

ISBN: 978-93-47587-50-4

# RESEARCH AND REVIEWS IN HUMANITIES, COMMERCE AND MANAGEMENT VOLUME II

EDITORS:

MR. SANJAY KALEKAR

DR. PRIYANKA BHARDWAJ

DR. SAPNA KASLIWAL

MS. SWEETY THAKKAR



Bhumi Publishing, India



First Edition: January 2026

**Research and Reviews in Humanities, Commerce and Management**

**Volume II**

**(ISBN: 978-93-47587-50-4)**

**DOI: <https://doi.org/10.5281/zenodo.18452683>**

**Editors**

**Mr. Sanjay Kalekar**

Department of English,  
Daar-Ul-Rehmat Trust's A. E. Kalsekar Degree  
College, Kausa-Mumbra, Thane

**Dr. Priyanka Bhardwaj**

Rabindranath Tagore University,  
Raisen,  
Madhya Pradesh

**Dr. Sapna S. Kasliwal**

Department of Commerce,  
Government College,  
Rau (Indore), Madhya Pradesh

**Ms. Sweety Thakkar**

Faculty of Commerce & Management,  
Vishwakarma University,  
Pune, Maharashtra



*Bhumi Publishing*

**January 2026**

Copyright © Editors

Title: Research and Reviews in Humanities, Commerce and Management Volume II

Editors: Mr. Sanjay Kalekar, Dr. Priyanka Bhardwaj, Dr. Sapna Kasliwal, Ms. Sweety Thakkar

First Edition: January 2026

ISBN: 978-93-47587-50-4



DOI: <https://doi.org/10.5281/zenodo.18452683>

All rights reserved. No part of this publication may be reproduced or transmitted, in any form or by any means, without permission. Any person who does any unauthorized act in relation to this publication may be liable to criminal prosecution and civil claims for damages.

***Published by Bhumi Publishing,***

***a publishing unit of Bhumi Gramin Vikas Sanstha***



**Nigave Khalasa, Tal – Karveer, Dist – Kolhapur, Maharashtra, INDIA 416 207**

**E-mail: [bhumipublishing@gmail.com](mailto:bhumipublishing@gmail.com)**



**Disclaimer:** The views expressed in the book are of the authors and not necessarily of the publisher and editors. Authors themselves are responsible for any kind of plagiarism found in their chapters and any related issues found with the book.

## ***PREFACE***

The present volume, *Research and Reviews in Humanities, Commerce and Management – Volume II*, is a continuation of our commitment to promoting rigorous scholarship and meaningful academic dialogue across diverse yet interconnected disciplines. In an era characterized by rapid socio-economic change, technological advancement, and cultural transformation, the integration of perspectives from the humanities, commerce, and management has become increasingly essential. This volume provides a multidisciplinary platform for researchers, academicians, and professionals to present original research findings, critical reviews, and conceptual analyses that address contemporary issues and emerging trends.

The contributions compiled in this volume explore a wide range of themes, including social and cultural dynamics, economic development, organizational behavior, financial innovation, educational practices, and strategic management. By bringing together theoretical frameworks and empirical investigations, the book encourages a holistic understanding of complex real-world problems. Emphasis has been placed on quality, originality, and relevance, ensuring that each chapter adds value to existing knowledge and contributes to informed decision-making in academia, industry, and policy environments.

Volume II reflects the collaborative efforts of scholars from varied institutional and geographical backgrounds, highlighting the global and interdisciplinary nature of modern research. The editorial team has made every effort to maintain academic integrity, clarity, and coherence throughout the volume through a rigorous peer-review and editorial process.

We believe that this book will serve as a valuable reference for undergraduate and postgraduate students, researchers, educators, and practitioners. It is our hope that the insights presented herein will stimulate critical thinking, encourage further research, and support the advancement of knowledge in the fields of humanities, commerce, and management.

**- Editors**

## TABLE OF CONTENT

<b>Sr. No.</b>	<b>Book Chapter and Author(s)</b>	<b>Page No.</b>
1.	<b>THE CLEAR PUBLICATION MODEL: A STRUCTURED ACADEMIC PUBLICATION FRAMEWORK FOR LEGAL EDUCATION AND SOCIETAL KNOWLEDGE TRANSFER</b> Mohd Haris Abdul Rani	1 – 12
2.	<b>THE ENERGY IMPACT OF CRYPTOCURRENCY MINING: A MALAYSIAN LEGAL DILEMMA</b> Eless Francis, Mohamad Firdaus Medli, Muhammad Alif Ashraf Hamzah, Muhammad Asyraf Zulkefle, Nurul Izzah Halim, Hanafi Haron and Mohd Haris Abdul Rani	13 – 24
3.	<b>LOCAL TO GLOBAL - TRANSFORMING MAHARASHTRA'S COMMERCE ECOSYSTEM: AN ANALYTICAL STUDY FROM A COMMERCE AND MANAGEMENT PERSPECTIVE</b> Suvaiba Shirshikar Pirani	25 – 28
4.	<b>STRATEGIC GREEN MARKETING IN AGRIBUSINESS: DRIVING SUSTAINABILITY AND COMPETITIVE ADVANTAGE</b> Jyoti, Suman Ghalawat and Bharat	29 – 34
5.	<b>THE ROLE OF CUSTOMER SATISFACTION AND CUSTOMER RETENTION HELP BUILD CUSTOMER LOYALTY</b> M. Narasimha and G. Sudhakar	35 – 45
6.	<b>THE TESTIMONY OF MEMORY, DIGNITY, DUTY, REGRET, AND EMOTIONAL RESTRAINT IN 'THE REMAINS OF THE DAY' BY KAZUO ISHIGURO</b> Sanjay Shriram Kalekar	46 – 56
7.	<b>SOCIAL WORK INTERVENTION IN CRIME AGAINST WOMEN</b> Sarika Sheoran	57 – 64
8.	<b>MARKETING IN THE AGE OF AI-GENERATED CONSUMERS: A CONCEPTUAL SHIFT</b> Deepok Kumar Chaudhary	65 – 76
9.	<b>TINSUKIA'S ROADS, TINSUKIA'S RIDES: ASSESSING CAR OWNERSHIP SATISFACTION</b> Anjan Kumar Bordoloi	77 – 88

10.	<b>UNPACKING "STOMACH INFRASTRUCTURE" IN AFRICAN POLITICS – WHY LEADERS FEED BELLIES INSTEAD OF BUILDING FUTURES IN AFRICAN PUBLIC AND CREATIVE WRITINGS</b> Vernyuy Gilbert Nyuyshiyi and Alfred Ndi	89 – 105
11.	<b>ROLE OF EDUCATION IN REDUCING GENDER INEQUALITY: EVIDENCE FROM INDIA'S STATES</b> Rujuta Milind Joshi	106 – 116
12.	<b>PHOTOGRAPHY AS ART AND SCIENCE: A HISTORICAL AND TECHNOLOGICAL REVIEW</b> Sachin S. Bansode, Santosh G. Mahajan and N. A. Shaikh	117 – 125
13.	<b>GODDESS KĀLĪ: POWER, RITUAL, AND TRANSFORMATION</b> Dibya Ranjan Tripathy	126 – 128
14.	<b>FARMER EDUCATION AND TRAINING PROGRAM</b> Anjali Tomar and Rahul Dhankar	129 – 145
15.	<b>HICKS REVISION OF DEMAND THEORY</b> Girish Mahajan	146 – 155
16.	<b>LIFE-SPAN NUTRITION: DIETARY REQUIREMENTS AND HEALTH CONSEQUENCES FROM INFANCY TO AGEING</b> Ruchi Chaudhary, Trapti Pandey and Shiv Pratap Singh	156 – 173

# THE CLEAR PUBLICATION MODEL: A STRUCTURED ACADEMIC PUBLICATION FRAMEWORK FOR LEGAL EDUCATION AND SOCIETAL KNOWLEDGE TRANSFER

Mohd Haris Abdul Rani

Faculty of Law, Universiti Teknologi MARA, Malaysia

Corresponding author E-mail: [harisrani@uitm.edu.my](mailto:harisrani@uitm.edu.my)

## **Abstract:**

It is well known that legal education is one of the key elements of the rule of law and democratic governance. Conventional methods of evaluating the law usually restrict the research of the student to an in-depth assessment within the school community; thus, the research may not make a significant impact on the broader social justice and understanding of the law. This chapter discusses the CLEAR Publication Model as an academic and pedagogical model that transforms academic projects of students into publishable legal scholarship. Based on sociological jurisprudence, constructivist learning theory and knowledge justice views, the manuscript will argue that legal education needs to operate beyond professional education to act as a channel of spreading legal knowledge to the wider society. The CLEAR Model redefines the meaning of students as active participants in the legal discourse through incorporating the results of the publication into the learning process, which helps to expand the legal knowledge as a form of justice in itself.

**Keywords:** legal education, sociological jurisprudence, public justice, legal literacy, academic publication

## **1. Introduction: Law, Knowledge, and Justice in Society**

The place of law in society is between the normative system of regulation and the place of knowledge of the groups of people. In addition to the coercive and institutional aspects, the law also plays an educative role, both in defining the social expectations, directing behaviour and enlightening its citizens on their rights and duties. It has been argued by scholars that a legal system would not be efficient in its functioning in the event that the people do not have some fundamental knowledge of legal norms and procedures (Cotterrell, 2018; Tamanaha, 2006).

Universities, especially law faculties are of great significance in generating and passing legal knowledge. However, to a large extent, the amount of research produced by learners is confined within the frameworks of assessment, and their research is not released to a wider audience, even though it is required to meet the grading criteria (Biggs & Tang, 2011). The chapter aligns the model with the international goals, such as the Sustainable Development Goals (Bui *et al.*, 2024). It poses a kind of basic question about the social responsibility of legal education: is it time to

abandon the inward-looking method of assessment of law schools to move to the outward-looking approach of learning that places greater emphasis on knowledge transfer and community service (Sullivan *et al.*, 2007; Rhode, 2004).

The CLEAR Publication Model addresses this dilemma by re-conceptualising student assessment as an act of scholarly production that goes towards impacting the society. The model is designed by the UiTM Faculty of Law and incorporates the principles of the syllabus study, mentorship organisation, and publication goals into one learning model. It enables legal education to become a process of increasing legal knowledge, improving the legal literacy of the population, and promoting justice in collaboration with knowledge (Abdul Rani, 2014).

## **2. The Limitations of Traditional Legal Assessment**

Conventional approaches to law evaluation, such as examinations, standalone essays, coursework essays and submissions, have traditionally been concerned with the level of individual mastery of doctrinal knowledge. Although this sort of technique plays a vital role in gauging academic competence, it usually does not lead to an enduring interest in legal issues or stimulate students to recognise the social importance of their work.

The legal education based on assessment has been criticised by a number of scholars as focusing on performance rather than the meaning. According to Biggs and Tang (2011), the systems of assessment often reward the type of learning that entails being on the surface of learning and not gaining an insight. In legal education, this has been intensified by the technical and doctrinal character of most legal subjects, which may alienate students from the larger social implications of law (Bradney, 2013).

Additionally, the old-fashioned assessments seldom demand the refinement of the work by the students after the first submission. Assessments graded are usually stored or disposed of and is a missed chance of spreading knowledge and retaining it. Justice-wise, this is a wrong practice. Legal studies which consider the value of labour rights, access to justice, environmental regulation, or social inequality may have a significant contribution to the discussion of the population should they be developed and distributed appropriately.

The CLEAR Publication Model is showing these restrictions by taking into account the progressive development that needs to be taken, making improvements and sharing in the evaluation process. Instead of considering assignments to be final products, the model considers assignments as developing scholarly products that lead to the development of the law and knowledge in society.

## **3. The CLEAR Publication Model: Conceptual and Structural Overview**

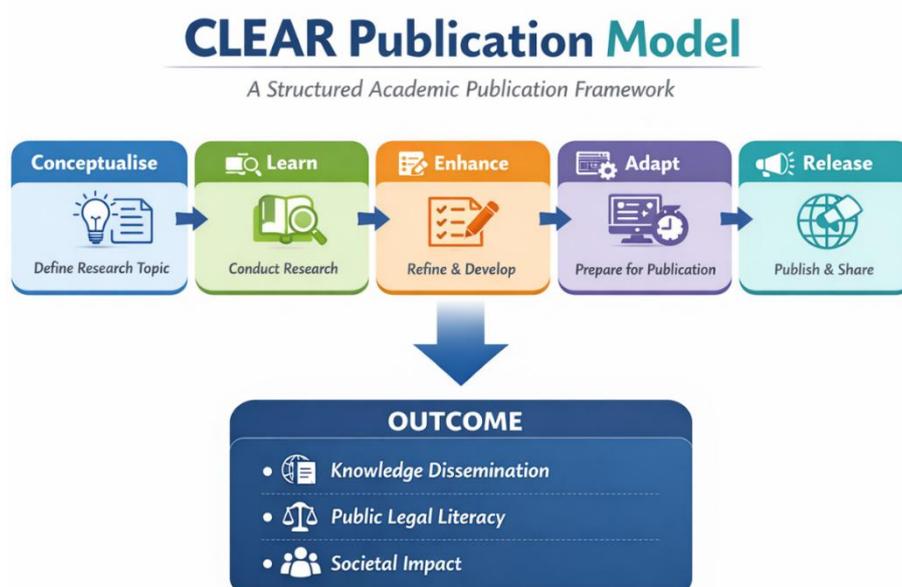
Conventional approaches to law evaluation, such as examinations, standalone essays, coursework essays and submissions, have traditionally been concerned with the level of individual mastery of doctrinal knowledge. Although this sort of technique plays a vital role in

gauging academic competence, it usually does not lead to an enduring interest in legal issues or stimulate students to recognise the social importance of their work.

The legal education based on assessment has been criticised by a number of scholars as focusing on performance rather than the meaning. According to Biggs and Tang (2011), the systems of assessment often reward the type of learning that entails being on the surface of learning and not gaining an insight. In legal education, this has been intensified by the technical and doctrinal character of most legal subjects, which may alienate students from the larger social implications of law (Bradney, 2013).

Additionally, the old-fashioned assessments seldom demand the refinement of the work by the students after the first submission. Assessments graded are usually stored or disposed of and is a missed chance of spreading knowledge and retaining it. Justice-wise, this is a wrong practice. Legal studies which consider the value of labour rights, access to justice, environmental regulation, or social inequality may have a significant contribution to the discussion of the population should they be developed and distributed appropriately.

The CLEAR Publication Model therefore highlights these constraints by integrating constant development, improvement and sharing in the evaluation process. Instead of considering assignments to be final products, the model considers assignments as developing scholarly products that lead to the development of the law and knowledge in society. Table 1 below shows the process flow of the model.



**Figure 1: Stages of the CLEAR Publication Model and Outputs**

#### **4. Theoretical Framework: Law, Learning, and Knowledge Justice**

##### **4.1 Sociological Jurisprudence and Law as Social Engineering**

Conceptualising the law, sociological jurisprudence views it as a social institution that needs to address the needs and interests of the society in a sufficient manner. One of the most famous

definitions of law was provided by Roscoe Pound, who described the law as a type of social engineering that could help to balance the conflicting interests and come to social peace (Pound, 1942). The law therefore cannot be reduced to the set of normative rules but it should be evaluated based on the larger social impact.

The CLEAR Publication Model meets the goals of the sociological jurisprudence through its orientation of student research to societally significant legal problems and the encouragement of publication as a means of impact on the social consciousness. The model operationalises the conception of law as an active social tool given to the students through having them contribute to the legal scholarship.

