and Nagaland, this endemic fast-growing tree commonly grows in homegardens, agroforestry systems, forests, and shifting cultivation areas (Angami et al., 2018). The species typically grows up to 30 meters in height and is characterized by its alternate bi-pinnate leaves, which consist of 20-30 leaflets. Inflorescence is a head of flowers dangling at the peduncle up to 45 cm long and the fruits are green pods that are about 27 cm long and contain numerous seeds. The price

of a bunch of fruits in the Tura local market in Meghalaya is one hundred rupees (Plate 1.c).

Research on *Parkia timoriana* in North-eastern India has primarily focused on its botanical characteristics, distribution patterns, nutritional composition, and medicinal properties. Studies have documented the morphological features, phenology, and reproductive biology of the species, providing valuable insights into its ecological requirements and reproductive strategies (Borthakur et al., 2016). Furthermore, chemical analyses have revealed the nutritional and phytochemical composition of *Parkia timoriana* seeds, highlighting their potential as a rich source of protein, vitamins, and antioxidants (Dkhar et al., 2019). These findings underscore the nutritional significance of the tree bean and its potential contribution to food and nutritional security in the region (Nongrum, 2019).

In addition to its nutritional value, *Parkia timoriana* is recognized for its medicinal properties and therapeutic uses in traditional healthcare systems. Various parts of the tree, including the bark, leaves, and seeds, are utilized in indigenous medicine for treating a wide range of ailments, such as digestive disorders, respiratory infections, and inflammatory conditions (Hynniewta et al., 2015). Pharmacological studies have validated the efficacy of *Parkia timoriana* extracts against microbial pathogens, demonstrating its potential as a source of novel antimicrobial agents (Singh et al., 2020). These pharmacological properties highlight the importance of conserving *Parkia timoriana* as a valuable genetic resource for drug discovery and pharmaceutical development in North-Eastern India.

### **Systematic Review of Earlier Studies on *Parkia timoriana* in North-Eastern India Protocol for Systematic Review**

This study implements the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) protocol (Moher et al., 2009) to review the published information pertaining *Parkia timoriana* in North-Eastern India. In this analysis, we examined the literature focused on the availability, awareness, consumption, distribution, exploitation, knowledge, popularity, production and utilization of *Parkia timoriana* tree species from home gardens, forests, agro forestry systems, vacant and other marginal lands. It includes published articles, book chapters, and scientific reports on Google, Google Scholar, J-gate, Scopus and Web of Science, for all time. Finally, 33

articles were included in the synthesis after exclusion of duplicates, based on criteria and other reasons (Table 1). The information from the literature was used to prepare a comprehensive list with the names of authors, their research focus, the distribution of study area and their sources (Table 1).

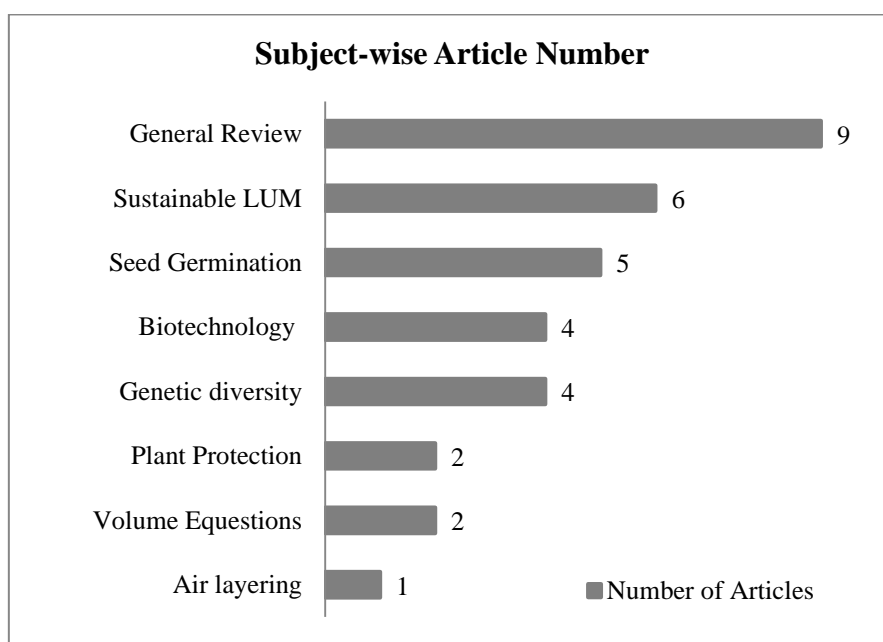
### Key Findings

The systematic review resulted 31 articles from Northeast India. These 31 articles that were categorized based on the research focus included nine on general reviews, six on propagation, four on genetic diversity, biotechnology and sustainable land use management, and two on plant protection and volume equations (Table 1; Figure 1). Based on the state-wise distribution (Figure 2), Manipur reported the most articles (8), followed by Assam (2), and both Nagaland with the least (1 each). Based on the reported two decadal studies, there was a notable increase in number of publications from 2019 and 2023 (Figure 3). Despite the fact that *Parkia timoriana* was present in significant numbers in Tripura, Arunachal Pradesh, and Meghalaya, no research was done apart from a few general reviews in these states. Additionally, this offers directions for future research initiatives on cultivation, conservation, and sustainable management.

**Table 1. List of Earlier Studies on *Parkia timoriana* in North-Eastern India**

Authors	Research Focus	Study Area
Dhyani and Chauhan, 1990	Sustainable Land use Management (Parkia-based Agroforestry)	Meghalaya
Thangjam et al., 2003	Genetic diversity	Manipur
Rocky et al., 2004	General Review	Manipur
Thangjam and Maibam, 2006	Biotechnology	Manipur
Sahoo et al., 2007	Seed Germination	Mizoram
Thangjam and Sahoo, 2012	Biotechnology	Manipur
Tomar et al., 2012	Sustainable Land use Management (Soil Health)	North-East
Firakeet al., 2013	General Review	North-East
Thingbaijam and Maibam, 2013	Genetic diversity	Manipur
Thangjam, 2014	Genetic diversity	Manipur
Lyngdoh et al., 2016	Sustainable Land use Management	North-East

	(Parkia-based Agroforestry)	
Thangjam, 2016	Biotechnology	North-East
Thangjam et al., 2017	Seed Germination	Mizoram
Angami et al., 2018	General Review	North-East
Singh et al., 2018	Plant Protection	Mizoram
Nongrum, 2019	General Review	Meghalaya
Thangjam et al., 2019a	Seed Germination	Mizoram
Thangjam et al., 2019b	Volume table preparation	North-East
Singh, 2019	Sustainable Land use Management (Eco-restoration of Jhumfallows)	Manipur
Singh and Tripathi, 2019	General Review	North-East
Borpuzari et al., 2020	Air layering	North-East
Devi et al., 2020	Sustainable Land use Management (Soil Health)	Assam
Thangjam et al., 2020	Genetic diversity	Mizoram
Singh et al., 2020	General Review	Assam
Fatima, 2021	Seed Germination	Mizoram
Ovung et al., 2021	General Review	Nagaland
Singha et al., 2021	General Review	North-East
Surendirakumar et al., 2021	Sustainable Land use Management (Soil Health)	Manipur
Kumar and Saikia, 2022	Volume table preparation	North-East
Ralte et al., 2022	Biotechnology	Mizoram
Singh, 2022	Plant Protection	North-East
Loushambam, 2023	Seed Germination	Manipur
Singh and Kumar, 2023	General Review	North-East



**Figure 1. Subject-wise distribution of articles on *Parkia timoriana* in NER**

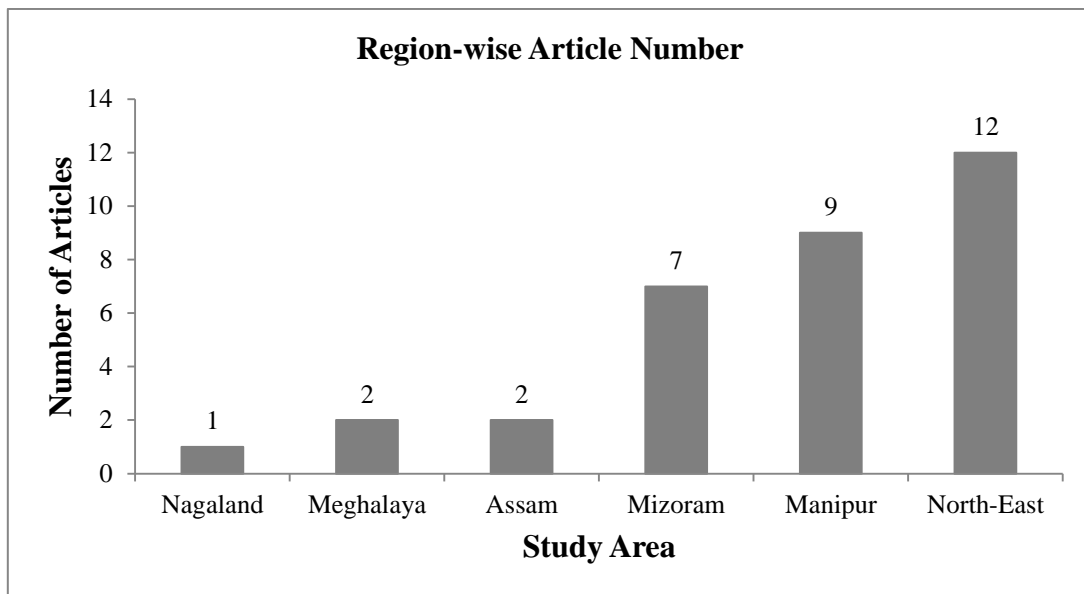


Figure 2. Region-wise distribution of articles on *Parkia timoriana* in NER

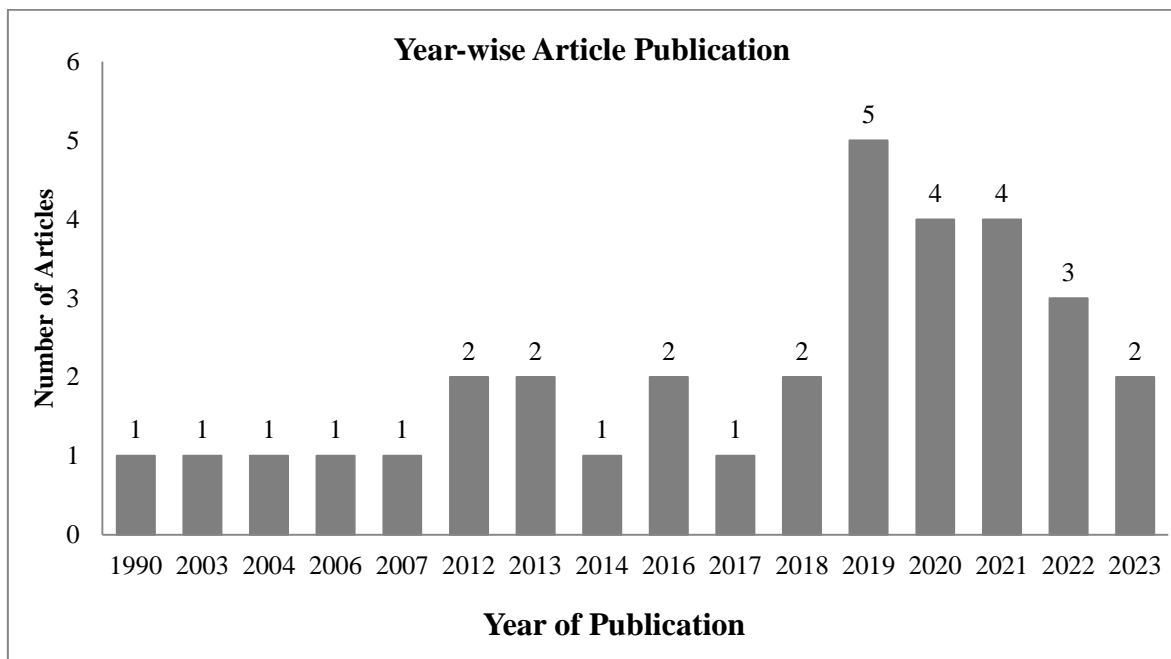


Figure 3. Year-wise distribution of articles on *Parkia timoriana* in NER

### Nutritional profile of *Parkia timoriana*

The tree possesses a diverse range of nutrients and essential amino acid composition which is similar to the amino acid requirement pattern for preschool children given by World Health Organization (Angami et al., 2018; Singh and Kumar,

2023). It offers a variety of edible parts such as pods, flowers and matured seeds which are rich sources of proteins, carbohydrates, vitamins and minerals. *Parkia timoriana* is noted for its significant content of ascorbic acid (26.0 mg per 100 g), fats (20.28%), proteins (32.82%), and minerals (4.45%). However, its seed composition shows lower levels of Na (51.0), Mg (34.7), and P (160 mg per 100 g), while its calcium (97.47), potassium (2400), copper (2.3), and zinc (2.77 mg per 100 g) contents are comparable to other legumes (Salam et al., 2009; Singh and Kumar, 2023). In terms of iron and manganese, *Parkia timoriana* exhibits notable levels with 57.1 and 35.0 mg per 100 g in pods, and 34.9 and 9.4 mg per 100 g in seeds, respectively (Angami et al., 2018). In addition to this, seeds of *Parkia timoriana* are a rich source of essential amino acids (isoleucine, leucine, phenylalanine and tyrosine) and fatty acids such as oleic and linoleic acids (Mohan and Janardhanan, 1993).