#### **4.2 Constructivist Learning Theory in Legal Education**

Constructivist learning theory is the theory that argues that learning occurs through experience, reflection and application of knowledge as opposed to passively (Vygotsky, 1978). Constructivist methods in higher education focus on learners, their interactions and real tasks.

The CLEAR Model represents constructivist values as it involves students in the ongoing research and development. Learners learn law more actively by applying drafting, feedback, and revision as part of the building of better analytical skills and a richer and more holistic understanding of concepts. The fact that it is published also contributes to the increased authenticity of the learning process since it places it in the context of actual scholarly and societal practices (Fry *et al.*, 2015).

#### **4.3 Knowledge, Justice, and Legal Literacy**

Knowledge justice refers to the fair and just allocation, acknowledgement and the availability of knowledge in society. It is not only about the presence of knowledge, but also about who is allowed to create it, what voices can be regarded as credible, and whether people have significant chances to obtain and use it. The theory of epistemic injustice by Fricker is pivotal to this debate as it shows how inequity is perpetuated in the knowledge systems, especially whereby some individuals or groups of people are systematically treated as less credible knowers on account of the social power differences (Fricker, 2007). By doing so, knowledge monopolisation does not just limit the flow of information; it can undermine the democratic process of participation in that the public cannot assess policies, claim legal rights, and hold the institution accountable (Fricker, 2007; UNESCO, 2021).

The implications of inequalities in access to knowledge are particularly high within the realm of law. Legal regulations are often complicated, and they are written in technical language, which might impose structural disadvantages on people who do not have access to legal support through professional or institutional means. The socio-legal studies have constantly shown that the problems related to the law are very common in daily life, but not all people realise the problem as a legal concern or do not know where to find help, which leads to the inability to

resolve the disagreement and avoid harm (Genn, 1999; Pleasance, Balmer, and Sandefur, 2013). In unequal access to legal knowledge, legal regimes can seem far or out of reach, thus creating power disparities between the ability to assemble legal resources and the inability to do so (Sandefur, 2015). This work is not simply informational; it creates practical inequality due to the inability of people to take effective action even with the presence of laws and rights in the theoretical state (Pleasance *et al.*, 2013; UNDP, 2016).

In turn, this makes legal literacy a concept of justice, as opposed to an educational objective. Legal literacy contributes to the ability of individuals and society to know their rights and obligations, identify legal issues, and make effective decisions in case of dispute resolution or participation in institutions (UNDP, 2016). Politically, enhancing legal literacy is often seen as the extension of the larger access to justice agenda, including social awareness, access to law, and availability of legal services (UNDP, 2016; United Nations, 2012). This notion is correlated with the rule of law paradigm adopted at the international scale, according to which access to justice can be associated with confidence of the population, justice, and equality in the eyes of the law institutions (United Nations, 2012).

The CLEAR Publication Model, in this regard, plays a role in knowledge justice by making the student scholarship accessible to the general public in the form of legal knowledge. With the student research polished under the academic guidance and meeting the criteria of publications, the final results would serve as a valid source of knowledge to be applied to the population education, institutional analysis, and evidence-based debate. It is more so when students write about the matters of employment rights, availability of services, adherence to regulations, accountability of governance, consumer rights, and ethical responsibility of students. These types of publications are useful in advancing the larger aim of educating the public about the law because they allow the legal concepts to be translated into formats that are structured and readable and bridge the gap between the doctrinal rules and social realities (Cotterrell, 2018). The law as a sociological concept will be valuable not merely in its formal authority but in the manner it is circulated in society, the way it impacts lived experience, and the social relations; hence, the dissemination of the law in a broader form will enhance the social intelligibility and legitimacy of the law (Cotterrell, 2018; Pound, 1942).

Moreover, knowledge and justice correlate, and the connection between them is strengthened when the legal research is made visible to the wider community and is socially applicable. Traditional academic publishing puts legal scholarship in the closed communities of professionals and paywalls, which may hinder open access and increase epistemic inequalities (Frank, McDaid, and Venkatapuram, 2023; UNESCO, 2021). By contrast, student publications that are published in accessible sources, institutional bulletins, open online journals, collaborative book chapters, and repositories, widen the knowledge base of citizens and

stakeholders. This will help bring epistemic fairness by spreading the legal explanations, regulatory summaries, and justice-driven legal thinking to the public sphere (Fricker, 2007; UNESCO, 2021). In this regard, legal literacy is not attained through simplifying material; it is promoted by institutional policies that authorise credible information to society.

The CLEAR Model, therefore, indicates that the growth of the legal knowledge will be able to serve as a justice in itself. As communities become more literate about legal norms, institutional accountabilities, and become more aware of systemic problems, they learn to engage in civic life and make educated choices. This is indicative of a legal enabling strategy whereby justice is enhanced both in the form of formal adjudication and enhanced knowledge capacity and citizen trust on how to get through legal structures (Sandefur, 2015; UNDP, 2016). Thus, by being properly managed, publication-based learning allows the university to do a more extensive social good: produce scholarship which empowers people, aids in democratic engagement, and helps achieve fair distribution of knowledge (United Nations, 2012; UNESCO, 2021).

### **5. Pedagogical Integration and Academic Governance**

The CLEAR Publication Model is practically executed by a weekly workflow in the form of a structured process, which incorporates classroom teaching, directed writing growth, and publication readiness. Students begin the process by submitting a legally significant subject matter on a weekly theme of a syllabus. The drafts are made in steps and milestones, which include topic validation, annotated outlines, systematic drafting, and draft feedback led by lecturers. Formative reviews of quality assurance in terms of argument coherence, jurisdictional accuracy, citation discipline, and originality checks are part of quality assurance. The completed papers are then revised to fit a publication outlet of interest, such as faculty bulletins, institutional repositories, edited books, or external journals. Such a gradual process will help to maintain the educational value and academic integrity of the publication outputs and develop students as active participants in legal knowledge providers, as opposed to passive knowledge receivers.

The effectiveness of the CLEAR Model depends on how it has been incorporated into pedagogical design. The lectures, tutorials, and workshops are planned to be coordinated with each other and facilitate the incremental growth of research. The continued participation of lecturers ensures academic integrity, rigour in the methods and ethical standards.

This model holds the concept of constructive alignment in which learning outcomes, teaching activities, and assessment tools are intertwined (Biggs & Tang, 2011). Having the publication outcomes aligned with syllabus goals, the CLEAR Model helps to make sure that the quality of scholarship and educational goals complement each other.

## **6. Societal Impact and Public Legal Education**

The CLEAR Publication Model is a value to society because it provides an opportunity to disseminate legal knowledge beyond the university and hence facilitates the generation of publishable and accessible research outputs by students who are located outside of formal academic milieus. The spread of such work through outward-looking vehicles, such as the chapter, journal, bulletin, or institutional publication, is far-reaching in the explosion of legal knowledge and therefore, will enhance evidence-based policy discussion and community awareness of legal rights and obligations as well as legal changes in regulation. In that sense, the CLEAR Model makes the civic mission of legal education stronger by transforming the learning into knowledge artefacts, which have wide social applications (Cotterrell, 2018; Pound, 1942).

It is commonly accepted that public legal education is a critical aspect of access to justice since it is usually found that people in general face difficulties in finding remedies, adhering to legal principles, or protecting their rights when they do not understand legal principles or institutional practices. Hazel Genn (1999) argues that access to justice is not limited to judicial procedures, but it extends to the ability and awareness of the people in negotiating through the legal dilemmas. This view has been repeated in the international discourse, especially by the United Nations, claiming meaningful access to justice requires both legal institutions and legal empowerment and measures to build awareness among the community (United Nations Development Programme [UNDP], 2016; United Nations, 2012). In turn, publication-focused design of the CLEAR Model can be viewed as a kind of empowerment of law because it educates students to apply technically sound legal research to structured outputs that can be used to inform professional and wider communities (UNDP, 2016).

The CLEAR Model strengthens the connection between legal education and society by allowing students to publish studies on legal matters which impact society. Students here become the mediators linking legal systems and the public by maintaining an organised and evidence-based presentations of legal knowledge that ease interpretation and reflection. This mediating role is especially relevant due to the fact that legal regimes often exist under the specialised language and formalised procedures that may make the common citizen unable to play any significant role. The sociological jurisprudence tradition has always stressed that law should be read in its social consequences and communal realities, and in its lived experiences, but not in its doctrinal forms (Cotterrell, 2018; Pound, 1942). In this connection, publication-based legal education not only maximises the academic competencies of students, but it also adds the social relevance of legal scholarship to the public by expanding its area and strengthening the normative goal of justice as a collective social project (Genn, 1999; UNDP, 2016).

## **7. Ethical Considerations and Publication Integrity**

Although the CLEAR Publication Model strengthens scholarly rigour and promotes public legal knowledge transfer, effective implementation requires careful academic governance and workload management. First, lecturers may face increased supervision demands due to the iterative nature of drafting, feedback, and revision. In practice, this risk can be moderated by adopting cohort-based supervision strategies, structured peer-review cycles, and assessment rubrics that clarify publication-level expectations from the outset. Research on formative assessment and feedback in higher education consistently indicates that structured feedback systems and transparent criteria can improve learning outcomes while reducing inefficiencies in marking and supervision (Nicol & Macfarlane-Dick, 2006; Carless & Boud, 2018).

Secondly, students may experience difficulty meeting publication-quality writing standards, particularly where prior exposure to academic research writing is limited. This gap may be addressed through scaffolded writing designs, workshops on academic writing and referencing, access to exemplars, and staged submissions that provide gradual competency building across the semester (Biggs & Tang, 2011; Wingate, 2012).

Thirdly, publication-oriented assessment increases the need for robust originality safeguards. Students must be systematically trained in citation literacy and research integrity, including accurate paraphrasing, correct attribution, and the ethical use of sources. This requirement is consistent with established evidence showing that academic integrity is best protected through an educative approach rather than merely punitive enforcement (Bretag *et al.*, 2019). Accordingly, the CLEAR Model benefits from combining citation training with routine plagiarism screening, supervision checkpoints, and clear institutional policies regarding misconduct.

Fourthly, the growing availability of generative artificial intelligence tools requires explicit ethical guidance in order to preserve authorship integrity, transparency, and doctrinal accuracy. In legal research, this issue is particularly significant because AI-generated output may be linguistically convincing yet doctrinally inaccurate, jurisdictionally inconsistent, or inadequately sourced. Therefore, mitigation strategies should include mandatory disclosure policies, supervised drafting processes, and verification requirements for legal authorities, quotations, and citations in all submitted work (Committee on Publication Ethics [COPE], 2019; UNESCO, 2023).

Ethical governance is therefore central to the CLEAR Model. Students are guided in responsible research practices that include originality, proper referencing, and adherence to publication ethics. Lecturer supervision plays a protective role by ensuring scholarly credibility and reducing the risks of plagiarism, misattribution, and unreliable legal citation. These safeguards are essential to maintaining trust in student-generated scholarship and to ensuring that educational

innovation remains aligned with academic integrity standards and publication-quality norms (Bretag *et al.*, 2019; COPE, 2019).

### **8. Sustainability and Institutional Responsibility**

The CLEAR Model uses a cost-neutral, scalable model based on relying on external alliances, institution-based partnerships and committing to utilise existing university infrastructure as opposed to going through student-funded publication channels. The concept is especially relevant to modern academic publishing, where the open-access paradigm has not only increased access to scholarly articles but also created disparities in the form of the article-processing fee, thus posing a financial obstacle to both the individual student and early-career researcher and the already low-resource institution (Borrego, 2023; Frank *et al.*, 2023).

These challenges are recorded as institutional challenges that misalign the spread of publication opportunities and the knowledge can be encapsulated in the scholarly record (Saloojee & Pettifor, 2024; Ayeni, 2025).

In this regard, the CLEAR Model represents institutional responsibility since the benefits of publication-based learning do not remain limited to learners who have more monetary capacity. Instead, the model itself views scholarly writing and publication as a form of educational privilege provided by curriculum design, supervision models, and the cooperative scholarly journals and publications. These institutional commitments are in line with more general ethical obligations in research publication, such as transparency, fairness, and avoiding practices of fees that can affect equity-based access to publishing opportunities (Committee on Publication Ethics [COPE], 2025). Through the incorporation of publication as part of academic evaluation, the institution strengthens its educational purpose, in such a way that it helps avoid exploitation or exclusion of students that can affect them due to publishing schemes that are based on market relationships (Borrego, 2023; COPE, 2025).

The CLEAR Model also promotes continuity in terms of sustainability because it utilises repeatability among academic systems that can be applied to cohorts without introducing financial obligations. The utilisation of student-led journals, campus newsletters, affiliated chapters, and aligned publishing platforms constitutes a viable infrastructure through which the publishing process becomes an institutional learning culture as opposed to a one-time success. Experience in the study of experiential and authentic learning in legal education evidence indicates that organised publication or practice products can have positive learning effects by facilitating better feedback loops, academic writing proficiency, and professional preparedness (Kuehn, 2024; Thomson, 2015). These pedagogical advantages are optimised in case the model is institutionalised and backed up by faculty quality-assurance systems as opposed to being at the mercy of the initiatives of individual students.

In this respect, institutional responsibility is not confined to maintaining a way of assessment, but it also involves an understanding that the university has a moral obligation in upholding a method of construing, justification, as well as propagating lawful awareness. The CLEAR Model goes a step further to support this duty by allowing students to create legally based academic works that can serve the community, policy debate and the general public. These outputs can be aligned to the justice-oriented role of legal education, whereby knowledge production is no longer limited to the classroom but is to be incorporated into the socially responsive academic practice (Cotterrell, 2018; Pound, 1942). Therefore, the CLEAR Model makes sustainability stronger not only financially but also academically and institutionally, as it will create a long-lasting ecosystem where educational value, scholarly ethics, and dissemination of knowledge will be harmonised (Frank *et al.*, 2023; Kuehn, 2024).

### **Conclusion: Expanding Legal Knowledge as Justice**

The CLEAR Publication Model redefines legal education as a justice-oriented knowledge system. By embedding publication into legal pedagogy, the model transforms students from passive learners into contributors to legal discourse. In doing so, it advances legal literacy, empowers society, and fulfils the university's normative responsibility to serve the public good. Expanding legal knowledge is not merely an academic exercise; it is a vital component of professional development. It is an act of justice.