#### **Medicinal attributes and traditional uses**

The plant, valued at 100 rupees per bunch of fruit or 70-120 rupees per kg in northeast India due to its extensive ethno botanical applications, is one of the costly vegetables. Its nutritional value, akin to that of an apple according to Angami et al. (2023), includes antioxidants that can prevent diseases and enhance children's learning abilities. The seeds and pods, whether fresh or dried, are employed in treating stomach and intestinal disorders, piles, diarrhea, constipation, and liver issues. The bark, when made into a paste, serves as a plaster for eczema, while both bark and leaves are utilized in creating lotions for skin ailments and ulcers. Additionally, consuming the seeds and pods, either fresh or dried, with meals is said to aid in digestive problems. Local inhabitants also utilize stored dried pods and seeds to alleviate stomach issues by soaking them in water and consuming them directly after chewing (Ovung et al., 2021). The bark decoction is utilized to address diabetes, while local individuals in Ghana have been observed using the fruit to combat leprosy and hypertension. Additionally, pods are crushed in water for facial and head cleansing purposes (Paul et al., 2016). Suvachittanont et al. (1996) noted that the strong, pungent odor emitted by *Parkia timoriana* signifies the presence of Thiazolidine-4-Carboxylic acid (TCA, Thioproline), a sulfur-containing cyclic amino acid that has demonstrated efficacy as an anticancer agent. Virtually every part of the plant is usable, from pods, seeds, flowers, and young shoots, which can be consumed raw in salads or cooked in curries, while the tree itself serves as a source of fuel wood (Sahoo et al., 2007). The pods, flowers, inflorescence,

and mature seeds are consumed in salads, curries, and chutneys, such as Singju, a Manipuri salad made from pods, and Iromba, a local delicacy prepared by combining the pods with fish curry (Salam et al., 2009; Roy et al., 2014). Immature seeds are very nutritious eaten raw or cooked with meat, green pods are used to make pickles with king chili and some communities also use leaves for making curries (Devi et al., 2020; Oving et al., 2021).

### **Economical, Ecological Significance and Challenges**

*Parkia timoriana*, a versatile tree, is renowned for its subsistence products and ability to generate cash income. During favorable seasons, tree bean cultivation has the potential to yield significant household income and it was comparable to or even surpassing income from agricultural crops (Rocky et al., 2004). The timber from *Parkia* trees is utilized for crafting lightweight furniture, boxes, and other appealing articles (Sharma et al., 1993). With its high tannin content (6-15%), the bark is utilized in the tannin industry, while the wood serves as a source of paper pulp (Singha et al., 2021). Additionally, it serves as a beneficial shade tree in tea gardens and as an agro forestry species in Northeast India (Dhyani and Chauhan, 1990; Alabi et al., 2005). Furthermore, the tree bean can support jhum cultivation, a prevalent land use system in hill states of the Northeast region. The integration of tree species in jhum lands aids in regulating the ecological balance, nutrient cycling, and soil erosion control, and also improving the socio-economic status of the jhum practitioners (Angami et al., 2018).

While *Parkia timoriana* has been extensively researched for its nutritional value and biological activities (Angami et al., 2018; Singh et al., 2020), its contribution to environmental management remains relatively unexplored. The tree yields abundant green manure, suitable for soil fertility enhancement. The tree bean, a swiftly maturing leguminous tree, enhances soil fertility via nitrogen fixation, fostering ecological equilibrium by enriching and enhancing soil health. It fosters advantageous bacterial communities, aiding nutrient release to improve soil vitality. Its readily decomposable leaves and components boost soil organic matter. With its substantial aboveground biomass, it significantly contributes to sequestering atmospheric greenhouse gases, particularly carbon dioxide, aiding in regional climate change mitigation (Dhyani and

Chauhan, 1990; Angami et al., 2018). The utilization of tree foliage, particularly from indigenous agroforestry trees, for green leaf manuring is recommended in Northeast India to boost rice productivity sustainably, serving as an environmentally friendly alternative to dwindling sources of organic manures like farm yard manure (FYM) due to declining livestock populations (Tomar et al., 2012). The study found that green leaf manuring with leaves from nitrogen-fixing trees had a significant residual effect, leading to increased productivity levels over time (Tomar et al., 2012). These organic residues strategically enhance soil organic matter content; improve soil physical properties such as water infiltration rate, water-holding capacity, and erosion resistance, thereby restoring and enhancing soil quality and ultimately boosting crop yields. The seed oil exhibits insecticidal property used against aphids and the smoke produced from dried leaves effective at repelling insects (Salam et al., 2009; Singh et al., 2011). Small branches serve multiple purposes such as firewood, fodder for livestock, and materials for building shelters, while the timber from these species is prized for crafting decorative items and light furniture.

*Parkia* is utilized as a tool for restoring degraded jhum land and is also employed as a shade tree in tea plantations in Mizoram (Singh, 2019). Furthermore, it serves as an intercrop with banana, Areca, and other multipurpose tree species across various regions of Northeast India. Its presence leads to significant improvements in soil quality, including a 96.2% increase in soil organic carbon, a 24.0% enhancement in aggregate stability, a 33.2% rise in available soil moisture, and a reduction in soil erosion by 39.5% (Singha et al., 2021). Additionally, *Parkia timoriana* contributes to a total biomass of 2.24 Mg ha<sup>-1</sup>, with a carbon sequestration potential of 0.23 Mg ha<sup>-1</sup> year<sup>-1</sup> (Devi et al., 2020).

Since 2002, the species' population has been experiencing tree decline, leading to a reduction in income for the local community and significant expenditures on importing tree beans from Myanmar. A study reported that Manipur alone spends around 370 crore rupees annually to import Tree Bean from Myanmar (Anon, 2022). Research organizations in Northeast India have been conducting studies to pinpoint the reasons behind the decline and to devise strategies for its management. Tree bean decline has been linked to various factors, including insect pests, fungal pathogens, unavailability of water source, reduction of plant pollinated animals like bats and abiotic

stresses such as fluctuations in temperature and rainfall patterns. Among these, insect pests and diseases have emerged as the primary contributors to tree bean deterioration, with species like Asian longhorned beetles, bark-eating caterpillars, and spotted pod borers frequently identified in association with declining trees (Vanlalhmuliana et al., 2021). The *Cadra cautella* butterfly, whose hatchling uses the inside of the seed to pupate and cover it with straps, is an irritant that the seed cannot resist. Additionally, diseases such as Verticillium wilt and collar rot have been documented in declining tree bean plantations (Roy et al., 2014; Singh et al., 2018). The decline is also significantly exacerbated by inadequate management practices and neglect of post-plantation care. Some of these issues have been resolved by the active involvement of research organizations in Northeast India. However, further scientific and biotechnological intervention are needed for the socio-economic and ecological development of the NER.

#### **Technological Intervention in Conservation of Tree bean**

Biotechnological tools offer a promising solution for tackling the biotic and abiotic diseases plaguing the tree bean, alleviating its socio-economic challenges and production decline. Thangjam and Maibam (2006) described a protocol for somatic embryogenesis and callus formation by using MS and B5 basal media supplemented with various concentrations of 2-4-D, BAP and NAA. Explants cultured on MS medium with 2,4-D and BAP induced proliferating calli, evolving into somatic embryos in growth regulator-free MS suspension medium (Thangjam and Sahoo, 2012). Another study conducted the extraction of quality DNA by modified CTAB method (Thangjam et al., 2003). Some studies also confirmed the existence of genetic diversity which will be useful for breeding programs and selection of trees by using microsatellites, ISSR markers, RAPD markers etc. (Thangjam and Maibam, 2003; Thangjam, 2014; Phurailatpam et al., 2022). Hence, the use of biotechnological tools for the evaluation of the genetic status, mass production and genetic improvement provides a viable option. It is observed that the research is limited to genetic diversity, in vitro regeneration and genetic transformation. Therefore, further research is needed in molecular breeding, association mapping, linkage maps etc.

### **Research and development roadmap for *Parkia timoriana***

- Though there are multiple researches on seed germination and in-vitro regeneration, there is a lack of standard protocol for quality planting material production, field performance and agro forestry models.
- Further studies are needed for insect pest and disease management
- Multidisciplinary research for cultivation, conservation and value addition through various stakeholders.
- Financial support from the government to advance the research on its genetic improvement and development of quality planting material.
- Though there are many researchers are pointing out climate change as a culprit for disease and pest outbreak due to erratic rainfall and temperature. However, in depth research is vital to understand the root cause better.

### **Conclusion**

*Parkia timoriana*, an endemic tree to northeast India, serves as a versatile multipurpose resource with significant nutritional, economic, and ecological value. Its nutrient-rich status contributes to local food security, while its medicinal properties offer remedies for various health ailments. Additionally, its pods are highly valued as a vegetable in local markets, fetching prices ranging from 800 to 1000 per kilogram and supporting rural livelihoods. The hardwood from the tree is utilized in crafts, furniture making, and the tannin industry. Ecologically, the tree aids in soil reclamation, nutrient cycling, carbon sequestration, nitrogen fixation, and erosion control. Despite its numerous benefits, the tree faces threats from insects, pests, unsustainable management practices, deforestation, and climate change. However, research efforts have primarily focused on its importance, morphology, genetic diversity, and in vitro propagation, with limited attention to understanding the reasons for its decline, conservation strategies, breeding programs, integration into agroforestry systems, access to quality planting materials, and policy development. Collaboration among stakeholders is essential to conserve and sustainably utilize this tree species, thereby enhancing food security, supporting rural livelihoods, and preserving ecological balance.

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## **Contract Farming for Transformation in Agriculture with Special Reference to North-Eastern Region**

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### **Abstract**

*One possible strategy for transforming agriculture in Northeast India is contract farming. By addressing the difficulties small farmers encounter in gaining access to markets and inputs, the region can guarantee a stable agricultural environment. By giving farmers access to markets, inputs, and public-private partnerships, this article seeks to investigate the possibilities of contract farming in northeastern India and how it can change the region's agricultural environment. This article emphasizes the benefits of institutional credit, farm size, personal transportation ownership, formal visits from extension facilities, and other factors. On the other hand, migration has a bad impact. The primary reasons of higher CF profit were higher yields and lower production costs.*

**Keywords:** Contract farming, Agricultural transformation, Northeast India, Market access, Public-private partnerships

### **Introduction**

Agricultural transformation is a pivotal concern for policymakers and scholars aiming to alleviate poverty and enhance food security, particularly since one-third of the workforce in low and middle-income countries depend on this sector. According to the World Bank (2007), the increasing demand and rising incomes have expanded market opportunities, potentially fostering growth in both nonfarm sectors and agriculture, thereby increasing rural incomes. However, small-scale farmers face significant challenges in these markets due to their requirements for economies of scale, timely deliveries, and high product quality (Swinnen, 2016). The efficiency of agricultural marketing systems plays a critical role in ensuring food security. Inefficient markets characterized by high transaction costs and price volatility, exacerbated by

inadequate infrastructure and weak institutions, contribute to lower market performance (World Bank, 2007). Improving the efficiency of these systems could stabilize food prices and supply, benefiting both impoverished and non-poor households (Ellis, 1992; World Bank, 2007). Typically, agricultural marketing systems include primary procurement, processing, wholesale, export, and retail components, each with a diverse structure depending on factors such as product type and market dynamics (Ellis, 1992; Martinez et al., 1996). In developing countries, these systems often involve small and medium-sized traders and middlemen who facilitate the movement of goods but may struggle with financing and quality standards due to their scale and resources (World Bank, 2007).

**Table 1. Scenario of major crops under contract farming in the World**

<b>Crops</b>	<b>Quantity in Million Tonnes</b>	<b>Reference</b>
Sugarcane	100-150	ISMA, 2020
Cotton (Bales)	20-30	ICAC, 2020
Vegetables (Potato, tamato, cucumbers)	10-20	Various company reports
Fruits (e.g., apples, bananas, grapes)	5-10	Various company reports
Pulses (e.g., soybeans, chickpeas, lentils)	5-10	ITC, 2020
Corn	2-5	Various company reports
Tobacco	0.4-0.5	FAO,2020
Coffee (bags of 60 kg each)	1-2	ICO, 2020
Tea (in kg)	1-2	FAO,2020
Spices (e.g., pepper, chili, ginger)	0.5-1	Various company reports

Note: Figures are approximate and sourced from various reports, so they may not reflect the most up-to-date numbers)

Globalization and liberalization profoundly impact rural populations, influencing agricultural terms of trade, input accessibility and costs, and investments in

agribusiness. While technological advancements in agriculture hold promise for increasing productivity and reducing costs, the influence of multinational corporations (MNCs) in food production and trade shapes how globalization affects rural communities, particularly small-scale farmers facing challenges like limited access to modern farming techniques and financial resources (Ola and Menapace, 2020; Balana et al., 2020). Contract farming emerges as a significant strategy in this context, where farmers enter agreements with companies for the production and marketing of agricultural products. This arrangement not only provides farmers with market access and support but also helps companies secure a stable supply of quality produce at predictable prices (Rangi and Sidhu, 2000). However, the unequal power dynamics and potential risks associated with contract farming necessitate clear regulations and dispute resolution mechanisms to ensure fairness and transparency for all parties involved (Otsuka et al., 2016). Agricultural transformation, driven by market dynamics, technological advancements, and globalization, holds promise for improving food security and rural livelihoods. However, addressing the challenges faced by small-scale farmers and ensuring equitable partnerships in initiatives like contract farming are crucial steps toward sustainable agricultural development and poverty reduction. This expanded version captures the essence of the original sentence while providing a broader context and deeper exploration of the key themes related to agricultural transformation and contract farming.

### **Advantages of Contract Farming**

**Direct benefit to farmers:** Contract farming offers numerous benefits across the agricultural value chain, filling critical gaps in production, processing, and marketing that traditional farming systems often struggle to address. This organizational setup involves agreements between farmers and contracting firms, wherein farmers receive support such as loans, inputs, and technical assistance in exchange for supplying produce at predetermined quality standards. The benefits extend to all parties involved—farmers, processing companies, distributors, and consumers—yielding efficiencies that enhance overall agricultural productivity and market access.