### **References:**

1. Abdul Rani, M. H. (2014). Making the law work for everyone: Legal empowerment in public schools. *Journal of Administrative Science*, 11(2), 1–9.
2. Ayeni, P. (2025). Exploring systemic and institutional barriers in open access publishing. *Journal of Librarianship and Information Science*. Advance online publication. <https://doi.org/10.1177/09610006251353385>
3. Biggs, J., & Tang, C. (2011). *Teaching for quality learning at university* (4th ed.). Open University Press.
4. Borrego, Á. (2023). Article processing charges for open access journal publishing: A systematic review. *Learned Publishing*, 36(4), 1–16. <https://doi.org/10.1002/leap.1558>
5. Bradney, A. (2013). *Conversations, choices and chances: The liberal law school in the twenty-first century*. Hart Publishing.
6. Bretag, T., Harper, R., Burton, M., Ellis, C., Newton, P., van Haeringen, K., Saddiqui, S., & Rozenberg, P. (2019). Contract cheating: A survey of Australian university students. *Studies in Higher Education*, 44(11), 1837–1856. <https://doi.org/10.1080/03075079.2018.1462788>
7. Bui, H. T., Bui, D., & Pham, B. T. (2024). The role of higher education in achieving sustainable development goals: An evaluation of motivation and capacity of Vietnamese

- institutions. *The International Journal of Management Education*, 22(3), 101088. <https://doi.org/10.1016/j.ijme.2024.101088>
8. Carless, D., & Boud, D. (2018). The development of student feedback literacy: Enabling uptake of feedback. *Assessment & Evaluation in Higher Education*, 43(8), 1315–1325. <https://doi.org/10.1080/02602938.2018.1463354>
  9. Committee on Publication Ethics. (2019). *COPE ethical guidelines for peer reviewers*. <https://publicationethics.org/resources/guidelines/ethical-guidelines-peer-reviewers>
  10. Committee on Publication Ethics. (2025). *Author fees and waivers*. <https://publicationethics.org/guidance/guideline/author-fees-and-waivers>
  11. Cotterrell, R. (2018). *Sociological jurisprudence: Juristic thought and social inquiry*. Routledge. <https://www.routledge.com/Sociological-Jurisprudence-Juristic-Thought-and-Social-Inquiry/Cotterrell/p/book/9781138052840>
  12. Frank, J., McDaid, D., & Venkatapuram, S. (2023). Open access publishing—Noble intention, flawed reality. *Social Science & Medicine*, 316, 115532. <https://doi.org/10.1016/j.soescimed.2022.115532>
  13. Fricker, M. (2007). *Epistemic injustice: Power and the ethics of knowing*. Oxford University Press.
  14. Fry, H., Ketteridge, S., & Marshall, S. (2015). *A handbook for teaching and learning in higher education* (4th ed.). Routledge.
  15. Genn, H. (1999). *Paths to justice: What people do and think about going to law*. Hart Publishing.
  16. Kuehn, R. R. (2024). Measuring the impacts of experiential legal education. *Washington University Law Review*, 101, 1–78. [https://openscholarship.wustl.edu/cgi/viewcontent.cgi?article=1836&context=law\\_scholarship](https://openscholarship.wustl.edu/cgi/viewcontent.cgi?article=1836&context=law_scholarship)
  17. Murray, R. (2013). *Writing for academic journals* (3rd ed.). Open University Press.
  18. Nicol, D. J., & Macfarlane-Dick, D. (2006). Formative assessment and self-regulated learning: A model and seven principles of good feedback practice. *Studies in Higher Education*, 31(2), 199–218. <https://doi.org/10.1080/03075070600572090>
  19. Pound, R. (1942). *Social control through law*. Yale University Press.
  20. Rhode, D. L. (2004). *Access to justice*. Oxford University Press.
  21. Saloojee, H., & Pettifor, J. M. (2024). Maximising access and minimising barriers to research in low- and middle-income countries: Open access and health equity. *Calcified Tissue International*, 114(2), 83–85. <https://doi.org/10.1007/s00223-023-01151-7>
  22. Sullivan, W. M., Colby, A., Wegner, J. W., Bond, L., & Shulman, L. S. (2007). *Educating lawyers: Preparation for the profession of law*. Jossey-Bass.

23. Tamanaha, B. Z. (2006). *Law as a means to an end: Threat to the rule of law*. Cambridge University Press.
24. Thomson, D. I. C. (2015). Defining experiential legal education. *Journal of Experiential Learning*, 1(1), 1–28.
25. UNESCO. (2023). *Guidance for generative AI in education and research*. <https://unesdoc.unesco.org/ark:/48223/pf0000386693>
26. United Nations. (2012). *Declaration of the High-level Meeting of the General Assembly on the Rule of Law at the National and International Levels* (A/RES/67/1). <https://undocs.org/A/RES/67/1>
27. United Nations Development Programme. (2016). *Legal aid service provision: A guide for programme managers*. <https://www.undp.org/publications/legal-aid-service-provision-guide-programme-managers>
28. Wingate, U. (2012). Using academic literacies and genre-based models for academic writing instruction: A ‘literacy’ journey. *Journal of English for Academic Purposes*, 11(1), 26–37. <https://doi.org/10.1016/j.jeap.2011.11.006>

## **THE ENERGY IMPACT OF CRYPTOCURRENCY MINING: A MALAYSIAN LEGAL DILEMMA**

**Eless Francis<sup>1</sup>, Mohamad Firdaus Medli<sup>1</sup>, Muhammad Alif Ashraf Hamzah<sup>1</sup>,  
Muhammad Asyraf Zulkefle<sup>1</sup>, Nurul Izzah Halim<sup>1</sup>,  
Hanafi Haron<sup>2</sup> and Mohd Haris Abdul Rani\*<sup>1</sup>**

<sup>1</sup>Faculty of Law, Universiti Teknologi MARA, Malaysia

<sup>2</sup>Center of Innovation and Technology Transfer, Universiti Kebangsaan Malaysia, Malaysia

\*Corresponding author E-mail: [harisrani@uitm.edu.my](mailto:harisrani@uitm.edu.my)

### **Abstract:**

This chapter discusses Cryptocurrency, which has emerged as a prominent currency, apart from paper money, demonstrating the world's technological progress. People are becoming increasingly interested in mining cryptocurrency as its popularity grows. However, because of the miners' extensive consumption of electricity, which results in energy waste, this activity has become a major global issue. This study aims to see how effective Malaysian laws are at combating cryptocurrency mining. The doctrinal technique is employed extensively in this study, examining Malaysia's regulatory framework using energy laws to find anomalies and compare it to laws and regulations in other countries. The public is unaware of the energy impact associated with cryptocurrency mining. As a result, it will be adequately addressed for the benefit of all parties involved.

**Keywords:** Cryptocurrency, Crypto Mining, Energy Waste, Cryptocurrency Laws

### **1. Introduction:**

Cryptocurrency mining is currently one of the fastest-growing sectors (Tully, 2021). Cryptocurrency's value has increased rapidly over time. Data by CoinMarketCap in 2016 stated that the Bitcoin market capitalisation amounts to 80% of the market capitalisation of other types of cryptocurrencies (Jan, 2016). In November 2021, the Bitcoin price reached an all-time high with a value of over \$68,000 (Megan, 2021). Experts also predicted that the value would reach \$100,000. The data provided by a cryptocurrency price tracking website, CoinGecko, stated that the overall market cap of cryptocurrency as of November 2021 amounts to \$3.01 trillion (PYMNTS, 2021). Nevertheless, the activity of cryptocurrency mining has been associated with the issue of massive energy consumption, according to Benjamin Jones, a professor of economics at the University of New Mexico who has studied the environmental impact of bitcoin mining (Aratani, 2021).

Furthermore, cryptocurrency mining has also impacted negatively on legal aspects. In July 2021, Malaysian authorities seized 1,069 bitcoin mining rigs, dispersed them in a parking lot at police headquarters and crushed them with a steamroller. The crypto crackdown, according to Assistant

Commissioner of Police Hakemal Hawari, started after miners allegedly stole \$2 million worth of electricity from Sarawak Energy power lines, for which those miners were charged with theft under Section 379 of the Penal Code for stealing the power supplies (Sigalos, 2021). Although mining for cryptocurrencies is not prohibited in Malaysia, there are strict restrictions governing electricity usage, such as Section 37 of the Malaysian Electricity Supply Act, which threatens anyone who tampers with power lines with fines of up to 100,000 Malaysian Ringgit and five years in prison (Azmi, 2021).

Moreover, the Cambridge Centre for Alternative Finance has estimated that Malaysia accounts for 3.44% of all the world's bitcoin miners, placing it in the top ten mining destinations on earth (Gonçalves, 2021). As a result, with all the importance of regulating this activity being mentioned and discussed, there is a need to conduct a study on the energy impact of cryptocurrency mining from a Malaysian standpoint.

In addition, Bank Negara Malaysia (BNM) has enacted a policy entitled, Anti-Money Laundering and Counter Financing of Terrorism Policy for Digital Currencies (Sector 6) whereby this policy is designed to ensure that adequate countermeasures are taken against risks that may associated or linked with the usage of digital currencies such as money laundering and terrorism funding threats (Bank Negara Malaysia, 2018). This aims to promote greater transparency in the usage of digital currencies, which helps to maintain the financial system's integrity, in line with BNM's reiteration that digital currencies are not legal tender in Malaysia (Ahmat & Bashir, 2017). As a result, society is recommended to conduct the necessary risk assessment when dealing with digital currencies or businesses that provide services related to digital currencies.

## **2. Current Framework on Cryptocurrencies**

Cryptocurrencies are open source and usually do not have a centralised authority. Miners confirm transactions by grouping them into blocks and adding them to a chain in a sequential order. It employs a blockchain-based ledger system to keep track of everything and keep the network secure. This keeps track of all transactions and sends a duplicate to everyone on the network, which is linked to the original (Rooks, 2021).

In this context, miners must solve challenging mathematical problems in a specific order to add blocks to the chain. To power computing processing, this operation consumes a substantial quantity of energy. In a nutshell, miners are compensated in two ways: for solving blocks and for transaction fees.

The theory behind crypto mining is that the more processing power you have, the more likely you are to add blocks for rewards. It is also worth noting that the energy necessarily comes from harmful sources such as coal or diesel, thus the more bitcoins are mined, and the higher the emissions will be (Abo-Hamed & Evans, 2018).

Mining is critical to the foundation of Bitcoin and other cryptocurrencies. The act of establishing a crypto mining operation is not unlawful in Malaysia because there is no explicit law that governs or forbids crypto mining activities. Essentially, miners compete to solve challenging arithmetic problems using specialised equipment known as a mining rig, which uses a lot of electricity (Smart Energy International, 2021). However, crypto miners in Malaysia have recently been witnessed abusing this privilege and taking it for granted by committing injustice in terms of unauthorised electrical energy use. To be more exact, these crypto miners tampered with electric meters, allowing them to illegally utilise large amounts of electricity to power up their mining gear without being charged accordingly. Bitcoin presently consumes over 110 TWh each year, according to the Cambridge Centre for Alternative Finance (CCAF), which is roughly similar to the annual energy consumption of tiny countries like Malaysia or Sweden (Carter, 2021).

Rigs not only consume electricity but also produce heat. It gets hotter as the number of rigs increases. Miners will require a cooling system if they do not want their rigs to melt. Several computer fans are included in many mining setups. However, if they have numerous rigs, the space will quickly get too hot to work in, necessitating the need for external cooling (Gonzalez, 2021). There are no formal laws or regulations that govern cryptocurrency mining in Malaysia, despite many environmental complaints and legal challenges surrounding the injustice of electrical energy associated with crypto mining. The irony is that, although most governments have determined whether to regulate or outright ban crypto mining, Malaysia has chosen to remain neutral and has yet to legalise or explicitly outlaw it.

### **3. Literature Review: Cryptocurrency and Energy Usage**

Energy consumption has become the latest hotspot for Bitcoin (Cuens, 2021). Critics call it an energy guzzler, while supporters praise it for being less energy-intensive than the present global economy (Cuen, 2021). Recent studies identify the energy burden of Bitcoin, which places a burden on energy due to the structural outcome of its proof-of-work (PoW) consensus mechanism, which relies upon a nonstop computational competition and therefore results in sustained electricity demand and the impact on carbon production (Papp *et al.*, 2023; Tayebi *et al.*, 2024). Further empirical research also identified that energy usage and emissions are directly linked to PoW mining, correlated to price incentives and network activity, resulting in concerns that environmental impacts are very high due to the increasing market pressure towards expanded mining operations (Papp *et al.*, 2023; Jiang *et al.*, 2021). To address that, the technological and market have changed their focus toward lower-energy validation designs, especially on proof-of-stake (PoS) systems, whereby it has the tendency to avoid energy-intensive mining through substituting economic staking and validator selection mechanisms (European Union Blockchain Observatory and Forum, 2023). This transition is better positioned as a new way for improving sustainability in blockchain operations, without removing the broader debate on the environmental governance of digital assets (Tayebi *et al.*, 2024).

Before the Merge, Ethereum was based on the use of proof-of-work validation and thus had comparable energy-related concerns regarding the use of computationally intensive mining. Nevertheless, the switch of Ethereum to proof-of-stake in 2022 significantly decreased the amount of electricity used in the network and the Merge has been extensively discussed as one of the sustainability milestones in the blockchain industry (European Union Blockchain Observatory and Forum, 2023; Tayebi *et al.*, 2024). This change exemplifies the direct influence of the consensus design on energy demand, which is why the overall idea of the low-energy models of validation is that these models could help to address the environmental pressures traditionally linked with cryptocurrency activities (Tayebi *et al.*, 2024; Leising, 2021).

### **3.1 Energy Challenges Posed by Cryptocurrency Mining**

Comparative assessments have frequently highlighted the scale of Bitcoin's electricity demand, with estimates suggesting that its annual energy consumption may be comparable to that of a medium-sized European country (Lucey, 2019). This level of consumption has intensified criticism not only of the environmental externalities associated with proof-of-work validation, but also of the broader regulatory and governance challenges surrounding cryptocurrency mining (Nauman *et al.*, 2021). Empirical evidence reported in the energy research literature indicates that Bitcoin accounts for a substantial proportion of proof-of-work cryptocurrency activity, including a dominant share of market capitalisation and energy demand within this category of digital assets (Stoll *et al.*, 2019). Moreover, the inclusion of less-studied proof-of-work currencies may further increase the overall energy burden attributable to cryptocurrency mining, thereby elevating potential environmental harm beyond Bitcoin alone (Stoll *et al.*, 2019).

The value of the cryptocurrency has recently dropped after reaching a high of \$50,000. However, the energy used to create it has continued to rise, reaching the equivalent of Argentina's annual carbon footprint, according to the Cambridge Bitcoin Electricity Consumption Index, a tool developed by Cambridge University researchers that measures the currency's energy use (Aratani, 2021).

### **3.2 Energy Consumption of Cryptocurrencies Beyond Bitcoin**

Most studies on cryptocurrency have focused exclusively on Bitcoin and thereby ignored that more than 500 further mineable coins and tokens exist (CoinMarketCap, 2020). Bitcoin consumes 2/3 of all energy and unstudied cryptocurrencies add another roughly 50% to Bitcoin's energy use, which might create significant environmental damage on its own (Stoll *et al.*, 2019).

## **4. Research Methodology**

This research is doctrinal research to gather and review the energy impact that occurred from the activity of cryptocurrency mining from Malaysia's point of view. Various articles, policies and other reading materials were collected, examined and analysed to have a better understanding of the current situation regarding the issue and the gaps or loopholes that need to be filled.

## **5. Findings**

This section presents the findings derived from the doctrinal analysis of secondary sources on cryptocurrency mining and its energy implications, with particular attention to Malaysia's regulatory position. Given the limited availability of Malaysia-specific empirical studies on the energy consumption patterns of cryptocurrency mining, the findings are primarily synthesised from established scholarly literature, credible institutional reports and comparative regulatory evidence from selected jurisdictions. The analysis focuses on two key aspects: first, the scale and drivers of energy demand associated with cryptocurrency mining activity; and second, the extent to which national legal frameworks have responded to energy-related concerns, either through targeted regulation or through broader financial and environmental governance mechanisms. Accordingly, the findings serve to clarify the prevailing evidence on the energy impacts of cryptocurrency mining while identifying the regulatory gaps that remain significant for Malaysia's legal and policy context.

### **5.1 The activity of cryptocurrency mining consumes a large amount of energy**

The evidence indicates that cryptocurrency market volatility, particularly Bitcoin price movements, has measurable spillover effects on energy-related financial markets. In their analysis of electricity market linkages, Corbet, Lucey and Yarovaya (2019) found that heightened Bitcoin volatility is associated with increased price volatility in electricity utility firms in selected jurisdictions, including China and Russia, where cryptocurrency mining activities have been comparatively more concentrated. By contrast, the relationship observed for Japanese electricity firms was reported as statistically weak and less economically meaningful. These patterns suggest that cryptocurrency mining activity may influence energy markets not only through direct electricity demand but also through broader financial transmission channels affecting energy-sector firms.