**Linkage between producer and processor:** One of the primary advantages of contract farming is its ability to reduce inefficiencies along the agricultural value chain. By

establishing direct relationships between farmers and processors, it minimizes the price gap between farm gate and retail prices, thereby benefiting both producers and consumers. This direct linkage also helps in reducing perishable commodity waste, ensuring a more efficient distribution of agricultural products from farm to market.

**Market access to small farmers:** contract farming provides smallholder farmers with access to markets that they might not otherwise reach. This is particularly beneficial for high-value or non-traditional crops where market access can be challenging without the backing of a larger entity. Research indicates that contract farmers often achieve higher yields and better income stability compared to non-contract producers, due to guaranteed output prices and access to technical expertise (Mishra et al., 2018; Kalamkar, 2012).

**Regularity in raw material supply:** For agricultural businesses, contracting with farmers ensures a steady and reliable supply of raw materials that meet specific quality requirements. This stability is crucial, especially when dealing with commodities destined for processing or export markets where consistency and adherence to stringent quality standards are paramount (Roy et al., 2021).

**Food safety and security:** Food safety is another critical aspect facilitated by contract farming. With increasing global demand for safe and traceable food products, businesses enter into contracts to ensure compliance with international standards. They provide farmers with necessary inputs and guidance on best practices to meet food safety regulations, thereby enhancing consumer confidence in the products.

**Economic development:** Contract farming also contributes to broader economic development by generating employment opportunities, improving rural infrastructure, and expanding market access for farmers. It reduces the reliance on government subsidies and programs by leveraging private sector investments in agriculture, particularly in regions undergoing economic reforms that limit public spending on agricultural support initiatives (Warning and Key, 2002).

However, the inclusivity of contract farming remains a topic of debate. While it has been instrumental in integrating small farmers into value chains in some contexts, disparities exist in its adoption and impact across different regions and crops. For instance, while significant percentages of small farmers in India and Nepal participate

in contract farming for perishable commodities, disparities exist in terms of which farmers benefit most from these arrangements (Birthal et al., 2005; Kumar et al., 2019).

### **Concerns in Contract Farming**

Contract farming, while often lauded for its benefits, also brings forth significant concerns and negative impacts, particularly for small, unorganized farmers who face challenges due to their limited negotiating power when dealing with large corporate enterprises. Research underscores that these power differentials can lead to less favourable contract terms for farmers, thereby diminishing the intended advantages of contract farming (Maertens and Velde, 2017; Kalamkar, 2012). The following major concern are associated with contract farming:

**Fear of contract loss:** Smallholders frequently perceive contract terms as unfair or broken, as they may find themselves coerced into accepting exploitative conditions. This can include investing in specific assets or altering cropping practices to comply with contractual obligations, which can increase their dependency on contract crops and further weaken their bargaining position (Watts, 1994). Consequently, while contracts provide businesses with protections against unforeseen risks, farmers are often expected to fulfil their contractual obligations regardless of changing circumstances (Singh, 2002).

**Disparity in profit share:** The unequal distribution of benefits between businesses and farmers is another contentious issue. Research indicates that while both parties benefit, larger farming operations tend to profit more from contract farming arrangements due to their greater market influence and ability to negotiate in more favourable terms (Little and Watts, 1994; Glover and Kusterer, 1990). This disparity can lead to marginalization of small farmers and exacerbate poverty and inequality within rural communities (Guo et al., 2005; Warning and Key, 2002).

**Disparity in farmer's preference:** Moreover, the preference of contracting firms for larger farmers with more extensive resources further marginalizes smallholders. Factors such as landholdings, access to irrigation, additional assets, and membership in cooperatives often determine which farmers are chosen for contracts, leaving smaller farmers at a disadvantage (Ton et al., 2018).

**Fear of contract obligations:** Contract farming can also lead to financial risks for farmers. They may face penalties or defaults if they cannot meet contract obligations regarding quantity or quality, especially when market prices fluctuate unfavourably compared to fixed contract prices (Glover and Kusterer, 1990; Singh, 2002). Instances of businesses failing to honour contracts, such as not purchasing agreed-upon produce or imposing stringent quality controls during abundant harvests, further highlight the vulnerabilities faced by farmers (Swain, 2011; Warning and Key, 2002).

**Fear of land loss:** There are also concerns about land tenure and control. While there is little evidence of farmers losing land titles directly due to contract farming, there is apprehension regarding farmers' autonomy in land management under contract terms. In many cases, farmers provide labour and land while companies supply inputs, leading to indirect control over farming practices and potentially compromising farmers' long-term land use decisions (Singh, 2002).

**Environmental concern:** Environmental sustainability is another critical issue associated with contract farming. Intensive cultivation of cash crops under contract, often without adequate crop rotation, can lead to soil depletion and pest outbreaks, exacerbating environmental degradation (Glover and Kusterer, 1990). Moreover, the higher use of water, pesticides, and fertilizers in high-value crops can further strain natural resources and contribute to environmental deterioration.

**Socio-economic concerns:** There are broader socio-economic concerns. Over-reliance on cash crops under contract can increase vulnerability to food shortages and price fluctuations, affecting household food security. Additionally, influential agribusiness companies may leverage their power to influence government policies and resource allocation in ways that prioritize corporate interests over the welfare of smallholder farmers (Watts, 1994).

### **Policy Status for Contract Farming in India**

The Government of India has been actively promoting the liberalization of State Agricultural Produce Marketing Committees (APMCs) and establishing a legal framework to facilitate direct sales and contract farming across the country through initiatives such as the Model APMR (Agricultural Produce Marketing Regulation) Act of 2003. This legislation mandates the registration of contracting organizations, the documentation of contract agreements, the resolution of disputes, and exempts

contracted produce from market fees levied by APMCs, thereby ensuring farmers retain custody over their contracted property. Furthermore, it permits the sale of farm produce directly from fields to contracting companies, bypassing APMC-regulated markets. Since the adoption of the Model Act, sixteen states have removed fruits and vegetables from APMC control, while Punjab enacted its own Punjab Contract Farming Act in 2013. By 2016–17, fourteen states had implemented rules pertaining to contract farming, and twenty states had amended their APMC Acts in alignment with the Model Act of 2003 (GoI, 2003). Subsequently, the Government introduced the Model Agriculture Produce and Livestock Contract Farming (Promotion & Facilitation) Act, 2018 (GoI, 2018), aimed at boosting farmers' confidence in contract farming and incentivizing businesses to engage in it. This Act, building on its predecessor, emphasizes safeguarding farmers' interests and establishes a state body to oversee contract farming regulations impartially. It mandates the registration of contracting firms, records contracts at district and block levels, prohibits permanent structures on farmers' lands, supports Farmer Producer Organizations (FPOs) and Farmer Producer Companies (FPCs), protects land ownership, and ensures purchase of pre-agreed quantities of produce under contract, all while covering contracted produce under crop and livestock insurance. As of July 2020, thirty-one states and union territories had implemented marketing reforms, reflecting a positive reception to these legislative efforts (GoI, 2020b). Contract farming has been extended to twenty-nine commodities across sixteen states, demonstrating its growing importance in Indian agriculture (Swain, 2016).

However, in 2020, the Government passed three farm laws, including the Farmers' Empowerment and Protection Agreement on Price Assurance and Farm Services Act, 2020 (GoI, 2020a), aimed at creating a unified regulatory framework and promoting contract farming. This Act simplified registration processes, guaranteed prices, inputs, and services for farmers, and shifted market risks from farmers to firms. Despite these efforts, the laws faced opposition and were repealed in 2021 amidst concerns from farmers about corporate exploitation and fears regarding the future of Minimum Support Price (MSP) based procurement.

**Table 2. Scenario of major crops under contract farming in India**

<b>Crops</b>	<b>Quantity in Million Tonnes</b>	<b>Reference</b>
Sugarcane	50-60	ISMA, 2020
Cotton (Bales)	10-15	CAI, 2020
Potato's	2-3	NPCS, 2020
Tomato's	1.5-2.5	NPCS, 2020
Chili peppers	1-2	NPCS, 2020
Corn	0.5-1	Various company reports
Ginger	0.5-1	Spices Board India, 2020
Turmeric	0.3-0.6	Spices Board India, 2020
Spybean	0.2-0.5	SOPA, 2020
Apples	0.1-0.3	Various company reports

Note: Figures are approximate and sourced from various reports, so they may not reflect the most up-to-date numbers)

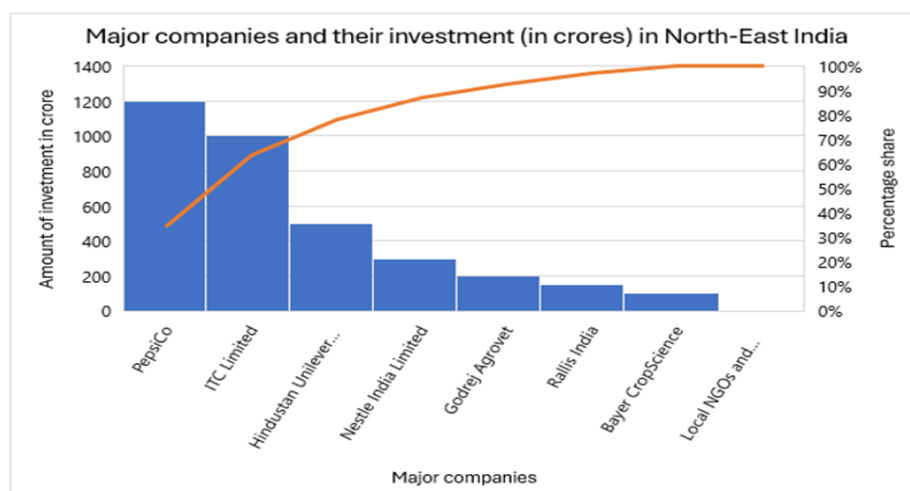
### **Contract Farming in North-East Region of India**

Contract farming holds significant promise for transforming agriculture in the North-East region of India, known for its scenic landscapes and agricultural potential. However, the region faces several challenges such as low agricultural productivity, inadequate infrastructure, and high poverty rates. Contract farming can address these issues by providing farmers with access to markets, inputs, and technical support, thereby improving livelihoods and fostering economic development. The North-East boasts fertile land, abundant water resources, and a climate conducive to agriculture. Yet, the lack of modern inputs and infrastructure hampers agricultural productivity. Initiatives promoting high-value agriculture through contract farming, coupled with revitalizing village institutions and fostering public-private partnerships, could play a pivotal role in revitalizing the agricultural landscape. By enhancing productivity, diversifying crop varieties, and integrating with national markets, contract farming can catalyse inclusive growth and economic transformation in the region (Krishi ICAR, 2015). To fully harness the potential of contract farming in the North-East, it is crucial to raise awareness among farmers about its benefits and ensure attractive and timely payments. Guaranteeing market support during price crises and empowering farmers as

## Contract Farming for Transformation in Agriculture with Special Reference to North-Eastern Region

active participants rather than mere price takers are essential for sustaining these arrangements in the long term. However, the region faces significant challenges including low agricultural productivity, vulnerability to natural disasters like floods and landslides, inadequate infrastructure, and a predominance of small and marginal farmers. Subsistence farming practices and limited access to modern inputs further constrain productivity. Additionally, insurgency in certain areas poses security challenges that impact agricultural economies and overall development (Sunanda, 2005).

Despite these challenges, the North-East presents opportunities for contract farming, particularly in high-value crops like tea and coffee. The region's favourable climate and soil conditions make it ideal for these globally demanded commodities. Established tea and coffee industries provide a solid foundation for scaling up contract farming initiatives, ensuring stable incomes for farmers and bolstering regional economic growth. Government initiatives to promote contract farming and the involvement of organizations like NABARD in providing financial and technical support are crucial for fostering an enabling environment. By addressing these challenges and leveraging its agricultural strengths, the North-East can unlock its full potential through sustainable and inclusive contract farming practices (TNAU, 2015).



**Figure 1. Companies involved in contract farming in North-East India, along with their monetary share**

(Source: Contract Farming in India" by Indian Council for Research on International Economic Relations) (Note: The figures are approximate and sourced from various reports, articles, and websites)

### Opportunity of Contract Farming in North-East Region

The NE state has a suitable climate and fertile soil for growing a variety of crops, including oranges, pineapple, banana, jackfruits, temperate fruits like plums, peaches, and pears, turmeric, ginger, black pepper, areca nut, and strawberry. Farming in NE is traditionally organic, with very little use of agrochemicals. This provides ample opportunity for expanding organic markets and for farmers to take advantage of these new and profitable opportunities. There is a growing demand for organic products, both locally and globally. NE state can capitalize on this trend by promoting organic contract farming of high-value crops like pineapple, banana, turmeric, ginger, black pepper, areca nut, strawberry and jackfruits can diversify the state's agricultural landscape. Contract farming can help address the challenges of low agricultural productivity in NE by providing farmers with access to modern inputs, technical guidance, and assured markets. Contract farming can help small and marginal farmers of NE, access markets, inputs, and technical support, which they often lack. This can lead to improved livelihoods and economic development for these farmers.