### **5.2 Most countries do not develop any regulations in relation to the energy impact of cryptocurrency mining**

Several countries have regulated laws in relation to Bitcoin. For example, Japan has deemed cryptocurrency as a mode of payment under the Japan Act on Payment Service, but only a few have mentioned the energy issue of cryptocurrency usage. In Iran, cryptocurrency mining is recognised as a real industry. The country allowed the cryptocurrency miners to pay more for the electricity fee than normal civilians. In Iceland, the country planned to impose taxes on the miners due to the massive consumption of electricity. The Paris Agreement, which came into effect in November 2016, necessitates the economic and social sectors to decrease any activities that will increase global warming (United Nations, 2015). It aims to limit global warming to below 2, preferably 1.5 degrees Celsius. This reduction includes the cryptocurrency mining activities that bring environmental harm due to their high electricity consumption. The signatories of this Agreement are required to submit their nationally determined contributions

(NDCs) to show what their contributions are in adapting to the ever-increasing global temperature. As such, the countries that have signed into this Agreement must amend their cryptocurrency laws to fit this Agreement, which comprises financial, technical and capacity building support.

### **5.3 Malaysia's electricity provider service, Tenaga Nasional Berhad, faces huge losses due to cryptocurrency mining, which poses a threat to public consumption of electricity**

As Malaysia ranks among the most popular countries to mine Bitcoin and cryptocurrency due to its cheap fares, many seek the opportunity to start mining. However, this act has harmed the electricity provider service in Malaysia, Tenaga Nasional Berhad. Increasing outages to support the mining activity have incurred RM2.3 billion for Tenaga Nasional Berhad. Nevertheless, this massive consumption will eventually affect the security and reliability of the power supply for the public at large, as this mining activity is often associated with tampering with the meter installations as an attempt to steal electricity.

In 2021, Iran banned four months of cryptocurrency mining activity due to power outages. 85% of the mining activity, which is unlicensed, has taken up more than 2GW from the electricity grid in a day. Due to the major drought that has affected the hydro-electric power generation, this poses a significant threat to public consumption (BBC News, 2021). Blocklime founder and chief executive officer, Harpreet Singh, has called for a regulation for a special economic zone that offers cheaper access to electricity from renewable sources (Dzof, 2021). He hoped the regulation could assist the authorities in tracing the perpetrators who steal electricity by this method and help conserve electricity.

### **5.4 Crypto Climate Accord, inspired by the Paris Climate Agreement, aims to decarbonise the cryptocurrency and blockchain industry to net-zero greenhouse gas emissions by 2040**

The Crypto Climate Accord is a private sector-led initiative aimed at accelerating the decarbonisation of the cryptocurrency and blockchain industry. Developed in collaboration with organisations such as Energy Web, the Alliance for Innovative Regulation and the Rocky Mountain Institute (RMI), the initiative promotes climate-aligned governance by encouraging the industry to reduce greenhouse gas emissions and achieve net-zero by 2040. The Accord is underpinned by two principal goals: first, to facilitate net-zero emissions from electricity consumption associated with participating crypto operations by 2030; and second, to develop shared tools, standards and technical pathways that support the transition towards fully renewable-powered blockchain networks, with an aspirational target of enabling 100% renewable-powered blockchains by 2025. These commitments reflect broader international climate priorities, including the UNFCCC Conference of the Parties (COP) framework, which continues to shape global decarbonisation benchmarks and implementation expectations. (Crypto Climate Accord, 2021; UNFCCC, 2024).

## **6. Discussions**

As has been discussed, the activity of cryptocurrency mining consumes a large amount of energy globally. On May 05, 2021, the annual power consumption of the Bitcoin network was estimated to be 143 terawatt-hours (TWh). This consumption is higher than that of Bangladesh (71 TWh), which has approximately 165.7 million people and it is also higher than both Google (12 TWh) and Facebook (5 TWh) combined (McCarthy, 2021). A terawatt hour (TWh) is a measure of electricity that represents 1 trillion watts sustained for one hour. Locally, according to the Global Cryptocurrency Benchmarking Study, Malaysia is among the Asian countries that show high growth of cryptocurrency users (Hileman & Rauchs, 2017). To reiterate the case in Sarawak, Malaysia, where cryptocurrency miners were charged for stealing \$2 million worth of electricity, it can be deduced that Malaysian cryptocurrency mining consumes a massive amount of energy.

Recent scholarship demonstrates that proof-of-work cryptocurrency mining imposes an unusually high electricity burden because network security is achieved through continuous computational competition rather than through low-energy verification mechanisms. Peer-reviewed studies estimate that Bitcoin's annual electricity consumption has reached a level comparable to that of some small- to medium-sized countries, with the associated carbon footprint depending heavily on the electricity generation mix powering mining facilities (Stoll *et al.*, 2019; Mora *et al.*, 2018; Jiang *et al.*, 2021). The resulting environmental concern is not limited to carbon emissions alone; it extends to broader sustainability risks because proof-of-work mining creates a persistent demand for electricity that may compete with household and industrial needs, especially in jurisdictions where electricity tariffs are subsidised or where grid capacity is constrained (Jiang *et al.*, 2021; United Nations Environment Programme, 2022).

In addition, research increasingly highlights that the sustainability impacts of cryptocurrency mining include material and supply-chain consequences arising from specialised mining hardware. The reliance on application-specific integrated circuits (ASICs), coupled with rapid equipment obsolescence, contributes to electronic waste generation and resource inefficiency, which raises governance questions about circular economy responsibility and environmental compliance (Köhler & Pizzol, 2019; United Nations University, 2024). Collectively, this body of evidence indicates that the energy and environmental implications of cryptocurrency mining are not merely technical concerns, but policy and legal dilemmas that require regulatory clarity, enforcement capacity, and stronger alignment with national decarbonisation commitments.

Such environmental impacts caused by cryptocurrency mining were acknowledged by Elon Musk, a tech entrepreneur and multi-billionaire, when he and his company, Tesla, decided to suspend their vehicle purchases using Bitcoin as they are concerned about the rapidly increasing use of fossil fuels for Bitcoin mining and transactions, especially coal, which has the worst emissions of any fuel. Recognising cryptocurrency as a good idea on many levels, they believe that it has a promising future; however, such a future cannot come at a high cost to the environment (Kolodny, 2021).

Despite of these findings, in Malaysia, other than Anti-Money Laundering and Counter Financing of Terrorism (AML/CFT) which come to effect on 27 February 2018 that requires every of cryptocurrency exchangers needs to identify and verify the customer who involves in the trade with them, currently there is no law concerning energy that governs the energy consumption by the cryptocurrency industry (Moorthy, 2018).

Nevertheless, there are recommendations reported that may be possible to be applied to the cryptocurrency industry in the effort to make it greener or more eco-friendly for the environment. First, as has been suggested by Mike Colyer, CEO of Foundry, a blockchain financing provider, he believes that clustering crypto mining facilities near renewable energy projects, such as solar or wind energy, can mitigate a common issue, which is an oversupply of electricity (Lu, 2021). This idea was illustrated in April 2020, when Ya'an, a city located in China's Sichuan province, issued a public guidance encouraging blockchain firms to take advantage of its excess hydroelectricity.

Second, R.A. Farrokhnia, Columbia Business School professor and executive director of the Columbia Fintech Initiative, enunciated the idea of greening cryptocurrencies involve moving bitcoin operations next to oil fields where they tap waste methane gas that's usually flared, pipe it to generators and use the power for bitcoin mining; however he said that these ideas are theoretically possible but they may not be pragmatic. This idea can be considered as impractical and not pragmatic in the sense that it would raise other issues that might concern the oil fields' owner, such as the issue of practicability, cost and finance, personal interest, business planning and others that might be related to the oil fields' ordinary course of business.

Finally, there is the idea of incentivising green energy for future blockchain, where companies, through their blockchains, offer miners better incentives, like more cryptocurrency, for using green energy, which eventually would force out polluting miners (Blinder, 2018). They might also make all miners verify that they utilise green energy before paying for them and those who do not could be denied money.

### **Conclusion:**

This chapter aims to understand the energy impact of cryptocurrency mining in order to execute existing laws or implement new laws and regulations that are relevant to the energy perspective in Malaysia. To summarise, without putting aside paper money, cryptocurrencies have emerged as one of the prominent technologically advanced digital currencies. However, the energy consumed by this type of currency is beyond reasonable and can be deemed as excessive due to its enormous energy intake for it to operate. Other than the Paris Climate Agreement position, most countries have yet to develop any regulations in relation to the energy impact of cryptocurrency mining. It has raised a legal dilemma in Malaysia in terms of which regulations are suitable enough to be exemplified and embodied in Malaysia's legal framework, as currently,

Malaysia itself does not have any laws concerning energy for the nation's cryptocurrency industry.

Next, despite the recommendations available in the effort to make cryptocurrency mining activities more eco-friendly, it remains questionable whether Malaysia has the capabilities to implement any of the recommendations available, as most of them revolve around renewable energy, which Malaysia is not yet an active practitioner of at the current moment. Currently, renewable energy only contributes 18% to the energy mix in Malaysia (Sivaprasad & Kumbhare, 2021). Nevertheless, as technology rapidly evolves, the legal position of cryptocurrencies worldwide shall continue to be observed and Malaysia shall move forward in line with the global technological advancement to develop laws and regulations concerning energy that are relevant for the nation's cryptocurrency industry. Meanwhile, the suitability for the recommendation concerning renewable energy to be implemented in Malaysia's cryptocurrency industry is subject to further study, as Malaysia can be considered a growing champion in terms of renewable energy opportunity, thus this might give rise to various possibilities of Malaysia's legal approach in the future.

**References:**

1. Abo-Hamed, E., & Evans, D. (2018, September 16). Cryptocurrency mining could become the new face of energy storage. Here's how. *World Economic Forum*. <https://www.weforum.org/stories/2018/09/mining-for-cryptocurrencies-could-be-the-future-of-energy-storage/>
2. Ahmat, N., & Bashir, S. (2017, September). *Central bank digital currency: A monetary policy perspective*. Bank Negara Malaysia. [https://www.bnm.gov.my/documents/20124/826874/CB\\_Digital%2BCurrency\\_Print.pdf](https://www.bnm.gov.my/documents/20124/826874/CB_Digital%2BCurrency_Print.pdf)
3. Aratani, L. (2021, February 27). Electricity needed to mine Bitcoin is more than used by "entire countries". *The Guardian*. <https://www.theguardian.com/technology/2021/feb/27/bitcoin-mining-electricity-use-environmental-impact>
4. Bank Negara Malaysia. (2018, February 27). Bank Negara Malaysia issues policy document for digital currencies. *Bank Negara Malaysia*. <https://www.bnm.gov.my/-/bank-negara-malaysia-issues-policy-document-for-digital-currencies>
5. BBC News. (2021, May). Iran bans cryptocurrency mining for four months after blackouts. *BBC News*. <https://www.bbc.com/news/world-middle-east-57260829>
6. Blinder, M. (2018, November 27). Making cryptocurrency more environmentally sustainable. *Harvard Business Review*. <https://hbr.org/2018/11/making-cryptocurrency-more-environmentally-sustainable>
7. Carter, N. (2021, May 6). How much energy does Bitcoin actually consume? *Harvard Business Review*. <https://hbr.org/2021/05/how-much-energy-does-bitcoin-actually->

- [consume](#)
8. Cho, R. (2021, September 20). Bitcoin's impacts on climate and the environment. *State of the Planet (Columbia Climate School)*.  
<https://news.climate.columbia.edu/2021/09/20/bitcoins-impacts-on-climate-and-the-environment/>
  9. CoinMarketCap. (2020). Cryptocurrency prices, charts and market capitalizations. *CoinMarketCap*. <https://coinmarketcap.com/>
  10. Corbet, S., Lucey, B. M., & Yarovaya, L. (2019). *The financial market effects of cryptocurrency energy usage* (SSRN Working Paper No. 3412194). SSRN. <https://doi.org/10.2139/ssrn.3412194>
  11. Crypto Climate Accord. (2021). *Crypto Climate Accord: Decarbonising the cryptocurrency industry*. <https://cryptoclimate.org/>
  12. Cuen, L. (2021, March 21). The debate about cryptocurrency and energy consumption. *TechCrunch*. <https://techcrunch.com/2021/03/21/the-debate-about-cryptocurrency-and-energy-consumption/>
  13. Denchak, M. (2019, July 16). Greenhouse effect 101. *NRDC*. <https://www.nrdc.org/stories/greenhouse-effect-101>
  14. Digiconomist. (2021). *Bitcoin electronic waste monitor*. Digiconomist. <https://digiconomist.net/bitcoin-electronic-waste-monitor/>
  15. Digiconomist. (2021). *Bitcoin energy consumption index*. Digiconomist. <https://digiconomist.net/bitcoin-energy-consumption>
  16. Digiconomist. (2021). *Ethereum energy consumption index*. Digiconomist. <https://digiconomist.net/ethereum-energy-consumption/>
  17. Dzof Azmi. (2021, July 27). Bitcoin mining: China's loss is Malaysia's gain (and TNB's loss). *Digital News Asia*. <https://www.digitalnewsasia.com/business/bitcoin-mining-chinas-loss-malysias-gain-and-tnbs-loss>
  18. European Union Blockchain Observatory and Forum. (2023, April). *Ethereum Merge trend report* (Trend Report). European Commission. [https://blockchain-observatory.ec.europa.eu/document/download/3f78c885-d14e-47cb-b183-f22ef529a258\\_en?filename=EUBOF3.0 Ethereum Merge Trend Report final.pdf](https://blockchain-observatory.ec.europa.eu/document/download/3f78c885-d14e-47cb-b183-f22ef529a258_en?filename=EUBOF3.0 Ethereum Merge Trend Report final.pdf)
  19. Gonçalves, A. (2021, May 31). Is Bitcoin bad for the environment? Energy and pollution impacts. *Youmatter*. <https://youmatter.world/en/bitcoin-bad-environment-impact/>
  20. Gonzalez, O. (2021, August 31). Here's how much electricity it takes to mine bitcoin and why people are worried. *CNET*. <https://www.cnet.com/personal-finance/crypto/heres-how-much-electricity-it-takes-to-mine-bitcoin-and-why-people-are-worried/>
  21. Hileman, G., & Rauchs, M. (2017). *2017 global cryptocurrency benchmarking study*. SSRN. <https://doi.org/10.2139/ssrn.2965436>