**Table 3. Scenario of major crops under contract farming in North-Eastern region of India**

Crops	Quantity in Million Tonnes	Producing states	Reference
Tea (Kg)	100-150	Assam	Tea Board of India, 2020
Potato	0.5-1	Assam, Meghalaya	NPCS, 2020
Chilli	0.1-0.2	Assam, Meghalaya, Nagaland	NPCS, 2020
Ginger	0.1-0.2	Meghalaya, Arunachal Pradesh	Spices Board India, 2020
Turmeric	0.1-0.3	Assam, Meghalaya	Spices Board India, 2020
Black pepper	0.005	Nagaland, Assam	
Sugarcane	2-3	Assam	ISMA, 2020
Jute	0.5-1	Assam, Meghalaya	Jute Corporation of India, 2020
Pineapple	0.2-0.5	Meghalaya	Various company reports
Arecanut	0.05-0.1	Assam, Meghalaya	Various company reports
Coffee	0.01-0.05	Assam, Meghalaya	Coffee Board of India, 2020

(Note: Figures are approximate and sourced from various reports, so they may not reflect the most up-to-date numbers)

## **Conclusion**

Contract farming serves as a vital mechanism for enhancing agricultural productivity, ensuring food safety, and integrating small farmers into global markets. It offers a framework where collaboration between farmers and agribusinesses leads to mutual benefits, driving efficiency, sustainability, and economic growth in the agricultural sector. As global food systems evolve, the role of contract farming is likely to become even more critical in ensuring food security and economic resilience in agricultural communities worldwide. Contract farming offers benefits such as market access and risk mitigation for businesses and some farmers, it also poses significant challenges and risks, particularly for smallholders. Addressing these concerns requires careful consideration of power dynamics, environmental impacts, and socio-economic implications to ensure equitable and sustainable outcomes for all stakeholders involved in contract farming arrangements. India has made significant strides in reforming agricultural marketing and promoting contract farming, challenges remain in addressing farmers' apprehensions and ensuring equitable benefits from these reforms. Ongoing dialogue and stakeholder consultation are crucial for refining policies and building consensus towards sustainable agricultural practices that benefit all stakeholders involved.

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**‘Khawhar in’ as a Space in/for Mourning and Collective Grieving:  
Spatial dynamics of mortuary practices among the Zo hnahtlak**

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**Abstract**

*The present discourse endeavors to explicate the construct of a spatial framework designed to facilitate the process of mourning, with a particular focus on comprehending the intricate dynamics inherent in the phenomenon of ‘collective encountering of death’ within the sociocultural milieu of the Zo hnahtlak. I develop the concept of a ‘space’ in/for mourning to encompass the establishment of a tangible or symbolic setting wherein individuals are able to engage in the cognitive and emotional processing of their bereavement, ultimately seeking comfort and solace. The spatial configuration being discussed includes various forms, such as a physical enclosure in a mortuary establishment and a digital space for virtual commemorations. The provision of this space acknowledges the importance of facilitating open mourning processes, allowing individuals to engage in introspection, recollection, and emotional healing. This study examines the spatial dynamics of mortuary practices among the Zo hnahtlak.*

**Keywords:** Death, Zo hnahtlak, ‘Khawhar in’, ‘Khawhar hla’, Collective Grieving, Spatial dynamics

**The idea of a ‘spatial dynamics’ in rites of passage**

The ‘Zo hnahtlak’s rites of passage are centred around the communal experience of death. The emotions and collective response to death among the Mizo people present an intriguing topic for analysis. The Zo/Mizo community has a unique approach to Death that differs from many other cultural customs. This approach is characterised by collective remembrance, shared mourning, and communal engagement with Death through the use of the *Tlawmngaihna* code. The physical manifestation of

grief in individuals is considered a fundamental element. The collective experience of mourning creates a temporary environment where rituals and customs unite the community, promoting a sense of togetherness. Within the context of Zo/Mizo culture, it is widely held that the soul possesses the ability to depart from the corporeal vessel at any given location. However, it is important to note that the physical embodiment of an individual is solely detached from its immediate social group and cherished acquaintances upon its return to the ancestral abode. This particular setting serves as a gathering point for individuals to engage collectively in mourning practises and openly manifest their sentiments of sorrow and bereavement. Death is often seen as an important transition, where the physical body undergoes a spiritual journey towards a non-earthly realm called '*pialral*' and '*van ram*'.

The Church's increased prominence in Mizoram can be traced back to a succession of spiritual revivals that occurred from 1906 onwards. These revivals resulted in heightened proselytizing endeavors in the area. Religious institutions have historically broadened their influence to encompass multiple aspects of human existence, including the concept of mortality. In Mizo culture, the death of an individual is publicly acknowledged and communicated to the community through the use of hymns. This practice involves the ongoing singing of hymns in the '*Khawhar in*' (home of the bereaved) for a minimum period of three consecutive days and nights. Consequently, a significant number of community members are attracted to the *Khawhar*, the location where the collective mourning/grieving ceremony is being held. The collection of hymns created and composed by Mizo Christians between 1919 and 1930 is referred to as '*Khawhar zai*' (singing songs of mourning). The *Khawhar zai* repertoire is significant in influencing the sociocultural dynamics of collective mourning and the shared experience of death among the Zo community. The songs called '*Khawhar hla*' (songs for the dead/mourning) and the practice of singing them collectively, known as *Khawhar zai*, have received considerable attention in popular culture (Chakraborty, 2023). Collective singing functions as a means to alleviate the effects of loss and grief by enabling a communal outlet for expressing hope and celebration. This is accomplished through collective singing during funeral ceremonies and the sharing of personal experiences of grief among members of the religious community. '*Khawhar zai*' is a cultural practise observed in the Mizo community, which allows individuals to collectively express emotions related to mourning. This

practice enables participants to develop and demonstrate the skills needed to express their emotions in a way that is consistent with the collective response to grief. This analysis delves into the experiences of the Mizo community in relation to death, with a specific focus on investigating the influence of ritual singing of the '*Khawhar zai*' in the '*Khawhar in*' (home in bereavement). The aim is to gain a deeper understanding of the evolving dynamics of the "space in/for mourning," transitioning from an individualised realm of mourning and grief to a more collective one.

### **Proselytization and Proselytized People**

Proselytization occurs within a dynamic and complex cultural environment, where various layers of interaction shape and reshape the living space. The colonial encounter in the Lushai Hills involved efforts to civilize and transform the indigenous tribes, who were previously known as "head-hunters," into more civilized individuals referred to as "soul hunters" (Chakraborty, 2016). The *Zo hnaathlak* and Christianity intersected during a sequence of spiritual revivals that occurred in 1906, 1913, 1918, 1930, 1935, 1948, 1984, 1988, and 1990. These revivals further assimilated the Zo community into the framework of Christianity, emphasising the concept of unity with Christ. These revivals were characterised by spontaneous dancing and singing, as well as episodes of fits. Women played a prominent role in expressing uninhibited dance as a means of invoking the divine during these revivals. The incorporation of Zo practices into the Judeo-Christian tradition, along with the assimilation of Victorian influences, is commonly referred to as the 'Localization of the Gospel' (Chakraborty, 2008). Despite being proselytised, the myth of the passage to the '*Mitthi Khua*' (village of the dead), which symbolises death and the afterlife, persists in Mizo songs and poems (Chakraborty, 2023).

### **Death and Mourning: Changing spatial dynamics**

The placement of the noticeboard outside the residence temporarily known as the '*Khawhar in*, is observed to coincide with its positioning in close proximity to the coffin. In accordance with established social norms and practices, it is customary for the family and friends of the deceased to be organised and positioned in a specific sequence during funeral proceedings. This prescribed order is typically determined by the relationship of individuals to the deceased and their level of closeness. Furthermore, it is

customary for these individuals to be visually documented through the medium of photography, wherein they are arranged in rows, both seated and standing, in close proximity to the coffin. The inclusion of these photographs in memorial and death anniversary videos, which are frequently broadcasted on television, has emerged as a crucial component of the farewell ritual. The photographs and videos are utilised to attain revalidations of the collective ethnonational *Tlawmngaihna* code, as well as to digitally commemorate and memorialise through their exhibition on social media platforms.

The act of engaging in photography sessions, much like the presence of music and songs such as '*Khawhar hla*', can be understood as transitory components within the context of the ritualistic environment. The act of offering plastic flowers to the grieving family signifies a transformation of the intangible concept of mourning into a tangible and enduring material manifestation. Plastic flowers, in their peculiar manner, possess a longevity that surpasses the cumulative experience of mortality within a transitory environment designated for the purpose of grieving. Following the aforementioned event, the collective assemblage gradually disperses and diminishes its congregational presence in the subsequent days. However, it is noteworthy that few of individuals exhibits a tendency to revisit the residence, engaging in the practice of *Khawhar zai* singing and providing solace to the grieving family (Chakraborty, 2023).

The temporal transience of the '*Khawhar in*' is evident in its extension beyond the present moment. In the event of an individual's demise occurring subsequent to the prescribed morning hour, the interment ritual is deferred until the following day. In this particular scenario, it is noteworthy that the physical presence of the deceased individual will persist within the confines of the domestic setting, even during the nocturnal hours. This extended period of vigil, known as '*Ruang thlak zan*', entails the collective engagement of individuals in the solemn observance of the deceased. More specifically, this is called '*mitthi lu men*' with the YMA engaged in the performance of *Tlawmngaihna* code through their collective singings of '*khawhar hla*', in the space in mourning/ bereavement (*Personal Interview/phone conversation*: Pu Kitea). The young people gather in the space of the 'home' (*Khawhar in*) and engage in the nuances of collective mourning and heal those in grief, and unlike at the 'home' in its stage of *Mitthi in* (house with the deadbody), which rarely lasts more than three hours, the collective mourning through singing continues throughout the night until sunrise. The

spatial dynamics of the bereaved 'home' undergo significant transformations within brief timeframes, specifically from sunset to sunrise. Following the interment of the deceased individual, the mortuary customs serve as indicators of the ongoing transformations within the spatial dynamics of the grieving household. On the evening after the burial, at around 7 p.m., the locality's young people join the close relatives to begin the few nights of '*Khawhar lenpui*'. The singing sessions, which are orchestrated by the YMA, have the objective of providing solace and support to individuals who are experiencing bereavement and grief. These sessions serve as a means of consolation in the absence of the corporeal presence (referred to as '*ruang*') within the domestic sphere. At this point, the home is no longer a '*mitthi in*' but becomes the '*Khawhar in*', house of bereavement. Therefore, the remainder of the practices are more concerned with expressing solidarity and empathy with the bereaved family than with reintegrating the dead person into the community. The day after the burial is called '*thlan nghah ni*'. The older people gather in the home and cater the needs of the bereaved family members.

Throughout the diurnal cycle, particularly in the afternoon, individuals from the community would engage in the act of visiting, demonstrating their deference, and partaking in communal singing within the domestic space. The participants in this social setting typically consist of elderly members of the community. The ambiance is characterised by a laid-back atmosphere, wherein certain individuals may engage in stationary movements such as standing and dancing while vocalising, as depicted in the vignette. By the late evening, typically around 6 or 7 p.m., the older individuals disperse, creating space for the younger members of the community to once again engage in the night vigil. The Young Music Association (YMA) assumes responsibility for the provision of benches, music equipment, and financial resources to support the provision of refreshments. In contemporary society, there exists a prevailing social norm that places an expectation upon individuals who fall within the age range of 18 to 40 and remain unmarried. This expectation entails their regular attendance during evening hours, with the purpose of providing assistance whenever deemed necessary. In the context of this social gathering, the drummers assume the role of initiating and guiding the vocalisation, while also allowing for moments dedicated to oratory and dissemination of information. Additionally, a designated interval will be allocated to

facilitate the replenishment of sustenance. During the final song, individuals within the social group tend to assume an upright position, signifying their collective act of standing. Subsequently, following this musical interlude, the congregation proceeds to disperse, thereby concluding their shared experience (Chakraborty, 2023). The temporal duration of the community's mourning process typically spans from a minimum of three days to a maximum of one week. The temporal extent of the aforementioned event was contingent upon the prevailing norms and customs within the specific geographic area or Young Men's Association (YMA), and was frequently influenced by the socioeconomic status, social standing, and level of recognition within the community during the period of mourning. The communal act of engaging in nightly singing serves as a means of providing solace and consolation to those who are experiencing grief and loss. This also highlights a deliberate effort to allocate resources towards the development of young individuals in the realm of vocal expression and engagement in Zo mourning rituals.

### **The codes/norms in the Space in/for Mourning**

In contemporary times, the social standards of *'Tlawmngai'*, *'Huaisen'*-*'Pasaltha'* have been associated with notions of 'Social Welfare' led by the Church and its agencies, namely the YMA (Young Mizo Association), the KTP (Khristian Thalai Pawl) and the youth organisations. The desire to create and *'belong'* to *aldeal Zo Christian State* has been powerfully portrayed and, at times, has led to the voyeuristic intervention of the church and its agencies in the private and public arena (Downs, 1983; Chakraborty, 2008; 2009). The conformity demanded by the *Nexus of Patriarchy* often results in a clash of interest between 'archaic traditionalism/Christian ethics' and 'the culture of individualism/globalised society'. Alongside these multifold concerns is the hybridisation of the code of *'Tlawmngaihna'* in urban spaces. The concept of *Tlawmngaihna*, which pre-dates Christianity, is today found in its hybridised form. *'Tlawmngaihna'* today has been reduced to community services such as *'Hnatlang'* (community service), *'Thlan lai'* (grave digging) organised by the YMA or KTP. Non-participation in such a public display of *'Tlawmngaihna'* is countered by social mockery and, in severe cases, by ostracisation. However, the dynamics of Zo/Mizo economics and justice being 'based on the psychology of compensation' rather than on social justice: make every act in the Mizo society is compensatable in economic terms,

i.e. fine is the only remedy for any crime/misconduct (Stevenson 1943;1986; Lehman, 1978). Non-participation in the public exhibition of *Tlawmngaihna* can be remedied by paying a fine of rupees forty. The '*Tlawmngaihna*' code also doubles as a weapon to control the 'outsiders' spatial domain, mostly the '*Vai*' (Chakraborty, 2012).

### **The Space of the '*Khawhar in*': Between Here and There**

The collective remembering of the dead marks a collective encountering of Death among the *Zo hnaathlak*. The understanding of life while on earth,' i.e., the lifeworld, and life after Death,' i.e., the life either in heaven (*Pialral*) or hell (*Meidil*), defined the blueprints for the imagery of the realms of 'politics' and that of 'ecclesiastics' inherited from the pre-proselytised times and the proselytized times among the Zo/Mizo Christians. The idea that 'this world is not my home' looms large and furthers the yearning for 'rejoice' and 'encounter' and 'being one with the creator-*Lal Isuah* (Jesus Christ).' The pre-Christian cosmology intertwines itself with 'believers' (*Piangthar*; lit., the 're-born') and Christian cosmology (Chakraborty, 2016).

In the pre-colonial past, the Zo people, during the celebrations of festivals such as the *Mim Kut* and *Kangral*, sangsongs of mourning such as *Khawhar Zai*, *Thuthmun Zai* and other songs that suited their mood during these festivals of remembrance of ancestors. Such days were spent in participatory intoxication through endless rounds of Zu (rice beer) drinking and singing with relatives (Ray, 1983; Samuelson, 1991). The event of Death, as mentioned, was followed by community singing to console the bereaved family. It is interesting to note that if, for some unforeseen reason, the time to bury was deferred. A night vigil kept for death due to natural causes or sickness the community collectively engaged in '*ruang mengpui*' (stay vigil with the dead). However, if the death was accidental or a suicide, it was buried on the day itself, even after sunset. Though followed by music acts such as beating the *Khuang* (traditional drum), the event of Death would not involve singing songs of mourning. These bereavement songs were not sung until the dead body was disposed off and the house was empty and signified emptiness temporally (*Khawhar, Lu sun*).

The practice of temporarily housing deceased individuals is observed in the '*Khawhar in*' cultural context. In this particular scenario, the concept of "*Khawhar in*" serves as the designated location, commonly referred to as the "home" or "house," where the deceased individual's physical remains and spiritual essence traverse in order

to navigate their journey towards the realm known as the '*pialral*.' The deceased individual's body is ceremoniously displayed in an open casket, adorned with traditional Mizo cloths (*puan*) and accompanied by floral arrangements (*pangpar*). This practice serves as a symbolic representation of the transition from life to death, as the body remains in this state overnight and during the burial process, acting as a liminal space during its journey to the 'other world'. The expressions of weeping, wailing, and singing that occur in response to a deceased individual's body serve as symbolic representations of the transient nature of sorrow within the ephemeral realm of communal grieving and mourning. The vocalisation of hymn-book verses by the '*hla hriltu*' (the individual responsible for reciting songs and leading the singing) and their subsequent amplification through a microphone, accompanied by the reverberation created by the collective participation in the '*Khawhar hla*', serves as a significant indicator of the ceremonial realm associated with mortality.

The involvement of individuals belonging to the YMA (Youth Mizo Association) in actively engaging in collective mourning from an early stage of life allows them to acquire a deep understanding of the intricate social dynamics, implicit norms, and roles involved in expressing and partaking in the manifestation of *Tlawmngaihna* within the realm of grief in the '*Khawhar in*'. The act of showcasing and adhering to *Tlawmngaihna* codes within the context of '*Khawhar in*' is widely regarded as a form of '*chawimawina*' or honouring, which holds significance on various societal levels. The '*chawimawina*' represents a sociocultural phenomenon that encompasses various actors and social groups. These include the deceased individual, their grieving family, the performer and exhibitor of the code, the Young Men's Association (YMA), and the KTP (Khristain Thalai Pawl) specific to the Veng (locality), and the kinship ties and practices, as well as the immediate family and relatives. The spatial dynamics of the '*Khawhar in*' subtly contribute to the development of a *Tlawmngaihna* code that gradually transforms into a national code, symbolising the ethno-national aspirations of the *Zo hnaathlak* community.

The ephemeral aspects of the spatial dynamics within the context of mourning in the '*Khawhar in*' are evident in the congregation that takes place outside the residence of the grieving family, where individuals engage in dialogue and partake in the consumption of tea while engaging in casual and informal conversations. At one level, the observed space in transit and transition can be interpreted as a manifestation of the

permissive nature of informal grieving practices within the collective. The rapid dispersal of individuals engaged in the mourning process within the '*Khawhar in*' and its immediate neighbourhood further exemplifies the dynamic and adaptable characteristics of this particular space that constantly becomes and unbecomes. The dynamic nature of the 'space in/for mourning' is characterised by its constant transformation and the factors that influence it, such as the level of participation from individuals in the collective grieving process. Additionally, the popularity of the deceased individual or the social, economic, and political status of the bereaved family also play a role in shaping this space. In this scenario, it can be observed that the congregation exhibits a spatial expansion that traverses the length of the street, both vertically and horizontally, thereby transcending the physical boundaries of the designated place of worship and permeating into the adjacent courtyards. The decision to sit outside the home can be attributed to pragmatic considerations such as the logistical requirements imposed by the home's size and the desire to engage in uninterrupted conversations, as opposed to the theoretical propositions put forth in alternative scenarios regarding the intention to safeguard the home from malevolent supernatural entities. The establishment of an informal assembly of males in a location external to the domestic sphere signifies the demarcation of the ritualistic spatial boundary known as the '*Khawhar in*'. The temporary nature of this ritual space serves as a potent mechanism for reinforcing ethnonational aspirations. This is achieved through the prominent display of *Tlawmngaihna*, a cultural symbol, and the collective act of singing within the confines of the *Khawhar*, a designated space.

The aforementioned observation presents a thought-provoking juxtaposition to the notion of the private residence as a potential public domain. In this context, the typically public realm of the road assumes a contrasting role as a private and intimate space, wherein passage is contingent upon acknowledging the presence of a recent death and the associated mourning process. The social gathering taking place within the bereavement house that is the 'space in/for mourning' undergoes a transformative process, resulting in an experiential shift towards a state of contentment and joy for all individuals assembled within the designated space known as the '*Khawhar in*'. The experience of participating in communal expressions of joy and joining in the collective celebration of heavenly realms and the anticipated utopian society known as the

Kingdom in heaven (referred to as *Khawpui*, which denotes a sizable urban or rural settlement) evokes profound sentiments of tranquilly, contentment, optimism, and revitalization. It is noteworthy to acknowledge that a significant number of composers and singers of the '*Khawhar hla*' in previous times had consciously situated their artistic expressions within the confines of a '*Khawpui*' (a term denoting a sizable village). The depicted urban space can be considered exceptionally remarkable within the given historical context. However, it is important to acknowledge that the concept of a '*Khawpui*' has evolved significantly in contemporary times, expanding its magnitude to an even more astonishing extent.

### **Transmutations and amplifications in contemporary times**

Similar to other forms of congregational singing, '*Khawhar zai*' can be understood as a communal and participatory musical practice. As elucidated in the preceding section, the phenomenon under examination pertains to a collective assemblage of individuals who congregate in response to the existential quandary of mortality. On a surface level analysis, it can be observed that the collective singing of the songs has the potential to foster a sense of empathy among the singers towards the sorrow experienced by the grieving family. In light of the discourse, it is plausible to consider an alternative proposition wherein the act of engaging in '*Khawhar zai*' vocal performances serve as a mechanism to obscure the inherent divergences and nuances of emotional encounters within the given social group (Heath, 2016). According to few of the individuals interviewed, the act of engaging in collective singing, specifically '*Khawhar zai*', has the potential to elicit recollections not only of the departed individuals but also of previous experiences involving the loss of loved ones and familial ties. However, most people gathered at home, and indeed, those participating in the majority of the singing have a less direct connection to the deceased. Although many assert that their presence helps to comfort the mourners, it is crucial to examine the fundamental nature of their own participation and the different sense of nostalgia that the singing can evoke for these peripheral members. It is argued here that the most prevalent sensation for them is the memory and longing for their relatives who have died in the past.

### **Digitalisation, Commercialisation and Merchandise**

‘Death’ and *Tlawmngaihna* sentiments that were strong in traditional life are undergoing a visible change, especially in urban centres. For instance, even though people, especially the youths, participate in ‘*Mitthi ralna*’ (condolence), ‘*Khawhar tleivar*’ (night vigil at the bereaved family’s house) and other ceremonies associated with ‘Death’. These practices associated with *Tlawmngaihna* are no longer done individually or privately; instead, the whole emotion is given a public twist, emphasising visibility. The vigilante community-based bodies such as the YMA help the bereaved families in crisis times in an exhibitionist mode. Vanramchhuangi critically comments that ‘Death’ has been commercialised. The materialities associated with practices of Death, condolence, bereavement, coffin making, designing, floral arrangements, to the amplification of the songs of the dead in the house of bereavement, including the community services such as serving tea, and biscuits and cakes/pastries, and the YMA cups to serve the tea (*thingpui*) and has become attractive, yet ‘ugly business’ in the Zo/Mizo society (Lalruatfela Nu, 2006).

The sociocultural practices surrounding death within the *Zo hnahtlak* community have intersected with the contemporary phenomena of virtualization and digitalization. The utilisation of video recordings and the circulation of CDs serve as a means to document and disseminate the various events that encompass the phenomenon of death and its associated rituals. The utilisation of technology and computer-assisted mapping of the ‘*Khawhar in*’ in the form of ‘*Zualko*’ (dissemination of information relating to a death) represents a noteworthy development within the contemporary era of the Pandemic. The analysis of collective mourning and the communal encounter with mortality, as expressed through the ritualised tradition of singing ‘*Khawhar hla*’, gains additional significance when technology is employed, resulting in its visualisation on the Google Maps, and social media platforms. The utilisation of the quintessential ‘YMA flag’ and the ‘Black flag’ as symbols representing a ‘home in mourning’ (Lu sun in/ *Khawhar in*) is enhanced by the dissemination of photographs depicting the ‘*Khawhar in*’ prominently displayed or highlighted with distinct colour codes. The GPS aided digital mapping provides the spatial dynamics of travel from the closest motorable road to the intricate topography, characterised by a series of stairs ascending or descending the hills. Additionally, the temporal aspect of reaching the desired location,

specifically the 'house in a state of mourning', is quantitatively determined through automated calculations on the Google Maps platform. The resulting data is then disseminated through various digital communication channels such as WhatsApp, Telegram, or popular social networks like Facebook.

The inclusion of these specific details in written form serves to strengthen the individual's sense of belonging and recognition within the larger social group. The expression of condolences, known as *Thusawi*, serves as a significant sociocultural practice within the Zo Christian community. It serves to commemorate the life and contributions of an individual, while also reinforcing the deeply ingrained values and beliefs associated with *Tlawmngaihna*, which encompasses acts of compassion and empathy. The act of sharing and circulating condolences, both in physical and digital realms, serves to cultivate a collective sense of evangelical hope, wherein the prospect of reuniting with the departed loved one is embraced. This phenomenon provides solace and consolation to the bereaved family, offering them a source of comfort during their time of mourning. The observation of technological and digital advancements in the mediation process also provides valuable insights into the ongoing transformations occurring within the spatial dimensions of mourning practices among the *Zo hnahthlak*.

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## **Mapping Geographies of Domestic Violence During Covid-19 Lockdown: A Case Study of Chandigarh City, India**

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### **Abstract**

*World celebrated the 2023 International Women's Day intending to bridge the gap in digital access by guiding women to digital equality. However, while the world marched on to secure the digital space for women, neo-patriarchal agents remain intact bringing women back to their traditional roles and augmenting forms of gender violence. The study examines the rise of domestic violence during the first four phases of the Covid-19 lockdown by analysing news clippings and a case study on filed complaints of domestic violence in Chandigarh, India. The high surge in domestic violence complaints during the lockdown shifted the world's attention towards women trapped with their violent partners. Issues labelled responsible for this chaos ranged from the government's inefficient approach to the policing system of the nation. The study locates women trying to adjust amidst a crisis never experienced before and explores the crisis from various dimensions that triggered man's violent nature.*

**Keywords:** Domestic Violence, Covid-19, Unsafe-Homes, Abuse, Gender-Equality

### **Introduction**

The country witnessed a high surge in the reporting of domestic violence complaints from the second week onwards when a nationwide impromptu lockdown was imposed in the wake of the Covid-19 pandemic. Impromptu, as the absence of a concrete plan to battle the pandemic led to chaos. The lockdown initiated a wave of *Ghar-Vapasi* (people returning to homes). However, the pandemic changed the notion of returning back to home as it turned out to be different from its prior experiences. Now, the question arises if family gatherings or spending time with family resembles the bond, love, and strength, then what causes the double/triple rise in domestic violence complaints? What power control dynamics worked behind these four walls during the first four phases of the lockdown? Is it possible that the lockdown triggered the dormant violent nature of man? If yes, how and if not, how people behaved while trying to adjust amidst a crisis never experienced before? More importantly, in this

epitome of safety called home, what kinds of acts, practices, and state of mind gave such a high surge to violence called 'domestic'? Family and marriage institutions are the domestic sphere's two most vital organs. A majority of domestic conflicts have family and marriage institutions as their epicentre. Like the domestic sphere, the concept of gender equality is also seen as a concept associated with women or in relation to women. However, gender equality is rarely understood in terms of the relational aspect (i.e., social, production and power) of how it intersects, interacts and manifests. Lorber (cited by Moghadam 2005) defines gender very aptly as '*a process of social construction, a system of social stratification and an institution that structures every aspect of our lives because of its embeddedness in the family, workplace, state as well as in sexuality, language and culture*'. It is in this context that domestic violence is understood as subjugation and oppression faced by women and other family members at the hands of men (mostly) and other family members. United Nations (2023) define domestic violence or intimate partner violence as a pattern of behaviour in any relationship used to gain or maintain power and control over an intimate partner. Abuse is physical, sexual, emotional, economic or psychological actions or threats of actions that influence another person. It includes any behaviour that frighten, intimidate, terrorise, manipulate, hurt, humiliate, blame, injure, or wound someone.