22. Jiang, S., Li, Y., Lu, Q., Hong, Y., Guan, D., Xiong, Y., & Wang, S. (2021). Policy assessments for the carbon emission flows and sustainability of Bitcoin blockchain operation in China. *Nature Communications*, 12, 1938. <https://doi.org/10.1038/s41467-021-22256-3>
23. Köhler, S., & Pizzol, M. (2019). Life cycle assessment of Bitcoin mining. *Environmental Science & Technology*, 53(23), 13598–13606. <https://doi.org/10.1021/acs.est.9b05687>
24. Kolodny, L. (2021, May 12). Elon Musk says Tesla will stop accepting bitcoin for car purchases, citing environmental concerns. *CNBC*. <https://www.cnbc.com/2021/05/12/elon-musk-says-tesla-will-stop-accepting-bitcoin-for-car-purchases.html>
25. Laimon, M., Almadadha, R., & Goh, S. (2025). Energy consumption of crypto mining: Consequences and sustainable solutions using systems thinking and system dynamics analysis. *Sustainability*, 17(8), 3522. <https://doi.org/10.3390/su17083522>
26. Lánský, J. (2016). Analysis of cryptocurrencies price development. *Acta Informatica Pragensia*, 5(2), 118–137. <https://doi.org/10.18267/j.aip.89>
27. Leising, M. (2021, May 23). Ethereum closes in on long-sought fix to cut energy use over 99%. *Bloomberg*. <https://www.bloomberg.com/news/articles/2021-05-23/ethereum-closes-in-on-long-sought-fix-to-cut-energy-use-over-99>
28. Lu, M. (2021, April 20). Visualizing the power consumption of bitcoin mining. *Visual Capitalist*. <https://www.visualcapitalist.com/visualizing-the-power-consumption-of-bitcoin-mining/>
29. McCarthy, N. (2021, May 5). Bitcoin devours more electricity than many countries (infographic). *Forbes*. <https://www.forbes.com/sites/niallmccarthy/2021/05/05/bitcoin-devours-more-electricity-than-many-countries-infographic/>
30. Moorthy, D. (2018). A study on rising effects of cryptocurrency in the regulations of Malaysian legal system. *International Journal of Business, Economics and Law*, 15(4). <https://www.ijbel.com/wp-content/uploads/2018/05/LAW-71.pdf>
31. Mora, C., Rollins, R. L., Taladay, K., Kantar, M. B., Chock, M. K., Shimada, M., & Franklin, E. C. (2018). Bitcoin emissions alone could push global warming above 2°C. *Nature Climate Change*, 8(11), 931–933. <https://doi.org/10.1038/s41558-018-0321-8>
32. Nauman, B., Kao, J. S., Rininsland, Æ., & Martin, K. (2021, May 20). Bitcoin’s growing energy problem: “It’s a dirty currency”. *Financial Times*. <https://www.ft.com/content/1aecb2db-8f61-427c-a413-3b929291c8ac>
33. Papp, A., Lämmerzahl, N., & Trimborn, T. (2023). Bitcoin and carbon dioxide emissions: Evidence from daily emissions at a fossil fuel power plant. *Journal of Public Economics*, 226, 105075. <https://doi.org/10.1016/j.jpubeco.2023.105075>
34. PYMNTS. (2021, November 8). Cryptocurrency hits \$3T in value, a new milestone. *PYMNTS*. <https://www.pymnts.com/cryptocurrency/2021/cryptocurrency-hits-3t-in-value->

- [a-new-milestone/](#)
35. Rooks, T. (2021, February 16). Why does bitcoin need more energy than whole countries? *DW*. <https://www.dw.com/en/why-does-bitcoin-need-more-energy-than-whole-countries/a-56573390>
  36. Sigalos, M. K. (2021, July 20). Viral video shows Malaysian police destroying 1,069 bitcoin mining rigs with a steamroller. *CNBC*. <https://www.cnbc.com/2021/07/19/malaysian-police-steamroll-1point25-million-worth-of-bitcoin-mining-rigs.html>
  37. Sivaprasad, D., & Kumbhare, P. (2021, April 2). Growing champions: Malaysia's renewable energy opportunity. *The Edge Markets*. <https://www.theedgemarkets.com/article/growing-champions-malaysias-renewable-energy-opportunity>
  38. Smart Energy International. (2021, May 26). Cryptocurrency mining and renewable energy: Friend or foe? *Smart Energy International*. <https://www.smart-energy.com/renewable-energy/cryptocurrency-mining-and-renewable-energy-friend>
  39. Stoll, C., Klaaßen, L., & Gallersdörfer, U. (2019). The carbon footprint of Bitcoin. *Joule*, 3(7), 1647–1661. <https://doi.org/10.1016/j.joule.2019.05.012>
  40. Tayebi, S., *et al.* (2024). Exploring the environmental and health impacts of proof-of-work cryptocurrency mining: A comprehensive review. *Environmental Research*. Advance online publication. <https://www.sciencedirect.com/science/article/abs/pii/S0013935124007023>
  41. Tully, S. (2021, August 6). Bitcoin mining is suddenly one of the most profitable businesses on the planet. *Fortune*. <https://fortune.com/2021/08/05/bitcoin-mining-is-suddenly-one-of-the-most-profitable-businesses-on-the-planet/>
  42. United Nations Environment Programme. (2022). *Emissions gap report 2022: The closing window—Climate crisis calls for rapid transformation of societies*. UNEP. <https://www.unep.org/resources/emissions-gap-report-2022>
  43. United Nations Framework Convention on Climate Change. (2024). *Conference of the Parties (COP) 30*. <https://unfccc.int/>
  44. United Nations University. (2024). *Global e-waste monitor 2024*. UNU/UNITAR and ITU. <https://ewastemonitor.info/gem-2024/>
  45. United Nations. (2015). *Paris Agreement*. United Nations Treaty Collection. [https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg\\_no=XXVII-7-d&chapter=27](https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-d&chapter=27)

**LOCAL TO GLOBAL - TRANSFORMING MAHARASHTRA'S  
COMMERCE ECOSYSTEM: AN ANALYTICAL STUDY FROM A  
COMMERCE AND MANAGEMENT PERSPECTIVE**

**Suvaiba Shirshikar Pirani**

Department of Commerce (Arts Section),

St. Xavier's College, Mumbai

Corresponding author E-mail: [suvaiba.pirani@xaviers.edu](mailto:suvaiba.pirani@xaviers.edu)

**Abstract:**

Maharashtra occupies a critical position in India's economic framework, contributing extensively through industrial production, trade, finance, and service activities. Although the state possesses strong regional commerce networks, the transition of locally rooted enterprises into the global marketplace remains uneven. This research examines the structural, managerial, and policy-related dimensions influencing this transformation. Using secondary data and sectoral analysis, the study proposes a strategic model to enhance global competitiveness while sustaining local economic growth. The findings highlight the importance of skill development, technological adoption, logistics efficiency, and coordinated governance in strengthening Maharashtra's commerce ecosystem.

**Keywords:** Global Trade, Regional Commerce, Msmes, Economic Development, Maharashtra

**1. Introduction:**

Maharashtra is widely recognized as India's commercial and industrial powerhouse. The state hosts major financial institutions, export-oriented industries, and diverse manufacturing clusters. Despite these advantages, a significant segment of local enterprises—particularly MSMEs—continues to operate within confined domestic markets. From a commerce and management standpoint, globalization is no longer optional but essential for long-term competitiveness. The objective of this paper is to analyze how Maharashtra can systematically shift from localized commercial activity to global market participation while maintaining inclusive economic development.

**2. Review of Literature**

Scholarly research on globalization emphasizes the integration of regional firms into global value chains as a catalyst for productivity growth and innovation. Humphrey and Schmitz (2002) argue that upgrading within global networks depends on institutional support and firm-level capabilities. Porter's (1990) framework on competitive advantage underscores the role of regional clusters, infrastructure, and strategic management in enhancing global competitiveness. Studies focusing on Indian MSMEs identify inadequate access to finance, technology gaps, and

limited export knowledge as key barriers to international expansion. These insights provide a foundation for examining Maharashtra's commerce ecosystem.

### 3. Research Methodology

The study employs a descriptive research design relying on secondary sources of information.

#### Data Sources

- State economic survey publications
- National export and trade statistics
- Peer-reviewed journals and industry analyses

#### Analytical Tools

- Comparative sector analysis
- Case-based evaluation of selected industries

This methodology enables a holistic understanding of the challenges and opportunities associated with globalizing local commerce.

### 4. Overview of Maharashtra's Commerce Ecosystem

#### 4.1 Local Commercial Advantages

Maharashtra benefits from a diversified industrial base, skilled workforce concentration, advanced banking systems, and strong urban infrastructure. Regions such as Mumbai, Pune, and Nashik function as economic growth centers supporting manufacturing, services, and agri-business.

#### 4.2 Constraints Affecting Global Outreach

**Table 1: Major Barriers to Global Expansion of Local Enterprises**

Constraint	Effect on Business Growth
Workforce skill gaps	Difficulty meeting global standards
Financial limitations	Restricted capacity expansion
Low digital adoption	Reduced operational efficiency
Logistics challenges	Increased transaction costs
Complex regulations	Slower international entry

### 5. Strategic Management Approaches for Global Integration

#### 5.1 Human Capital Enhancement

Upgrading workforce skills through internationally aligned training programs is critical. Management education and technical certification help firms adapt to global operational requirements.

#### 5.2 Technology and Digital Transformation

The use of digital tools such as enterprise resource planning systems, online marketplaces, and data analytics enables firms to improve productivity and expand market reach.

### 5.3 Trade Infrastructure Development

Efficient logistics, warehousing, port connectivity, and export facilitation centers play a decisive role in improving international trade performance.

**Figure 1**

#### Drivers of Global Competitiveness in Commerce



## 6. Sectoral Case Studies

### 6.1 Automotive Manufacturing in Pune

The Pune automotive cluster demonstrates successful integration into global supply networks. Local component manufacturers have adopted international quality benchmarks and lean management practices, enabling exports and multinational collaboration.

### 6.2 Agro-Based Exports from Nashik

Nashik’s horticulture sector highlights how product standardization, branding, and cold-chain infrastructure can transform local agricultural output into export-oriented business models.

**Table 2: Characteristics of Local vs. Global-Oriented Business Clusters**

Dimension	Domestic-Focused Firms	Global-Focused Firms
Market scope	National	International
Technology usage	Moderate	Advanced
Compliance standards	Local	Global
Growth potential	Limited	High

## 7. Conceptual Framework for Transformation

The transition from local commerce to global participation can be structured into sequential stages.

### Three-Stage Commerce Transformation Framework

#### Stage 1: Local Capability Building

(Skills, Quality, Digital Adoption)

#### Stage 2: Regional Value Chain Integration

(Logistics, Collaboration, Scale)

#### Stage 3: Global Market Expansion

(Exports, Branding, Partnerships)

This phased approach minimizes risk while strengthening competitiveness at each level.

## **8. Policy and Managerial Implications**

### **Policy Considerations**

Governments should simplify regulatory procedures, enhance export incentives, and promote innovation-led growth through targeted financial and infrastructural support.

### **Managerial Considerations**

Business leaders must adopt strategic planning, invest in employee development, and implement global best practices in operations and governance.

### **Conclusion:**

Maharashtra possesses the economic and institutional foundation necessary to transform its commerce ecosystem from local to global. However, achieving this transition requires coordinated efforts involving policy reform, managerial innovation, infrastructure development, and skill enhancement. By adopting a structured transformation framework, the state can ensure sustainable growth, increased exports, and stronger integration with the global economy.

### **References:**

1. Humphrey, J., & Schmitz, H. (2002). Global value chains and industrial upgrading. *Regional Studies*, 36(9), 1017–1027.
2. Porter, M. E. (1990). *The competitive advantage of nations*. Free Press.
3. Government of India. (2022). *Annual report on MSMEs*. Ministry of Micro, Small and Medium Enterprises.
4. Government of Maharashtra. (2023). *Economic survey of Maharashtra*. Directorate of Economics and Statistics.

## **STRATEGIC GREEN MARKETING IN AGRIBUSINESS: DRIVING SUSTAINABILITY AND COMPETITIVE ADVANTAGE**

**Jyoti\*, Suman Ghalawat and Bharat**

Department of Business Management,  
COA, CCS Haryana Agricultural University, Hisar, Haryana, India

\*Corresponding author E-mail: [jyotimandhan54@gmail.com](mailto:jyotimandhan54@gmail.com)

### **Abstract:**

Growing environmental degradation, climate change, and increasing consumer awareness have compelled agribusiness firms to re-examine traditional marketing approaches. Green marketing has emerged as a strategic response that integrates environmental responsibility with market competitiveness. This chapter explores the concept of strategic green marketing in agribusiness and examines how it contributes to sustainability and competitive advantage. Drawing upon theoretical frameworks such as the resource-based view, stakeholder theory, and the triple bottom line approach, the chapter discusses key dimensions of green marketing including green product development, eco-branding, sustainable pricing, green promotion, and environmentally responsible distribution. It further analyzes implementation strategies, performance implications, challenges, and policy support mechanisms relevant to agribusiness firms. The chapter highlights that when green marketing is strategically embedded rather than tactically applied, it enhances firm reputation, consumer trust, innovation capability, and long-term competitiveness. The chapter concludes by outlining future research directions and managerial implications for promoting sustainable agribusiness development through green marketing strategies.

**Keywords:** Green Marketing, Agribusiness, Sustainability, Competitive Advantage, Eco-Branding, Strategic Marketing.

### **Introduction:**

Agribusiness occupies a central position in the global economy, encompassing activities ranging from agricultural input supply and farm production to processing, distribution, and marketing of food and fiber products. While agribusiness contributes significantly to food security, employment, and economic growth, it is also closely linked with environmental challenges such as soil degradation, water scarcity, greenhouse gas emissions, biodiversity loss, and chemical pollution. These environmental concerns have intensified scrutiny from governments, consumers, civil society organizations, and international agencies, placing agribusiness firms under pressure to operate more sustainably.

In this evolving context, sustainability has shifted from being a voluntary or ethical consideration to a strategic necessity. Consumers are increasingly demanding food and agricultural products

that are safe, responsibly produced, and environmentally friendly. Simultaneously, regulatory frameworks and international trade standards are imposing stricter environmental compliance requirements. Against this backdrop, green marketing has emerged as a critical strategy that enables agribusiness firms to align environmental responsibility with market objectives.

Green marketing involves designing, promoting, pricing, and distributing products in ways that minimize environmental harm while satisfying customer needs. However, when treated merely as a promotional tactic, green marketing often fails to generate lasting benefits. In contrast, strategic green marketing, which embeds environmental considerations into the firm's core marketing and business strategy, has the potential to drive sustainability and create durable competitive advantage.

### **Definition and Evolution of Green Marketing**

Green marketing can be broadly defined as the process of developing and marketing products that are environmentally safe, resource-efficient, and socially responsible. It includes modifications in product design, production processes, packaging, communication, and distribution that reduce negative environmental impacts. Early green marketing initiatives emerged in the late twentieth century in response to environmental movements and regulatory pressures. Initially, these initiatives were reactive and compliance-driven, focusing on pollution control and waste management.

Over time, green marketing has evolved into a proactive and strategic orientation. Modern green marketing emphasizes innovation, value creation, and long-term sustainability rather than short-term compliance. In agribusiness, this evolution is particularly evident in the growing adoption of organic farming, sustainable sourcing, eco-certification, traceability systems, and climate-smart agricultural practices.

### **1. Sustainability and Agribusiness**

Sustainability in agribusiness refers to the ability of agricultural systems and enterprises to meet present food and fiber needs without compromising the capacity of future generations. It encompasses environmental integrity, economic viability, and social equity. Agribusiness sustainability is inherently complex due to biological processes, climatic uncertainty, and diverse stakeholder interests.

The triple bottom line framework provides a useful lens for understanding sustainability in agribusiness. It emphasizes that firms must simultaneously pursue economic performance, environmental protection, and social responsibility. Green marketing directly contributes to this framework by translating sustainability practices into market value and consumer engagement.

### **2. Distinction between Tactical and Strategic Green Marketing**

Tactical green marketing focuses on isolated actions such as eco-friendly packaging or green advertising campaigns. While such initiatives may improve brand image temporarily, they often

lack depth and consistency. Strategic green marketing, in contrast, integrates environmental sustainability into the firm's overall marketing orientation and long-term strategy. It influences decisions related to market selection, product portfolios, branding, and stakeholder relationships, thereby creating enduring competitive advantages.

### **3. Theoretical Perspectives Supporting Strategic Green Marketing**

#### **➤ Resource-Based View**

The resource-based view (RBV) argues that firms achieve sustainable competitive advantage by possessing valuable, rare, inimitable, and non-substitutable resources and capabilities. In agribusiness, green marketing capabilities such as eco-innovation, sustainable supply chain management, and strong green brand equity can serve as strategic resources. These capabilities are difficult for competitors to replicate, particularly when they are embedded in organizational culture and long-term investments.

#### **➤ Stakeholder Theory**

Stakeholder theory emphasizes that firms must address the interests of all stakeholders who affect or are affected by business operations. Agribusiness stakeholders include farmers, consumers, suppliers, regulators, communities, and environmental groups. Strategic green marketing helps firms balance stakeholder expectations by communicating environmental responsibility, engaging stakeholders in sustainability initiatives, and building legitimacy and trust.

#### **➤ Institutional Theory**

Institutional theory highlights the influence of regulatory, normative, and cognitive pressures on organizational behaviour. In agribusiness, environmental regulations, certification standards, and societal norms increasingly shape marketing strategies. Strategic green marketing enables firms to respond proactively to institutional pressures while leveraging them as opportunities for differentiation.

### **4. Dimensions of Strategic Green Marketing in Agribusiness**

#### **➤ Green Product Strategy**

Green product strategy involves designing agricultural and food products that minimize environmental impact across their life cycle. This includes sustainable sourcing of raw materials, reduced chemical inputs, efficient energy use, and environmentally friendly packaging. In agribusiness, green products often include organic produce, sustainably processed foods, bio-based inputs, and climate-smart agricultural solutions.

Green product innovation enhances differentiation and allows firms to target environmentally conscious market segments. It also supports compliance with international quality and sustainability standards, improving access to premium markets.

➤ **Green Branding and Eco-Labeling**

Green branding communicates a firm's environmental commitment and values through brand identity. Eco-labels and certifications serve as credible signals of sustainability attributes, reducing information asymmetry between producers and consumers. In agribusiness, certifications such as organic, fair trade, and geographical indications enhance trust and perceived quality.

A strong green brand contributes to brand loyalty, reputation, and price premiums. However, credibility is essential, as exaggerated or misleading claims can lead to accusations of greenwashing and reputational damage.

➤ **Green Promotion and Communication**

Green promotion involves transparent and responsible communication of environmental benefits. Effective green communication educates consumers, highlights verifiable sustainability practices, and avoids vague or unsubstantiated claims. Storytelling, digital platforms, and sustainability reports are increasingly used to engage consumers and stakeholders.

➤ **Green Pricing Strategies**

Green pricing reflects the additional costs and value associated with sustainable production. While environmentally friendly products may carry higher prices, consumers are often willing to pay premiums when they perceive authenticity, quality, and environmental benefits. Strategic pricing balances affordability with value perception and market competitiveness.

➤ **Green Distribution and Supply Chain Management**

Green distribution focuses on reducing environmental impacts in logistics and supply chain operations. This includes optimizing transportation, reducing packaging waste, improving energy efficiency, and collaborating with sustainable suppliers. Integrating sustainability across the value chain strengthens overall green marketing performance.

## **5. Implementation of Strategic Green Marketing in Agribusiness Firms**

➤ **Integration with Corporate Strategy**

Successful implementation of strategic green marketing requires alignment with corporate vision, mission, and objectives. Sustainability goals must be embedded in strategic planning and supported by top management commitment. Cross-functional coordination among marketing, production, procurement, and logistics functions is essential.

➤ **Organizational Culture and Capability Building**

A sustainability-oriented organizational culture encourages innovation, learning, and employee engagement. Training programs, incentive systems, and performance metrics aligned with sustainability objectives strengthen green marketing capabilities.

➤ **Stakeholder Engagement and Partnerships**

Collaborative relationships with farmers, research institutions, NGOs, and policymakers enhance access to knowledge, resources, and legitimacy. Partnerships facilitate adoption of sustainable practices and improve market acceptance of green products.

**6. Impact of Strategic Green Marketing on Competitive Advantage**

Strategic green marketing contributes to competitive advantage in multiple ways. It enhances brand reputation and trust, differentiates products, improves customer loyalty, and enables access to premium markets. Environmentally responsible practices also reduce operational risks, improve resource efficiency, and enhance resilience to regulatory changes.

Empirical studies suggest that firms adopting strategic green marketing experience improved financial performance, market share, and long-term viability. In agribusiness, where product differentiation is often limited, sustainability attributes provide critical bases for competitive positioning.

**7. Challenges and Limitations**

Despite its benefits, strategic green marketing faces several challenges. High initial costs, limited consumer awareness in some markets, lack of reliable certification systems, and risk of greenwashing pose significant barriers. Small and medium agribusiness enterprises often face resource constraints that limit adoption of comprehensive green marketing strategies.

**8. Policy Implications and Institutional Support**

Government policies play a crucial role in promoting green marketing in agribusiness. Supportive measures include incentives for sustainable practices, investment in certification infrastructure, consumer awareness campaigns, and integration of sustainability standards into agricultural policies. Public-private partnerships can accelerate adoption of green marketing strategies across the agribusiness sector.

**9. Future Research Directions**

Future research should explore empirical relationships between green marketing strategies and firm performance in diverse agribusiness contexts. Longitudinal studies, behavioural analyses of consumer responses, and cross-country comparisons can deepen understanding of strategic green marketing effectiveness.

**Conclusion:**

Strategic green marketing represents a powerful approach for agribusiness firms to align sustainability with competitive advantage. By integrating environmental considerations into core marketing strategies, firms can enhance value creation, stakeholder trust, and long-term resilience. As environmental challenges intensify, strategic green marketing will remain central to sustainable agribusiness development.

**References:**

1. Alnasser, A., & Alhijris, A. (2025). Strategic green marketing and sustainability performance. *Journal of Sustainable Business*, 18(2), 112–129.
2. Arseculeratne, D., & Yazdanifard, R. (2008). How green marketing can create a sustainable competitive advantage. *Global Journal of Business Research*, 2(2), 1–10.
3. Baker, W. E., & Sinkula, J. (2005). Environmental marketing strategy and firm performance: Effects on new product performance and market share. *Journal of the Academy of Marketing Science*, 33(4), 461–475.
4. Banerjee, S. B., Iyer, E. S., & Kashyap, R. K. (2003). Corporate environmentalism: Antecedents and influence of industry type. *Journal of Marketing*, 67(2), 106–122.
5. Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120.
6. Dangelico, R. M., & Vocalelli, D. (2017). “Green Marketing”: An analysis of definitions, strategy steps, and tools. *Business Strategy and the Environment*, 26(4), 457–475.
7. Esty, D. C., & Winston, A. S. (2009). *Green to gold: How smart companies use environmental strategy to innovate, create value, and build competitive advantage*. Wiley.
8. Laroche, M., Bergeron, J., & Barbaro-Forleo, G. (2001). Targeting consumers who are willing to pay more for environmentally friendly products. *Journal of Consumer Marketing*, 18(6), 503–520.
9. Peattie, K., & Crane, A. (2005). Green marketing: Legend, myth, farce, or prophesy? *Qualitative Market Research: An International Journal*, 8(4), 357–370.

## **THE ROLE OF CUSTOMER SATISFACTION AND CUSTOMER RETENTION HELP BUILD CUSTOMER LOYALTY**

**M. Narasimha and G. Sudhakar**

Omega PG College

Edulabad (V), Ghatkesar, Telangana -501301

Corresponding author E-mail: [mnarasimha.mca@gmail.com](mailto:mnarasimha.mca@gmail.com), [gsudhakar9309@gmail.com](mailto:gsudhakar9309@gmail.com)

### **Abstract:**

A globalized commercial environment such as the one we currently inhabit places customers at the start and the end of the value chain. One of the greatest benefits that economic growth offers in such a situation is the ability of businesses to seize opportunities and discover innovative ways to meet customer expectations, thereby changing the market in particular and the world in general due to the unstoppable process of digital transformation. In this competitive world, companies should sustain good relationships with their consumers. The main goal of this paper is to explain how customer satisfaction and customer retention help build customer loyalty and to find out which one has a stronger effect on customer loyalty. Data is collected from 150 students using a convenient sampling method. SPSS 16 is used to analyze the results with t-test, regression, correlation, factor analysis, and descriptive analysis. To check hypothesis, regression analysis is used. The theoretical framework of the study shows that customer satisfaction is based on 'Product Quality' and 'Perceived Values'. The results of this study are based on customer survey responses collected from one country and one industry. So, the findings may not be fully applicable to other countries or sectors. To make the results more general, more research is needed. Customer satisfaction has a better effect on keeping customers loyal. The study shows that customer satisfaction has a bigger impact on customer loyalty compared to customer retention. This study helps company's focus more on customer satisfaction to build loyalty and create good relationships with customers. This study is to show that customer satisfaction has a positive effect on customer loyalty.

**Keywords:** Customer Satisfaction, Customer Retention, Customer Loyalty, Perceived Quality, Perceived Value, Product attributes, Customer relationship, Trustworthiness

### **Introduction:**

A globalized commercial environment such as the one we currently inhabit places customers at the start and the end of the value chain. One of the greatest benefits that economic growth offers in such a situation is the ability of businesses to seize opportunities and discover innovative ways to meet customer expectations, thereby changing the market in particular and the world in general due to the unstoppable process of digital transformation. As a result of globalization,

consumers now have greater access to information and the chance to buy products and services that are provided even across international borders. This suggests that the market is extremely dynamic because customer needs, desires, and expectations are changing and growing more demanding.

Increasing customer loyalty is a big concern for managers, academics, and consultants. Loyal customers are important because they are more likely to stay with a company, which means higher customer retention. This helps the company gain a larger share in its market category. Loyal customers also spread positive word about the company's products through good reviews or word of mouth, which is a form of buzz marketing. Product quality plays a key role in how satisfied customers are. The demand for a product depends on how good the quality is that the manufacturer provides. The field of customer loyalty and marketing has been around for a long time, but it has grown from just being a model for business operations to becoming a tool for marketing and advertising.

Since the mid- to late-1990s, loyalty has become a big part of how companies in consumer marketing operate. Research shows that most businesses lose about 45 to 50% of their customers every five years. It's much more expensive to get new customers than to keep the ones you already have. Even a small drop in customers leaving—like 5%—can boost profits by 25 to 85%, depending on the industry. In today's competitive market, businesses aim to make the most profit, and they do this by offering great products and services to their loyal customers.

Customer loyalty is very important now. Building a loyal customer isn't easy. Customer loyalty helps businesses gain a competitive edge and keep it. Two important factors are customer retention and customer satisfaction. These are influenced by other factors. Customer retention depends on trust, product features, and the relationship with the customer. Customer satisfaction depends on how much value the customer feels the product offers and the quality of the product.

Customer loyalty is a key concern. Many people think it's something based on feelings, and they believe it can be affected a lot by how well customer relationships are managed. But research shows that when it comes to repeat buying in a competitive market, loyalty is more about how much people accept a brand without much thought, rather than having strong feelings about it. Many studies have found that customer satisfaction helps bring in more money in the future (Bolton, 1998; Fornell, 1992). Customer satisfaction is especially important for total quality management. Compared to other performance measures like traditional ones, customer satisfaction is less affected by changes in how accounting is done, cost changes, or seasonal ups and downs. (Kotler, 2006).

It goes without saying that meeting and satisfying the needs of each individual customer is one of the goals of any business-minded organisation. In other words, a business-oriented organisation cannot survive or continue to exist unless its customers are satisfied. Customers' level of

satisfaction will determine their level of loyalty, which will allow for customer retention. Sudhakar et.al. (2024). These three factors combined to form a functional organisation. This means that in order to maintain a large customer base, any functional organisation must be able to effectively create customer satisfaction to a greater extent, create a favourable avenue for customer loyalty, and maintain favourable relationships with the customers.

### **Aim of the Study**

The aim of this paper is to explain how customer satisfaction and customer retention help build customer loyalty and to find out which of the two has a bigger impact on loyalty. This is a community-based study, and we will use a simple, non-random, convenient sampling method to collect data from people. We want to understand the role that customer satisfaction and customer retention play in creating customer loyalty.

### **The Purpose of the Study**

The primary goal of this endeavour is to identify the part that important client association organisation components play in influencing buyer satisfaction.

The following lists the other goals:

1. To investigate the connection between customer retention and customer loyalty.
2. To investigate the effects of customer relationship management tactics on customer retention and loyalty.
3. To ascertain how customer satisfaction improves customer retention and loyalty strategies.

### **Research Question**

1. What is the part that customer satisfaction and customer retention play in building customer loyalty?
2. Which one factor, customer retention or customer satisfaction, is more important in this?

### **Rationale of the Study**

The key factors that help build customer loyalty will be found. If companies pay attention to these factors, they can gain benefits by keeping their customers loyal. Having loyal customers can bring long-term value to a company over time. Loyal customers also help spread the brand's name through recommendations, which can start bringing in new customers to the organization.

### **Theoretical Contribution**

This study's theoretical contribution will offer important insights into how customer satisfaction and retention affect customer loyalty, helping businesses create more value. The study's framework and findings will make two key contributions. First, it will give a better understanding of how customer satisfaction and retention create value for customer loyalty. Second, it will test these ideas through experiments and look at how different factors might influence customer satisfaction and retention.

## **Literature Review**

The effect of social customer relationship management on customer engagement was examined by Lokesh Arora *et al.* in 2021. Additionally, they discussed how customer engagement affects customer satisfaction, loyalty, and retention. To accomplish the stated objectives, the questionnaire was designed to be self-administered and collected information from a wide range of respondents. They used the gathered data to carry out structural equation modelling. The findings showed that effective customer relationship management leads to consumer engagement, which in turn generates customer satisfaction, loyalty, and retention.

Anas A. Salamah *et al.* investigated the effect of mobile commerce service quality factors on loyalty and satisfaction perceptions in 2022. From January to April 2020, they conducted a survey among Jordanian adults in order to collect data. They conducted SEM-neural network analysis (structural equation modelling) using the data they had gathered. The results showed that the three main mobile commerce platforms—website innovation, content value, and usability—had a major influence on overall service quality.

Muhammad Azeem *et al.* evaluated the effects of knowledge sharing, information technology assistance, and marketing strategies on customer relationship management in the pharmaceutical sector of Punjab, Pakistan, in 2020. With the assistance of both domestic and foreign pharmaceutical companies, they administered the online survey and collected data from the 263 respondents. They conducted an incomplete least square structural equation model using the data they had collected. The results showed that knowledge sharing and technology support act as mediators in the relationship between marketing strategies and customer relationship management.

Sebastian Molinillo *et al.* assessed the connection between customer loyalty and the retail app experience in 2022. They collected information from the 545 users of the retailer app through an online survey. The structural equation of least squares is applied to the gathered data. The results highlight the importance of the sensory experience, which is even more significant than the cognitive experience, and demonstrate that the affective dimension has the biggest influence.