This surge in domestic violence complaints during the Covid-19 lockdown was witnessed globally. To map this surge, an analysis of the news articles on domestic violence published from the beginning of the lockdown covering all four phases has been taken into consideration (Table 1). However, governments and organisations around the globe claim to be taking necessary steps to curb this menace, but the existing structural loopholes left victims of domestic violence at the mercy of their violent partners. The analysis also found the considered strategies and interventions by the responsible authorities inadequate and ineffective in mitigating the crisis. Moreover, there were stances where the agents to protect the victims of domestic violence themselves became the perpetrator. As per analysis-based findings, the reasons for the increased number of domestic violence reporting vary from the government's inefficient approach to poor policing, from opening liquor shops to restrictions imposed on women visiting parental homes. The analysis-based findings also suggest how media (digital and print) failed to address the core issues and the right approach to tackle the crisis

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effectively and efficiently. Rather they followed and promoted a stereotypical approach to accommodate the '*just wrong*' for the time being.

<b>Table 1. Phase-wise List of News Articles Reviewed, 2020</b>				
<b>Phases</b>	<b>Name</b>	<b>Date</b>	<b>Source</b>	<b>Region</b>
<b>Phase-I (Mar-23 to Apr-14)</b>	Godin	Mar-18	TIME	Global
	Gottman	Mar-26	The Washington Post	Global
	Mittra	Mar-30	The Indian Express	India
	Middleton	Apr-01	Metro News	Malaysia
	Sullivan	Apr-01	NPR 24 Hour Program Stream	Malaysia
	Chowdhury	Apr-02	shethepeople	India
	Roy	Apr-07	Outlook	India
	Mahar	Apr-07	Modern Diplomacy	Global
	Rodrigues	Apr-07	Hindustan Times	India
	Shah	Apr-11	Modern Diplomacy	Global
	Henriques	Apr-13	BBC	Global
	Natarajan	Apr-13	The Hindu	India
<b>Phase-II (Apr-15 to May-04)</b>	Park	Apr-15	BBC	Global
	Kataki	Apr-17	Times of India	India
	Kumar et al.	Apr-17	India Development Review	India
	Rukmini	Apr-18	India News & Al Jazeera	India
	Kingsley	Apr-22	The Telegraph	UK
	Villagran	Apr-22	Modern Diplomacy	Global
	Banerjee	Apr-23	Times of India	India
	Goel	Apr-23	The Week	India
	Bhushan	Apr-25	Deccan Herald	India
	Ratnam	Apr-26	Hindustan Times	India
	Joy	Apr-26	Deccan Herald	India
	Roy	Apr-26	Modern Diplomacy	Global
	Kasarla	May-02	The Wire	India
Sharma	May-03	The Hindu	India	
<b>Phase-III (May-05 to May-17)</b>	Werber	May-08	Yahoo!Finance	Global
	Mukherjee	May-10	NEWS18	India
	Srivastava & Harrisberg	May-10	Thomson Reuters Foundation	India
	Agnihotri	May-16	The Indian Express	India
	Shah	May-17	The Wire	India
	Iyer	May-17	The Indian Express	India
<b>Phase-IV (May-18 to May-31)</b>	Times of India Staff	May-18	Times of India	India
	Siwach	May-18	The Indian Express	India
	Swarajya Staff	May-19	SWARAJYA	India
	Nandan	May-21	Times of India	India
	Thompson	May-22	Equal Times	India
	Naik	May-23	The Print	India
	Thakur	May-23	The Tribune	India
	Kottasová	May-24	CNN	Global

Confined in the four walls called home, all the family members (a panicking Ghar-vapasi) who returned back home burdened the lives of women and young girls with

increased household chores and expected demands based on sex roles. The concept of work-from-home further degraded their mental and physical lifestyle as they had to take charge of the family's health, the matter, and the order. A kind of triple shift role was witnessed. Additionally, the analysis based on the news articles concerning the rise of domestic violence complaints and cases during the lockdown identified a twofold trend shaping all four phases, i.e., romanticism, nostalgia, followed revivalism on the one hand, whereas, on the other hand, it augmented frustration, violence and sexism (Figure 1).

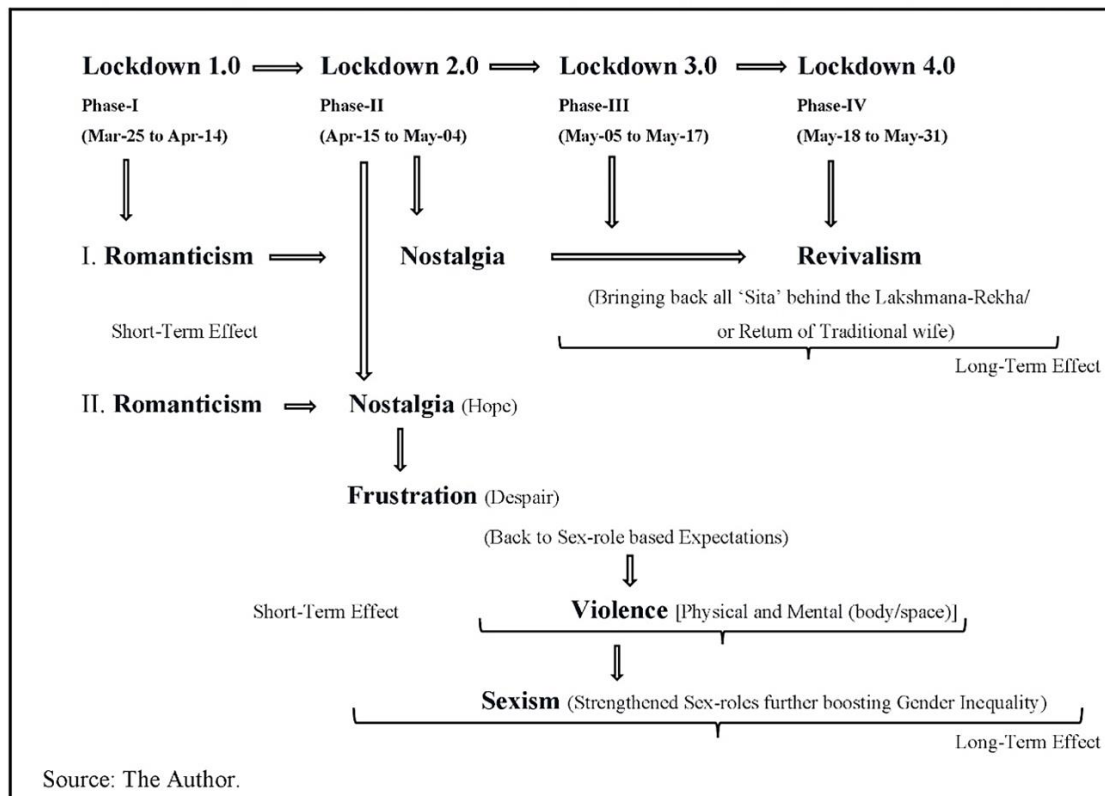


Figure 1. Conceptual Framework: Household space during Covid Epidemic (Hope & Despair)

### The Phase of Romanticism and Nostalgia

The first phase of the lockdown romanticised the family gathering and the importance of home, family members, and elders. Not only the people but the entertainment industry also promoted these values through various advertisements glorifying the bond. For instance, prominent personalities and celebrities tweeted about practising self-control, promoting a need-based lifestyle by fighting consumerism, spending valuable time with family and appealing to people to stay home and follow

orders (Sushmetha, 2020). Moreover, as the lockdown was imposed to battle the disease outbreak, people became vocal with local strategies and stereotypes to fight Covid-19, for instance, claims of curing Coronavirus through Dalgona coffee, herbal tea, enchanting mantras and burning the effigy of Coronavirus. Simultaneously, a trend of romanticising the relationship between married couples was highly eulogised through sharing responsibilities, a man providing domestic help to his wife and helping her with all the household chores.

The first week of the lockdown was all about bursting videos on social media portraying the gender-equality in a household, male celebrities posing selfies with broomsticks, a wiper in hand, and females reacting to the same with expressions of love for partners, learning new skills (online), work from home desired as a life-long routine etc. Amidst all, Mother's Day further boosted such notions to a different level. The news-article analysis describes how the first phase of the lockdown remained dominated by this feeling of romanticism. As most of the news articles during this phase covering domestic spheres emphasised maintaining or rekindling the relationship with a partner or family in isolation, how to avoid conflicts, advising women to adjust with all the family members, justifying the facts that this outbreak is different for men and women, and how a healthy couple could survive in such times. Nevertheless, all these acts of romanticism were practised without considering the extension of the lockdown. Several articles mentioned how people are excited to spend this limited opportunity of quality time with family, and suggestions are given to build healthy relations, also clearly mentioned for 21 days. For example, "These 21 days can change your relationship status quo with your family." However, after a few days, performing repetitive activities beyond sex roles becomes tedious, giving space to a nostalgic feeling or dreaming about one's old self.

### **Frustration Phase**

The nostalgic stage symbolised hope. In other words, dreaming of the past to relive it or returning to the previous order of things and situations. The financial insecurity, the work-from-home culture, the unavailability of work, unfulfilled demands at home, and unexpected behaviour of the spouse or any family member created the spaces for frustration, which ultimately results in men's violent behaviour towards women and any other family member those were vulnerable to such behaviour

(elders/children). The news-reports-based analysis suggests how normal arguments initially accelerated to verbal abuse, followed by frequent physical, mental and ultimately domestic conflicts.

The frustration stage became one of the most contributing factors to justifying and adjusting to the unjust actions of violent partners for the time being and legitimised the forms of domestic violence. On the one hand, the stage of frustration led people straight back to biased gender roles through revivalism (as a long-term effect) and, on the other side, to violence (a short-term effect) followed by sexism (as a long-term effect). The short-term effects are the instant action and reaction of the violent partners (mostly violent acts like abusing, slapping, and pushing). In contrast, the long-term effects are the forms of discrimination and prejudices legitimised by frequent acts of violence, such as revivalism of gender-biased, stereotypical, and orthodox socio-cultural practices.

### **The Phase of Revivalism**

History has witnessed several social crises that have led society straight back to the path of revivalism. Whether it was the extremist movement (militancy period) of the 1980s to 1990s in Punjab that attempted to re-institutionalise the orthodox social conduct for women, girls, and even men or take any incident for reference that involves a gender-specific or community-specific tragedy, ultimately, people tend to resort to revivalist strategies rather than intervene through progressive negotiations. Like any other social crisis, the Covid-19 lockdown also witnessed revivalism, such as historic glorification of Hindu civilisational values and practices. For instance, to battle the COVID-19 disease, cow urine and dung were promoted as a medicinal remedy, and casteism and untouchability were justified by observing quarantine and self-isolation. The form of greetings like Namaste was highly eulogised over shaking hands along with paramount of the Hindu civilisational values above all. For instance, enchanting mantras, singing devotional songs, lighting lamps and drumming plates (as cymbals) as symbols were taken as means to fight this demonic virus.

The attempts of revivalism were also seen in the domestic sphere, especially in promoting the character of traditional-wife, i.e., Sita (an epitome of patience, purity, and forgiveness) through rebroadcasting of the Ramayana. In other words, to bring all Sitas [all those women who have transgressed the Lakshmana-Rekha (boundary) of their

homes or working women] back to the confined circle of household chores as more women lost their jobs during lockdown than men. The broadcasting of religious TV soaps like Ramayana not only promoted the image of Sita but also of Mandodari (Ravana's wife). However, Mandodari symbolises a woman who remains devoted to her husband despite his aggressive nature and wrongful deeds (like kidnapping someone else' woman).

### **Violence and Sexism**

On a rational aspect, it is illogical to consider that an individual with non-violent history will suddenly transform into a violent, toxic or aggressive being. The triggering factors can undeniably accelerate the violent behaviour of individuals prone to anger, but they cannot transform a calm disposition for quick-tempered nature. However, the exponentially increased reporting of domestic violence can be attributed to multiple and frequent complaints from households with a prior history of domestic violence, as confined spaces like the Covid-19 lockdown might have provided an opportunity or allowed the abuser to act again. Therefore, it will be a colossal error to suggest that increased domestic violence complaints during the lockdown period consisted of new cases.

Most complaints were recorded through electronic media such as emails, helpline numbers, and social media websites. There were also occasions when the family members of women filed the complaint as the woman (the victim) was not in a position to do so. The news-reports-based analysis states that an early news report cited the National Commission of Women (NCW), India, which mention that "domestic violence cases have doubled from the second week onwards". The data collected from Women Police Station, UT Police Chandigarh for 2018, 2019, and 2020 showed a different trend, i.e., the number of filed complaints shows a declining rate. However, it can be attributed to the helplessness of the victim being stuck with the offender or limited factors available for the perpetrator to assert his aggressive behaviour. In other words, it was the low reporting of domestic violence cases that explains the declining trend and not the reduced acts of violence itself.

<b>Years/Phases</b>	<b>Phase I</b>	<b>Phase II</b>	<b>Phase III</b>	<b>Phase IV</b>	<b>Total</b>
<b>2018</b>	114	163	53	107	<b>437</b>
<b>2019</b>	142	162	118	105	<b>527</b>
<b>2020</b>	19	27	35	96	<b>177</b>

Source: Calculated from the data on the domestic violence complaints filed. Data retrieved from Women Police Station, Union Territory Police Headquarter Chandigarh, India. 2018-2020.

As mentioned previously, financial insecurity created panic, and all other factors accountable for the frustrated state of mind acted as agents leading to men's violent behaviour. For instance, the findings from news-report-based analysis suggested that in Haryana, the cases of dowry deaths increased during the lockdown, which explains how crimes can be accelerated when things go unchecked. Additionally, other factors like alcohol or other drug consumption also remain a larger factor responsible for the increased intensity of the violent act between couples. However, one cannot say that drinking alone remained responsible for the increased crime rate, and opening and closing liquor stores changed the status quo. As previously mentioned, the act of violence remains a short-term effect as it only occurs momentarily, but it strengthens the roots of sexism as a long-term effect which should be targeted.