## **Customer Loyalty**

Loyal customers know their favorite brands well and are more open to trying new things, like recommendations and new products. Marketing metrics show that the chance of selling something to a new customer is only about 5-20%, but the chance of selling to an existing customer is much higher, around 60-70%. When you put in the same amount of effort to sell, you can expect more sales from loyal customers. Loyalty is something that customers show toward a brand's services and activities. It's not something a brand has naturally, but something people develop over time. Loyalty is an attitude that sometimes leads to a relationship with a brand. This attitude is shown through the way people act, like how interested they are in a brand, how

engaged they feel, how likely they are to recommend it to others, and how strongly they feel about it compared to other brands (Basu & Dick, 1994). There are several ways to look at customer loyalty. Jacoby and others in 1973 said loyalty can be measured in two ways for brand loyal customers: behavioral loyalty and attitude loyalty. Until the 1970s, loyalty was considered as part of the total buying pattern or buying behavior on the idea that attitudes shape loyalty. This means that people often develop relationships with certain brands. For example, Fournier (1998) views loyalty as a deep, emotional connection between a brand and a customer. This bond becomes stronger when others in a family or group of buyers support it, especially when the brand ties into a sense of community. Loyal customers tend to buy more often, recommend the brand to their friends, family, and colleagues, and give helpful feedback. They are usually less bothered by price. These customers are more likely to share good experiences and suggest the brand to others. People generally trust recommendations from those they know. Word of mouth is a powerful marketing tool. It helps familiarize people with unfamiliar brands. It's six to seven times more costly to attract new customers than to keep existing ones happy. By focusing on customer loyalty and building a strong brand, loyal customers can act as unofficial salespeople, helping you gain new customers at a lower cost. This also increases loyalty and brings in more sales naturally.

### **Customer Satisfaction**

If a company makes a product that meets what its customers want, it will make customers happy. How happy or unhappy a customer is depends on the quality of the features and qualities that the company offers (Gerpott, Rams & Schindler, 2001). The reason customer satisfaction has a big effect on a company's profits is simple — it's cheaper to keep a happy customer than to get a new one. Companies that are good at keeping their customers come to make more money over time. Customer loyalty is very important. A completely satisfied customer brings in 17 times more money than a somewhat unhappy one. An unhappy customer can bring in 18 times less money than a fully satisfied one. Studies show that when customers are happy with a company or service, they are more likely to tell others about their experience.

When unhappy customers share their bad experience, they often tell ten other people about it. With social media being so accessible, they can quickly share their story with online users. You can easily check Twitter or Facebook to read about people's experiences with a company or service. Customer satisfaction, strong customer relationships, and good service quality are important for making a business profitable and increasing its market share, as stated by Rust and Zahorik (1993). Satisfied customers are more likely to stay loyal and this loyalty leads to better profits, according to Hallowell (1996). When customers are happy with the quality of a service they receive, they are more likely to buy again and may even try new products from the same company, which helps increase market share. To focus on customers, you need to use the

information you already have about them to better understand their relationship with your company. You should also improve the services you offer so they are accurate and free of mistakes. The marketing efforts of a company help improve customer satisfaction. This leads to customers buying the product again, accepting new products from the same line, and spreading positive word-of-mouth about the brand, as noted by Cardozo (1965).

### **Perceived Value**

Perceived value happens where what customers want meets what they actually receive from a product or service compared to what they might get from competitors. A company can keep customers loyal only by consistently meeting or going beyond what customers expect from their product or service. The company should focus on meeting customer needs in the order they consider most important, while making sure their product or service compares favorably with competitors. In the market, competitors are other companies that customers might choose instead, and this helps shape how customers see the value of different products or services. How do customers define perceived value? According to the ACSI theory and related research, perceived quality is the main factor that affects overall customer satisfaction. Studies also show that when customers' expectations match or are exceeded by the actual service they receive, it has a direct and positive effect on their satisfaction (Fonell *et al.*, 1996, p. 9). ACSI measures perceived quality based on two key parts of the customer experience: customization and reliability (Fonell *et al.*, 1996). Perceived service quality can be calculated from customer responses (Fonell *et al.*, 1996). Another point made by Tkala *et al.* (2006) is that when measuring customer satisfaction, it's the total score that matters more than individual scores.

Perceived service quality is how customers judge how good or better a business is compared to others (Zeithaml, Berry & Parasuraman, 1988). Jiang and Wang (2006) said it's about how customers feel about the service they received and whether it met their expectations. They also mentioned that customers don't judge service based on specific features, but rather on their memories and feelings about the service. So customers measure service quality by how much pleasure they got from it. The role of perceived service quality in customer satisfaction is clear, but the conditions under which it affects satisfaction can vary depending on different aspects. Parasuraman *et al.*, (1988), said perceived service quality is about the difference between what customers expect and what they actually experience. Turel & Serenko, (2004), said perceived quality (PQ) is what customers actually feel about the service. Jamali (2007) found that there is a positive link between service quality and customer satisfaction.

### **Customer Relationships and Attributes of a Product**

Keller (1993) said that brand image is the way a consumer thinks about a brand. A strong brand image makes the brand more likable and desirable, which helps it stand out from other brands (Hsieh, Pan, and Setiono 2004). When a brand has a good image, it leads to better brand equity,

customer loyalty, buying habits, and overall success (Koo, 2003). Brand image is judged based on the benefits a brand gives, the qualities it has, or how it is used. In today's market, where there are many brands, some are more well-known than others. People often connect the quality of a product with the brand's image because of several reasons. Because of this, consumers may prefer one brand or a group of brands and show loyalty (Bothe, 1996). Another thing that affects how customers choose a brand is their overall positive or negative feelings towards it. Knowing what consumers think is important because it can affect how competitive an organization is (Aggarwal, 2004). To understand this, a study was done in the margarine market. This is because margarine is a type of product that is considered a commodity, which makes it harder for consumers to decide which brand to choose. Different brands of margarine have different features that matter to people. For most consumers, the important things are how the product is packaged, how creamy it is, how well-known the brand is, and the overall quality of the brand. Also, many people believe that all margarine brands have the same taste, whether they have salt or not.

### **Methodology**

This research paper aims to find out what factors affect customer loyalty. To collect data, a questionnaire was used. It was given to students at the Hyderabad city. The total number of people who took part in the study was 150. It took about two months to complete the research paper. For data collection, a simple non-random sampling method was used, and a questionnaire was sent to the participants. The questionnaire has a total of 21 questions. One question asks about gender (nominal data), one about age (ratio data), and three questions (interval data) relate to each of the independent variables: Perceived Quality, Perceived Value, Product Attributes, Customer Relationship, and Trustworthiness. The dependent variable is Customer Loyalty.

### **Data Analysis Method**

For the descriptive statistical analysis, one-sample T-test, correlation, regression, and factor analysis are employed. Data will be analyzed using SPSS 16.0. To test the hypothesis, the regression technique is utilized. Additionally, our hypothesis is: With the rapid growth of internet usage in the late 1990s, cyberstalking emerged as a new and complex challenge for law enforcement and legal systems.

- Perceived Quality: It refers to consumers' judgment regarding a product's overall excellence.
- Perceived Value: This is the worth that a product holds in the consumer's mind.
- Product Attributes: These are descriptors used to define different types of products.
- Customer Relationship: It involves the ways in which a company communicates with its customers, aiming to deal with new customers and retain existing ones.

- Trustworthiness: Trustworthiness is a moral value, and a trustworthy person is someone in whom we can place our trust, assured that it will not be betrayed.
- Customer Loyalty: It results from consistent positive emotional experiences, attribute-based satisfaction, and perceived value of an experience, which includes the services or products offered.

### **Conclusion:**

According to corporate reputation, businesses ought to put in more effort to determine employee loyalty. The firm reputation investment may help to establish reliable identification for customers because it helps with the best loyalty identification of customers rather than giving preference to awareness. Then, top executives might alter their interest in client associations and social trade speculation. The primary conclusion drawn from this study is that rustic tourism enterprises need to have a comprehensive service plan that emphasizes managing enduring connections with local customers through relationship-building and service exchanges. One important business success tactic that contributes to ensuring yearly sustainability in rural tourism markets is identifying and striving to surpass service expectations for these important client segments.

The main aim of this research was to explore the role of customer satisfaction and customer retention in fostering customer loyalty. The findings indicate that Product Quality, Perceived Value, and Product Attributes are the key factors influencing customer loyalty. As internet usage expanded rapidly in the late 1990s, companies have increasingly focused on these elements to build customer loyalty. It is also evident from the study that Customer Satisfaction has a more significant impact on customer loyalty compared to Customer Retention. The theoretical framework of the study suggests that Customer Satisfaction is based on Product Quality and Perceived Value. Ultimately, it is recommended that firms should prioritize Product Quality and Perceived Value, as these two dimensions have a stronger influence on customer loyalty. Additionally, efforts should be made to strengthen the third variable, Product Attributes, to further enhance the overall effect of customer retention. The higher the Customer Satisfaction, the greater the likelihood of student loyalty towards mobile handsets, and vice versa.

### **Limitations of the Study**

- This study has some limitations that future research could work on. First, only responses from customers of the Hyderabad, which is in the education sector. Instead of just one place in the same sector could have been included.
- Second, because research was based on a survey, there was a time limit. Customers did not want to spend too much time answering questions. So, other factors like models or different ideas might affect how value influences customer loyalty.

- Third, the variables we used to measure customer satisfaction and retention could be improved or changed.
- Fourth, we focused on the mobile phone industry, but the study could have looked at other industries. This research could also be done in different areas like B2B sales, the retail market, or online shoppers.
- Fifth, the research was conducted in Hyderabad. If the research was done in a different city, the results might have been different because of the values, norms, and culture of that society.

### **Recommendations:**

After sale services and warranties play a big role in how customers decide to buy something. So, companies need to understand how important these services are if they want their customers to stay loyal. Offering special discounts during events can add more value for customers. That's why companies should plan these kinds of deals to give customers extra value, which helps build loyalty. To make customers loyal, businesses should follow the idea that "the customer is always right." This shows customers that their opinions and suggestions matter a lot to the company. The quality of the product is also a key factor in keeping customers loyal. Customers who care about quality are more profitable for the business in the long run. So, companies need to focus on the quality of their products to keep these customers happy. Companies should keep in touch with both existing and past customers regularly. If the company does not forget the customers, then the customers will not forget the company either. Ideas like phone calls, note cards, postcards, newsletters, and emails can help. They should also look for chances to have personal contact, which is a good idea in our high-tech and low-touch world.

Customers should get more than they expect. Their needs should be predicted and satisfied, and answers should be given on time. Delivering more than expectations is one of the strongest ways to build customer loyalty. Employers need to challenge their employees. They should not assume that employees care about customers; they might not. It is the employer's job to let employees know that they are expected to provide great customer experiences and to help them understand that it will make their jobs more rewarding. Customers look for respect from the company. A company should show respect to every customer, whether they are new or old, to build a better ethical reputation. A humble and respectful attitude towards customers helps create a positive image for the company.

### **Suggestions:**

Following the findings' conclusion, the following suggestions were put forth:

- Businesses should make an effort to uphold high service standards and trust. Customers will be satisfied as a consequence of this.

- Employees in the company's customer service department need to be amiable when interacting with clients.
- Employees should receive ongoing training on the value of customer satisfaction, loyalty, and retention in the process of accomplishing organisational goals.

**References:**

1. Aggarwal, P. (2004). The effects of brand relationship norms on consumer attitudes and behavior. *Journal of Consumer Research*, 31(1), 87–101.
2. Arora, L., Singh, P., & Sahney, S. (2021). Examining the impact of social customer relationship management on customer engagement and loyalty. *Journal of Relationship Marketing*, 20(2), 89–110.
3. Basu, K., & Dick, A. S. (1994). Customer loyalty: Toward an integrated conceptual framework. *Journal of the Academy of Marketing Science*, 22(2), 99–113.
4. Bolton, R. N. (1998). A dynamic model of the duration of the customer's relationship with a continuous service provider. *Marketing Science*, 17(1), 45–65.
5. Bothe, K. (1996). Beyond customer satisfaction to customer loyalty. *American Management Association*, New York.
6. Cardozo, R. N. (1965). An experimental study of customer effort, expectation, and satisfaction. *Journal of Marketing Research*, 2(3), 244–249.
7. Fornell, C. (1992). A national customer satisfaction barometer: The Swedish experience. *Journal of Marketing*, 56(1), 6–21.
8. Fornell, C., Johnson, M. D., Anderson, E. W., Cha, J., & Bryant, B. E. (1996). The American Customer Satisfaction Index: Nature, purpose, and findings. *Journal of Marketing*, 60(4), 7–18.
9. Fournier, S. (1998). Consumers and their brands: Developing relationship theory in consumer research. *Journal of Consumer Research*, 24(4), 343–373.
10. Gerpott, T. J., Rams, W., & Schindler, A. (2001). Customer retention, loyalty, and satisfaction in the German mobile cellular telecommunications market. *Telecommunications Policy*, 25(4), 249–269.
11. Hallowell, R. (1996). The relationships of customer satisfaction, customer loyalty, and profitability. *International Journal of Service Industry Management*, 7(4), 27–42.
12. Hsieh, M. H., Pan, S. L., & Setiono, R. (2004). Product-, corporate-, and country-image dimensions and purchase behavior. *Journal of the Academy of Marketing Science*, 32(3), 251–270.
13. Jacoby, J., & Kyner, D. B. (1973). Brand loyalty vs. repeat purchasing behavior. *Journal of Marketing Research*, 10(1), 1–9.

14. Jamali, D. (2007). A study of customer satisfaction in the Lebanese banking sector. *International Journal of Bank Marketing*, 25(2), 108–120.
15. Jiang, Y., & Wang, C. L. (2006). The impact of affect on service quality and satisfaction. *Journal of Services Marketing*, 20(4), 211–218.
16. Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *Journal of Marketing*, 57(1), 1–22.
17. Kotler, P. (2006). *Marketing management* (12th ed.). Pearson Education.
18. Koo, D. M. (2003). Inter-relationships among store images, store satisfaction, and store loyalty. *Asia Pacific Journal of Marketing and Logistics*, 15(4), 42–71.
19. Molinillo, S., Anaya-Sánchez, R., & Liébana-Cabanillas, F. (2022). Retail app experience and customer loyalty. *Journal of Retailing and Consumer Services*, 64, 102808.
20. Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12–40.
21. Rust, R. T., & Zahorik, A. J. (1993). Customer satisfaction, customer retention, and market share. *Journal of Retailing*, 69(2), 193–215.
22. Salamah, A. A., Hassan, S., & Al-Majali, M. (2022). Mobile commerce service quality and customer loyalty. *Journal of Theoretical and Applied Electronic Commerce Research*, 17(1), 1–20.
23. Sudhakar, R., Kumar, P., & Reddy, S. (2024). Customer satisfaction, loyalty, and retention: An empirical study. *International Journal of Business Research*, 14\*(1), 45–58.
24. Turel, O., & Serenko, A. (2004). Satisfaction with mobile services in Canada. *Telecommunications Policy*, 28(7–8), 645–663.
25. Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1988). Communication and control processes in the delivery of service quality. *Journal of Marketing*, 52(2), 35–48.

**THE TESTIMONY OF MEMORY, DIGNITY, DUTY, REGRET,  
AND EMOTIONAL RESTRAINT IN ‘THE REMAINS OF THE DAY’**

**BY KAZUO ISHIGURO**

**Sanjay Shriram Kalekar**

Department of English.

DRT's A.E. Kalsekar Degree College, Kausa-Mumbra, Thane

Affiliated to University of Mumbai)

Corresponding author E-mail: [sankalekar83@gmail.com](mailto:sankalekar83@gmail.com)

**Introduction:**

Kazuo Ishiguro's *The Remains of the Day* (1989) is a profoundly subtle and psychologically intricate novel whose emotional power does not arise from dramatic action but from the quiet interior life of its narrator, Stevens, an English butler who reflects on decades of devoted service at Darlington Hall. Through Stevens's restrained first-person narrative, Ishiguro constructs a compelling exploration of how individuals interpret their own lives through memory, how identity is shaped by social roles, and how moral responsibility can be evaded through unquestioned loyalty. The novel thus becomes not only a personal narrative of self-discovery but also a broader commentary on history, class, and ethical accountability.