Figures 2, 3, and 4 shows the distribution of domestic violence complaints across the sector and class-wise divisions for the years 2018, 2019 and 2020, in which each dot represents a complaint. The period considered for mapping the geographic extent of domestic violence complaints argues that lockdown alone cannot be attributed as a factor responsible for the increased reporting of domestic violence. And the analysis of these complaints manifested as hypothesised that the number of domestic violence complaints followed a situational approach. For instance, the reporting of domestic violence in the year 2018 and 2019 followed a normal increasing trend with sectoral variation, whereas it sharply declined during the Covid-19 lockdown period. In other words, not only individuals with prior history of domestic violence held themselves back from reporting, but individuals facing minor forms of domestic violence such as verbal abuse or conflict caused by argument or liquor consumption also chose not to report and adjust, as the virus-born disease shadowed other minor issues.

Mapping Geographies of Domestic Violence During Covid-19 Lockdown: A Case Study of Chandigarh City, India

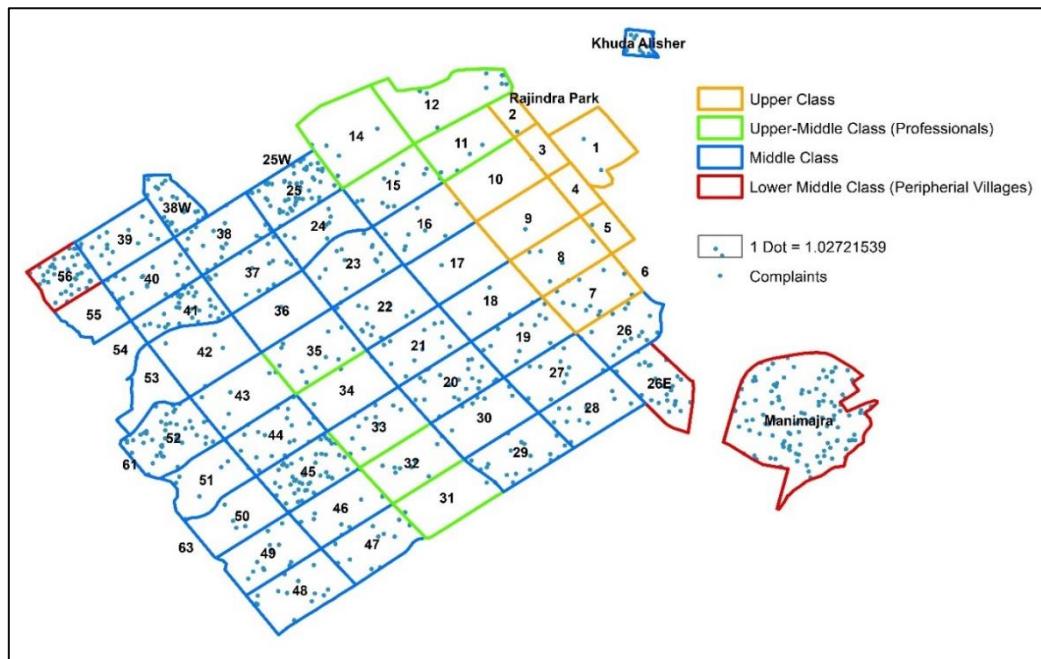


Figure 2. Sector and Class-wise Distribution of Domestic Violence Complaints in Chandigarh, India. January to December 2018

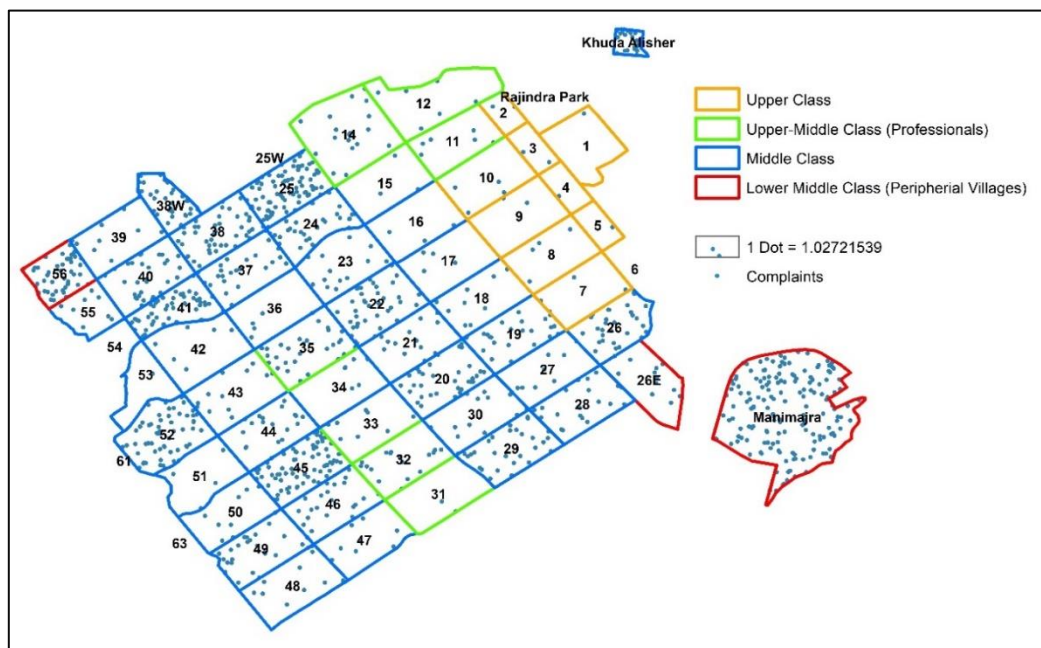
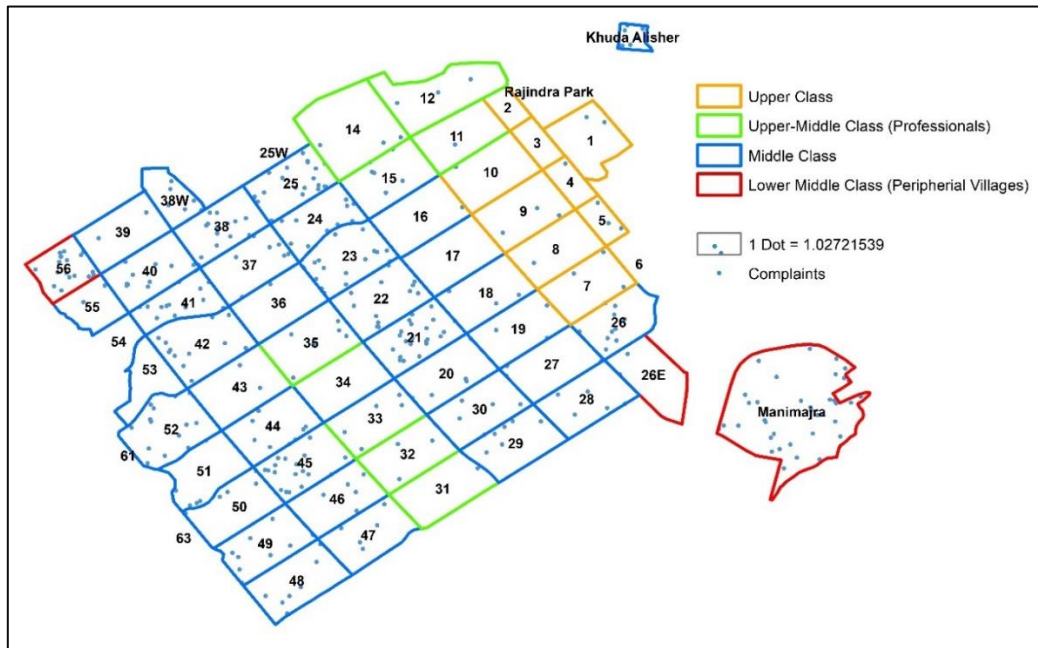


Figure 3. Sector and Class-wise Distribution of Domestic Violence Complaints in Chandigarh, India. January to December 2019



**Figure 4. Sector and Class-wise Distribution of Domestic Violence Complaints in Chandigarh, India. January to June 2020**

(Source: Calculated from the data on the domestic violence complaints filed. Data retrieved from Women Police Station, Union Territory Police Headquarter Chandigarh, India. 2018-2020)

On the other hand, data also reflect that most complaints were from the city's lower and middle-class areas (Figures 2, 3 and 4). These areas were the most affected by the financial

Filed by	Against	Reason
Husband	Wife	Adultery, Abortion due to illicit relations with other
Husband	Wife	Assault, Criminal trespass and misappropriation of dowry articles
Wife	Husband	Attempt to Suicide/Murder/Assault
Wife	Husband	Beating (Partner and Child abuse)
Wife	Husband	Bigamy
Wife/Husband	Husband/Wife	Blackmailing
Wife	Husband	Cheating
Wife	Husband/In-Laws	Cruelty and Physical Violence
Wife	Husband	Defamation
Wife	Husband/Sister-in-Law	Demand of Dowry
Husband	Wife/In-laws	Extortion
Wife	Husband	Forgery
Wife	Husband	Fraud
Wife/Mother-in-law/Husband	Wife/Husband/Ex-husband/In-Laws/Brother-in-Law/Daughter-in-law and her Parents/Son-in-law/Sister-in-law	Harassment

Wife	Husband	Harassment through Fake Social Media Texts and Calls
Daughter-in-law	In-laws' Family Members	Holding the Documents/Passport/Mobile Phone
Wife/Husband	Husband/Wife	Implicate in False Complaint (Domestic Violence and Dowry Case)/Wrongly Lodged FIR
Wife	Husband	Kidnapping and Rape Threat
Wife	Husband	Marital Rape
Wife	Husband/In-laws	Matrimonial Dispute
Wife	Husband	Misbehave
Wife	Husband	Misconducted Behaviour after Liquor Consumption
Parents	NA	Missing Children
Wife	NA	Missing Husband
Wife	Husband	Misuse of Power
Wife/Husband	Husband/Wife	Money Theft and Elopement
Wife	Husband	Negligence, Maltreated and Abused
Wife/Mother-in-law	Husband/Wife/Mother-in-law	Quarrel
Wife	Husband	Request for Protection
Husband	Wife	Request for Protection from Wife
Wife/Daughter-in-law	Husband/In-Laws	Suicide Threats
Wife/Mother-in-law/Husband	Wife/Husband/Daughter-in-law and her Parents	Threat/Threat to Life and Liberty/Threatening Calls/Threatening her Daughter/Murder Threat
Wife	Husband	Torture
Wife	Husband	Verbal Abuse
Other		Re-open/Transfer/Withdrawal of Complaints
Source: Calculated from the data on the domestic violence complaints filed. Data retrieved from Women Police Station, Union Territory Police Headquarters Chandigarh, India. 2018-2020.		

insecurity-induced threat to livelihood. Undoubtedly, financial insecurity and unequal resource accumulation remained a dominating factor in augmenting domestic violence. Therefore, one must also consider the economic categories to understand how the pandemic had varied repercussions for women from different social classes. In other words, the lockdown experience differed for women from different socio-economic backgrounds. The first phase of romanticism and nostalgia was perceived differently among these socio-economic classes.

- **Women in the Above Middle Class:** This section consists of mostly high-salaried regular Jobs (Govt. or Corporate), celebrities or people from any other business class, and homemakers. The range of increased burdens for women in the above-middle class varied from mental stress to the well-being of their family members.
- **Women in the Middle Class:** Women in this section are largely associated with average wages, salaried jobs (regular or non-regular, govt. or corporate, self-employed) and homemakers. Their issue of concern was limited to mental stress, anxiety due to confinement, concern for their children not getting any domestic help, worrying about their partners, low sales due to lockdown, or working family members (working as a health or social worker).

- **Women in the Below-Middle Class:** A majority of this section is characterised by meagre wages, and most of them are labourers and homemakers. However, women belonging to this stratum were not in a position to afford such worries except for the financial crisis as the lockdown put a halt to every outdoor means of earning.

### **Nature of Complaints and Role of the Complainant and Defendant**

The study categorically analysed the nature of complaints along with the role of the complainant and defendant in the complaint lodged (Table 3).

- **Nature of the Complaint:** The analysis found that the nature of complaints lodged largely varies from restricting the autonomy of women within the household through various forms of gender-based violence such as demand of dowry, cruelty by husband and in-laws, matrimonial disputes, mental and physical abuse, harassment, misconduct, threats, defamation, adultery, negligence to extortion from husbands by their wives (fraud complaints, cheating, blackmailing) and abuse of family members by daughters-in-law and children. (Table 3).
- **Complainant:** The complainant's identity ranged from the wife (victim of domestic violence at large), followed by the husband as a victim, and family members of the victim.
- **Defendant:** Husband remained the largest entity against whom the complaint was lodged, followed by wife, in-laws, sisters-in-law and brother-in-law.

### **Safe and Unsafe Homes: A Case Study-based Analysis from Chandigarh City**

The study divides residential sectors into two broad categories, i.e., safe and unsafe homes. Unsafe homes are homes where one or more than one complaint or incidence of domestic violence has been registered in the records of respective authorities such as Panchayat, community council, police station, NGOs or any other authority with the power to take effective actions. However, the notion of safe homes is the antithesis of unsafe homes- a house where no incidence of domestic violence has occurred.

Based on the data collected from the Women Police Station, Union Territory Police Headquarters, Chandigarh, regarding the filed complaints of domestic violence, the victims and perpetrators were approached for the case studies under the category of unsafe homes. In contrast, for safe homes, respondents were selected on a random basis.

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However, it was intended to capture the sample from all three categories, i.e., upper, middle and lower class.

The case study-based findings suggested that the education and financial independence-based empowerment of women has significantly improved the status of women in society. The respondents from the safe-homes category deemed communication-based negotiation and mutual understanding regarding household responsibilities as the most vital pillars for congenial domestic life. However, the respondents from the unsafe-homes category highlighted that despite their education and financial independence, men still control the wheels of power in public spheres and enjoy hegemony over women.

The respondents belonging to the lower class of unsafe-homes category suggested that male partners often restrict a woman by limiting her social connections by taking away the means such as mobile. At the same time, other means of harassment, such as mental torture or depriving the partner of financial help and autonomy, are also employed frequently. In this stratum, the many forms of domestic violence are normalised and not even considered an act of violence. Sex-based roles are highly practised and promoted.

On the other hand, the respondent from the upper and middle-class unsafe-homes category suggested that undeniably advancement in technological upgradation and available helpline services has benefitted women, but loopholes exist at the disposal level. Violent partners are only violent towards their partners, not everyone else. Therefore, beyond the boundaries of home, a man remains dominant and has a larger support base in both social and economic terms.

### Box 1. Case Studies: Safe Homes

- **Case Study I. Male Respondent (37-year-old / Police Employee / Upper-Middle-Class)**

The respondent is a *Police employee* who lives with his wife (also a Police employee) and belongs to the *Upper-Middle-Class (Professionals)* strata of Chandigarh City. He asserted that tensions between married couples are inevitable; therefore, a safe home mandate shared responsibilities to establish a harmonious relationship between the married couple living in a household. He further mentioned that the differential value given to male and female roles and family members' associated expectations often leads to conflicts between household members. As the respondent suggested:

*"Everything that a man does in a household has more value than every task a woman does. A man's engagement in household activities is often appreciated, but the same activities being done by a woman daily basis are rarely recognised."*

Therefore, in safe homes, understanding between the couples and family members regarding allocated roles and preferences of communication rather than delaying/avoiding the issues predominates. Alternatively, in unsafe homes, verbal abuse is normalized, and means of conflict resolution are only sought when tensions have crossed the extremity at the physical level—however, most violent acts, such as slapping, hitting, or restraining someone forcefully. The respondent affirmed that consumption of substance abuse or drinking liquor often increases the chances of domestic violence as the partner often considers substance abuse a means to escape from the conflict.

- **Case Study II. Female Respondent (33-year-old / Government Employee / Middle Class)**

The respondent is a *Government employee* who lives with her husband (a Police employee) and belongs to the *Middle-Class* strata of Chandigarh City. Respondent believes that safe homes have the environment of understanding the value of an individual, his/her roles and treating everyone equally. Most domestic violence cases arise due to household role-based conflicts, and if managed appropriately, household conflicts between married couples or family members can be reduced. As the respondent explained:

*"My husband and I try to share our responsibilities as much as possible. Whenever I am on duty, he takes care of the house and vice versa. Undoubtedly, the lockdown increased the work pressure and consequently these tensions, but keeping patience and establishing an understanding through communication helped us."*

She further suggested that most people are impatient and rarely seek the way of dialogue. They often lash out at each other and later justify their anger and violent behaviour as the heat of the moment.

- **Case Study III. Male Respondent (27-year-old / Self-employed / Lower-middle Class)**

The respondent is *self-employed* (runs a small shop), lives with his wife (housewife) and belongs to the *Lower-Middle-Class* strata of Chandigarh City. As per the respondent, a safe home environment allows women to be self-dependent, own some property/resources, and treat every household member respectfully. As the respondent further suggested:

*"Domestic violence cases often arise out of dowry-related expectations, financial crisis, or partner spending money irresponsibly. Therefore, men and women must be responsible for utilizing resources carefully and consider all aspects while spending them."*

The Covid-19 lockdown has undeniably increased the tensions in the homes. It not only brought people together, but it also aggravated the forms that are socially considered violent and unlawful. For some time, it is okay to live in a crowd, but most people are not habitually tolerating other people for too long. On the other hand, the excessive use of mobile phones further intensified these tensions at home. He mentioned that many of his friends complained about their wives using mobile phones all day and arguing over petty things, men lashing out their frustration on them or family members, or cases of people getting divorced increased during the lockdown.

\*Note: The identity of the respondents are kept in anonymity due to sensitive and personal information shared to protect their privacy and prevent any potential harm by adhering to the legal and ethical guidelines.

## Box 2. Case Studies: Unsafe Homes

### • Case Study I. Male Respondent (35-year-old / Government Employee / Upper Class)

The respondent is a *Government employee* (Perpetrator and Victim of Verbal Abuse) who lives with his wife (a housewife) and belongs to the *Upper-Middle-Class (Professionals)* strata of Chandigarh City. The respondent said that the tensions between him and his wife intensified during the lockdown and often led to verbal abuse. Initially, the reasons behind these verbal fights were increased work pressure, but later on, every other petty issue turned into a big fight. At times, they consulted their friends and family to sort out their issues. As the respondent said:

*"Verbal abuse is a form of domestic violence, no matter how one justifies it. Our home became unsafe during the Covid-19 lockdown, and we both were victims and perpetrators. However, we sorted out this before it could have led to the physical injuries."*

The respondents mentioned that most domestic violence cases are rarely reported, and if reported, they often merge into matrimonial disputes. It not only strengthens the various other ways of perpetrating domestic violence. A very safe home can become unsafe under such circumstances, and consuming substances like liquor further accelerates these things.

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### • Case Study II. Female Respondent (38-year-old / Government Employee / Upper-Middle Class)

The respondent (Victim of Domestic Violence) is a *Government employee* who lives with her husband (Perpetrator) and belongs to the *Upper-Class* strata of Chandigarh City. The respondent said that every home is potentially unsafe where a woman is not treated well. The respondent is a victim of physical abuse perpetrated by her husband. As the respondent said:

*"Undoubtedly, education and awareness have made an impact, empowering women, but men still control everything from the domestic to the public sphere. Even if a woman registered a complaint against her husband, everyone favours the husband. At times, the husband pays off the constables or police officials and settles in his favour. Technology has provided the means to empower women digitally, but in social reality, women are still the foremost victim of domestic violence. Even empowered and financially independent women are not able to speak up for themselves."*

The respondent asserted that male still enjoys the privileges of the patriarchal social system. Women have reached higher positions in society, but women are still inferior and weak to men. Men even use women and their resources to subordinate them. She further mentioned that despite having hotlines/helplines, separate police stations for women and other digital means to report domestic violence cases, women rarely get justice as technology is also a slave of human beings, and men are largely in control.

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### • Case Study III. Male Respondent (32-year-old / Daily-wage Labourer / Lower-Middle-Class)

The respondent is a *Daily-wage Labourer* (Perpetrator), lives with his wife (a housewife and Victim of Domestic Violence) and belongs to the *Lower-Middle-Class (Peripheral Villages)* strata of Chandigarh City. During the Covid-19 lockdown, the respondent's wife registered a complaint for brutally beating her. However, when questioned about the same, the respondent termed it a minor fight between husband and wife. As the respondent said:

*"Such fights are common between married couples. Sometimes women do not listen to men or men stressed due to their daily struggles. Moreover, they exert their stress on each other, sometimes resulting in violent fights."*

However, the registered complaint mentioned his wife's hospitalisation for injuries she endured. The respondent has now taken away his wife's mobile phone as it is the same phone she registered the complaint. On the other hand, the respondent asserted that every home is safe, where men do their duties, and wife obeys their husbands. He further mentioned that things are fine with his spouse, and they live happily together.

\*Note: The identity of the respondents are kept in anonymity due to sensitive and personal information shared to protect their privacy and prevent any potential harm by adhering to the legal and ethical guidelines.

## What Went Wrong?

Isolated from the rest of the world, people trapped with their violent partners had only limited alternatives and sources to keep themselves aware of their surroundings, i.e., digital media. On top of that, a majority of digital media failed short of their responsibility as their focus remained TRP-oriented rather than offering a helping presence to those in need. Most news articles emphasised a narrow approach to address strategies to cope with the pandemic. For instance, avoiding family conflicts, trying new recipes, learning new skills, having healthy and positive communications with partners, sharing responsibilities, and dividing household chores were mostly suggested. These suggestions might have helped the women in the middle class and the middle-class Indian social setting, but they completely ignored women living below the middle class, where the intensity of domestic violence prevails more than any other category and remains unreported. For instance, most of the news articles highlighted the grave situation of the increased rate of crime, but less than 10% suggested long-term strategies, and most of them just imitated the Western ideas of providing shelters to women, providing helplines and regional centres for women to access the help for the time being. The suggestion and

**Table 4. UN Women's International Women's Day Themes, 1996-2023**

Year	Themes
1996	Celebrating the Past, Planning for the Future
1997	Women and the Peace Table
1998	Women and Human Rights
1999	World Free of Violence Against Women
2000	Women Uniting for Peace
2001	Women and Peace: Women Managing Conflicts
2002	Afghan Women Today: Realities and Opportunities
2003	Gender Equality and the Millennium Development Goals
2004	Women and HIV/AIDS
2005	Gender Equality Beyond 2005; Building a More Secure Future
2006	Women in Decision-making
2007	Ending Impunity for Violence Against Women and Girls
2008	Investing in Women and Girls
2009	Women and Men United to End Violence Against Women and Girls
2010	Equal Rights, Equal Opportunities: Progress for All
2011	Equal Access to Education, Training, and Science and Technology: Pathway to Decent Work for Women
2012	Empower Rural Women, End Poverty, and Hunger
2013	A Promise is a Promise: Time for Action to End Violence Against Women
2014	Equality for Women is Progress for All
2015	Empowering Women, Empowering Humanity: Picture it!
2016	Planet 50-50 by 2030: Step It Up for Gender Equality
2017	Women in the Changing World of Work: Planet 50-50 by 2030
2018	Time is Now: Rural and Urban Activists Transforming Women's Lives
2019	Think Equal, Build Smart, Innovate for Change
2020	I am Generation Equality': Realising Women's Rights
2021	Women in Leadership: Achieving an Equal Future in a COVID-19 World
2022	Gender Equality Today for a Sustainable Tomorrow
2023	DigitALL: Innovation and Technology for Gender Equality

Source: UN Women. International Women's Day, 8<sup>th</sup> March. *United Nations*. 1996-2023.

strategies were adopted from the Western experiences neglecting the social setting of Indian society, for example, women gang-raped in a quarantine centre in Rajasthan, a police officer suspended for an attempt to rape in a quarantine centre in Uttarakhand, or reports of minor girls being married in lockdown. To borrow a quote from Kuhn (1996), '*We humans tend to create new puzzles without solving the prior ones.*' In other words, for the sake of advancing the scholarship on forms of gender-based violence, it is okay to address the contemporary issues and issues that can be relevant in future, but it is also imperative to keep working on the issues that have been left behind or remained neglected. The aspect of speed has undoubtedly fastened the lifestyle, but one cannot avoid the issues at hand in order to keep up with the pace of changing lifestyles. One must need to intervene strategically, considering the locational, historical, and situational factors. For instance, the applicability of changing themes of International Women's Day mentioned in Table 4 might differ for a developing nation like India, as it remains still grappling with issues like autonomy, dignity, feminisation of poverty, imbalanced sex ratios, and male-child preference. Undoubtedly, themes like the digital aspect of gender equality are relevant, but it needs more focus on the ground level. One cannot dream of a better tomorrow when struggling with the present. A larger focus on issues like gender equality across gender equality will only cater for a specific elite section privileged to such services, whereas a large number of women will still be grappling with dreaming of accessing basic fundamental rights.

### **Conclusion**

To conclude, the momentary acts of violence between couples (married or unmarried) are often normalised based on their non-frequent occurrence and often non-intervened, considering it as an individual's matter of privacy. In other words, these violent acts are socially normalised and accepted. In the majority of cases, these biased and discriminatory practices are not imposed but socialised and culturally deemed as normative. Ultimately, it is the individual's position based on his self-interests and convenient positioning that keep intact these biased and discriminatory structures like revivalism of orthodox belief and legitimisation of sexism. For instance, Annie Besant devised the *Soul theory of Caste* and eulogised the caste-based division to establish her roots in the Indian political sphere. Though she is widely known for her work on education and fighting for women's rights in the context of India, she actively supported

the rightful place of upper-caste Hindus (Brahmins and Kshatriyas) over lower-castes. Therefore, it will be an error to blindly accept the notion that a revivalist is completely ignorant to renewalism. A revivalist is well aware of his do's and don'ts, and choosing the path of revivalism substantiate that one has prioritised the self at the expense of a larger audience on the stake. In other words, people resorted to the revivalist strategies not out of desperation but with their own free will and choice.

Therefore, as previously mentioned, it would be an analytical error to say that the lockdown alone contributed to the increased number of domestic violence cases. The relational aspects of household power dynamics must be considered while understanding such issues. The nation has seen many disasters but is only aware and capable of short-term pre- and post-disaster phase management strategies. The Covid-19 pandemic provided an opportunity to survive amid a crisis and devise long-term battling strategies. In the context of women and domestic violence, it is also an opportunity to identify all forms of domestic abuse (extreme and subtle) to redefine the power dynamics in a household by targeting the culprit and the roots and structure of the violent act or abuse. Merely targeting the acts of domestic violence might slow down its intensity, but the roots of sexism need to be uprooted to end it. One must not become prey to revivalism. Back to families and people around means bringing change and not reviving the orthodox pathways leading to conservatory practices. One must not expect anyone to change overnight but to keep tagging each other along (by sharing the responsibilities equally by both male and female members). Sex-based roles are part of socialisation and are as fluid as any other social trait. Therefore, the sex-role-based relational exchange between men and women must be addressed and changed. Renewal is the key to bringing that change in by accepting the novelties.

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