At the surface level, *The Remains of the Day* appears to be a simple travel narrative: Stevens embarks on a journey across the English countryside in the 1950s, using the trip as an opportunity to visit the former housekeeper, Miss Kenton. Yet this physical journey operates simultaneously as a psychological one. As Stevens travels through the landscape, he revisits significant episodes from his past, gradually reconstructing a life defined by discipline, self-denial, and emotional repression. Ishiguro carefully structures the novel so that the act of remembering becomes central to its meaning. Memory is not presented as a neutral record of experience but as a selective and often unreliable process, shaped by Stevens's desire to preserve his self-image as a "dignified" professional. In this way, the novel exposes the complex relationship between truth and self-deception, suggesting that what individuals choose to remember is often as revealing as what they seek to forget.

Central to this process of remembrance are the concepts of dignity and duty, which Stevens regards as the highest virtues of both professional and personal life. Throughout the novel, Stevens repeatedly emphasizes the importance of maintaining composure, suppressing emotion, and fulfilling one's responsibilities without question. These ideals are deeply rooted in the British class system and in the traditional image of service that values loyalty above individuality. However, as Stevens's narrative unfolds, it becomes increasingly evident that these

virtues have exacted a high personal cost. His unwavering devotion to Lord Darlington prevents him from critically examining his employer's political actions, while his rigid adherence to professional conduct inhibits the development of meaningful personal relationships. Thus, what Stevens initially celebrates as noble ideals gradually emerge as constraints that have limited his emotional and moral growth. The theme of regret develops quietly but powerfully as Stevens begins to confront the implications of his past choices. His recollections of Miss Kenton, in particular, reveal the emotional opportunities he failed to recognize or accept. Their relationship, characterized by unspoken affection and missed connections, serves as a poignant illustration of how emotional restraint can lead to lasting loss. Ishiguro does not portray regret through overt expressions of sorrow; instead, it is conveyed through hesitation, ambiguity, and the gradual realization of what might have been. This understated approach deepens the emotional impact of the novel and reflects the very restraint that defines Stevens's character.

Emotional restraint, indeed, is the lens through which all other themes are filtered. Stevens's commitment to self-control shapes his narrative voice, his interactions with others, and his interpretation of events. His language is formal, cautious, and often evasive, revealing a man who has learned to protect himself by suppressing vulnerability. Yet as the narrative progresses, this carefully constructed façade begins to fracture, allowing moments of genuine emotion and self-awareness to emerge. These moments suggest the possibility of growth, even if they arrive too late to alter the course of his life significantly. This chapter, therefore, examines how memory, dignity, duty, regret, and emotional restraint operate not as separate themes but as interconnected forces that structure both the narrative and Stevens's identity. By analyzing these elements in detail, the discussion aims to demonstrate how Ishiguro uses the intimate perspective of a single narrator to raise larger questions about responsibility, self-deception, and the human cost of a life lived in the service of ideals that may ultimately prove hollow.

### **1. Memory as Testimony and Disguise:**

In *The Remains of the Day*, memory functions as both a record of lived experience and a mechanism of psychological defense. Stevens's narrative is shaped by his effort to present a coherent and respectable account of his life, yet the very act of recollection repeatedly exposes the limitations, distortions, and evasions embedded in his storytelling. Ishiguro presents memory not as a transparent window into the past but as a carefully mediated process through which Stevens seeks to protect his sense of identity. As a result, the reader gradually becomes aware that memory in the novel serves a dual purpose. It bears witness to personal and historical events while simultaneously concealing truths that are too painful for the narrator to confront directly.

Stevens's mode of remembering is characterized by meticulous attention to professional detail. He recalls dates, routines, standards of service, and protocols with remarkable precision, demonstrating how deeply his identity is bound to his role as a butler. From the opening

chapters, he frames his journey across England as a matter of professional duty, describing it as an “official visit” undertaken in the interest of maintaining the standards of Darlington Hall (Ishiguro, Ch. 1). This framing is revealing, for it suggests that Stevens is uncomfortable acknowledging personal motivations. Although his decision to seek out Miss Kenton is clearly driven by emotional impulses, he initially suppresses this truth by presenting the trip as merely an extension of his occupational responsibilities. His memory, therefore, does not simply recount events; it reshapes them into forms that preserve his self-image as a dignified and disciplined servant. This selectivity becomes even more evident in Stevens’s recollections of his relationships with others, especially Miss Kenton. When revisiting their interactions, he often focuses on moments of professional disagreement rather than on the emotional undercurrents that the reader can easily detect. He remembers conversations about staffing, housekeeping, and propriety in great detail, yet he consistently fails to articulate the affection, tension, and longing that animate these exchanges. This pattern illustrates the idea that memory is not passive recall but an active construction shaped by psychological need. As Naomi Schor argues, memory is frequently governed by the desire to preserve coherence and avoid self-blame, leading individuals to reshape the past in ways that support their preferred self-conception (Schor, 1994). Stevens’s recollections exemplify this process: he does not fabricate events outright, but he organizes and interprets them so that uncomfortable emotional truths remain obscured.

The tension between memory as testimony and memory as concealment becomes particularly significant in Stevens’s treatment of Lord Darlington’s political activities during the 1930s. Stevens acknowledges that his employer hosted influential gatherings involving European diplomats and British elites, and he concedes that these meetings were connected to controversial efforts at appeasement. However, he repeatedly resists describing Lord Darlington’s actions as misguided or unethical. Instead, he adopts a tone of detachment, presenting himself as a mere observer whose duty was to serve rather than to judge (Ishiguro, chs. 8–9). This stance reveals how memory can function as a tool of moral evasion. By recalling events in a neutral, procedural manner, Stevens shields himself from the implications of complicity. His memory records the facts but drains them of ethical significance.

Ishiguro reinforces this dynamic by allowing contradictions and gaps to surface within Stevens’s narrative. At times, Stevens’s account is challenged indirectly through the reactions of other characters or through the subtle irony embedded in his own words. These moments invite the reader to question the reliability of his recollections and to recognize the extent to which his memory has been shaped by repression and denial. Memory thus becomes a site of conflict rather than certainty, revealing the fragility of Stevens’s self-constructed narrative. Ultimately, memory in *The Remains of the Day* operates as both evidence and evasion. It offers access to the events that have shaped Stevens’s life, yet it does so through a lens distorted by his need for dignity and

self-justification. Ishiguro uses this complex portrayal of memory to demonstrate that the past is never simply recovered but always interpreted, filtered, and reshaped according to the emotional and moral capacities of the one who remembers. In this way, memory becomes central not only to the structure of the novel but also to its exploration of identity, responsibility, and self-deception.

## **2. Self-respect as Individuality and Illusion:**

Stevens's concept of dignity occupies a central place in *The Remains of the Day*, functioning as the cornerstone of both his professional identity and his understanding of self-worth. From his perspective, dignity represents the highest virtue of a great butler: an unwavering commitment to composure, restraint, and absolute dedication to service. Yet as the narrative progresses, Ishiguro carefully reveals that this ideal of dignity is not as stable or admirable as Stevens believes. Instead, it emerges as a fragile construction sustained by habit, fear, and self-denial. What Stevens presents as dignity gradually appears to the reader as a performance that conceals emotional vulnerability and limits moral awareness.

Throughout the novel, Stevens repeatedly measures his conduct against what he considers the standards of a "great" butler. His vocabulary is saturated with phrases such as "appropriate," "professional," and "becoming," which indicate how deeply he has internalized the codes of conduct associated with his role. He takes pride in maintaining emotional neutrality, believing that a dignified servant must never allow personal feeling to interfere with duty. His recollections of his father play an important role in reinforcing this belief. Stevens remembers his father as a model of professionalism, someone who valued restraint and discipline above all else. In recalling episodes from his father's career, Stevens implicitly constructs a lineage of dignity, positioning himself as the inheritor and guardian of a noble tradition of service (Ishiguro, Ch. 5). For him, dignity is not merely a personal quality but a professional legacy that must be preserved at all costs.

However, Ishiguro gradually exposes the contradictions within this ideal. The very behaviors Stevens celebrates as dignified often involve emotional repression and moral avoidance. By insisting on composure in all circumstances, Stevens deprives himself of the capacity to respond authentically to human suffering, including that of those closest to him. His interactions with Miss Kenton reveal this limitation clearly. Although their exchanges are often charged with unspoken emotion, Stevens consistently interprets them through a professional lens, framing her concern for him as a matter of housekeeping efficiency rather than emotional intimacy. His commitment to dignity thus becomes a strategy for avoiding vulnerability. The reader comes to understand that Stevens's restraint is not simply a professional virtue but a defensive posture designed to protect him from the discomfort of genuine emotional engagement. The paradox of Stevens's dignity is especially evident in his relationship with his father. As his father's health

deteriorates, Stevens continues to prioritize his duties over personal compassion. When his father lies dying upstairs while an important conference unfolds below, Stevens chooses to remain focused on serving guests rather than attending to his father's final moments. He later recounts this decision with a tone of professional pride, presenting it as evidence of his unwavering dignity. Yet to the reader, this moment exposes the tragic cost of his values. What Stevens describes as dignified behavior appears instead as emotional detachment bordering on cruelty. His dignity, rather than elevating him, seems to diminish his humanity.

Critics such as Christopher Ricks have suggested that Stevens's version of dignity involves a form of self-erasure, in which the individual's inner life is sacrificed in favor of external order and propriety (Ricks, 2003). This interpretation illuminates how Stevens's identity has been constructed almost entirely around his role. He does not perceive himself as a man who happens to be a butler; rather, he defines his very existence through service. As a result, any challenge to the values of dignity and professionalism threatens not only his worldview but also his sense of self. This explains his resistance to self-reflection and his discomfort when confronted with alternative perspectives. By the end of the novel, it becomes clear that Stevens's lifelong pursuit of dignity has left him emotionally impoverished. Ishiguro does not entirely dismiss the value of dignity; instead, he presents it as an ideal that requires balance and self-awareness. When dignity is practiced without reflection, empathy, or moral judgment, it becomes a hollow formality rather than a meaningful virtue. Through Stevens's gradual, painful realization of this truth, Ishiguro offers a powerful critique of any value system that prioritizes appearance over authenticity and discipline over emotional honesty.

### **3. Duty and Morality:**

In *The Remains of the Day*, the concept of duty is inseparable from Stevens's sense of identity and from the broader social structures that shape his worldview. Duty, for Stevens, is not merely a professional obligation but a moral framework through which he interprets his entire existence. His life has been organized around the belief that true worth is achieved through loyal service, disciplined conduct, and unquestioning obedience to authority. Ishiguro situates this understanding of duty within the socio-historical context of early twentieth-century England, where rigid class hierarchies and deeply ingrained traditions of service reinforced the idea that one's role in society determined one's moral value. Through Stevens's experiences, the novel interrogates the ethical consequences of such a worldview and exposes the dangers of elevating duty above personal judgment and moral responsibility.

Stevens repeatedly presents duty as an absolute principle. He believes that the highest calling of a butler is to serve a great gentleman with total dedication, and he measures the success of his life according to how faithfully he has fulfilled this role. This belief is reflected in his admiration for professional restraint and his conviction that a servant should never impose personal opinions

on matters that belong to the employer's sphere. As a result, Stevens defines virtue in terms of submission: to question is to fail, to doubt is to weaken the fabric of service. This rigid conception of duty becomes the foundation upon which he constructs his self-respect. Several key incidents in the novel demonstrate how deeply Stevens's commitment to duty governs his actions. One particularly troubling example is his response to Lord Darlington's dismissal of two Jewish maids under the influence of antisemitic sentiment. Rather than objecting or expressing concern, Stevens complies with the decision, rationalizing it as his professional obligation to carry out instructions without protest (Ishiguro, Chs. 7–10). His later refusal to seek out or apologize to these former employees further underscores how duty, for him, overrides empathy and moral accountability. Stevens's actions reveal the extent to which his loyalty to his employer blinds him to the ethical implications of what he is asked to do. His devotion to duty thus becomes a form of moral evasion, allowing him to avoid confronting uncomfortable truths about both Lord Darlington's actions and his own complicity.

This dynamic is further evident in Stevens's steadfast defense of Lord Darlington long after his employer's reputation has been tarnished. Even when it becomes widely acknowledged that Darlington's political activities were misguided and harmful, Stevens struggles to acknowledge any fault. Instead, he insists that Lord Darlington was a "great gentleman" whose intentions were honorable, thereby distancing himself from the consequences of his service. This posture reflects what James Wood identifies as one of the novel's central ethical concerns: the way excessive devotion to duty can transform into complicity, enabling individuals to absolve themselves of responsibility by claiming that they were "only doing their job" (Wood, 1996). Stevens's tragedy lies not in malice but in submission. His moral failure stems from his refusal to see himself as an agent capable of ethical choice. Ishiguro portrays duty not as a liberating principle but as a constraining force that restricts Stevens's intellectual and emotional development. Rather than encouraging reflection, Stevens's understanding of duty discourages independent thought. He avoids forming political opinions, suppresses personal desires, and distances himself from emotional engagement because he believes that these forms of individuality threaten the purity of his professional role. This is evident in his interactions with Miss Kenton, where he repeatedly chooses procedural correctness over emotional honesty. His duty to the household becomes an excuse for emotional withdrawal, reinforcing the idea that obedience has replaced judgment in his moral universe.

The symbolic importance of Stevens's journey across England highlights the gradual destabilization of this rigid worldview. At the midpoint of the novel, Stevens embarks on his trip with the stated intention of reaffirming his professional purpose and possibly persuading Miss Kenton to return to service. However, the journey becomes an unexpected confrontation with the limits of his beliefs. Encounters with strangers, conversations in villages, and moments of

solitude force him to reflect on his life in ways he has long avoided. Instead of confirming the value of duty, the journey exposes its cost: the relationships he has neglected, the opportunities he has lost, and the emotional emptiness that remains. Through Stevens's experiences, Ishiguro ultimately critiques a conception of duty that demands obedience at the expense of conscience. The novel does not reject the value of responsibility or commitment, but it questions the wisdom of any system that discourages moral reflection. Stevens's story serves as a cautionary meditation on what happens when individuals surrender their ethical agency in the name of service. His life illustrates that duty, when divorced from self-awareness and moral judgment, becomes not a virtue but a tragic limitation that shapes both identity and destiny.

#### **4. Regret and Narrative Disentanglement:**

Regret in *The Remains of the Day* does not appear suddenly or dramatically; instead, it develops slowly, almost imperceptibly, through the gradual unraveling of Stevens's carefully constructed narrative. Ishiguro presents regret not as an emotional outburst but as a quiet, persistent undercurrent that grows stronger as Stevens's journey progresses. This subtle portrayal reflects both the narrator's deeply ingrained emotional restraint and the novel's broader thematic concern with belated self-awareness. Through Stevens's hesitant reflections, fragmented admissions, and moments of painful recognition, Ishiguro demonstrates how regret often emerges only when it is too late to alter the past.

At the beginning of the novel, Stevens does not perceive himself as a regretful man. On the contrary, he takes pride in his life of service and expresses satisfaction with the choices he has made. His early recollections emphasize professional achievement rather than personal loss. However, as the narrative moves forward, small inconsistencies and emotional tensions begin to surface. Stevens's memories of Miss Kenton, for instance, initially appear controlled and detached. He frames their relationship in terms of professional disagreements, managerial concerns, and procedural matters. Yet beneath this surface, the reader detects an emotional intensity that Stevens himself seems reluctant to acknowledge. The more he revisits these memories, the clearer it becomes that his relationship with Miss Kenton represented one of the few genuine opportunities for intimacy in his life.

Regret becomes especially apparent in Stevens's recollection of key moments when emotional connection was possible but ultimately avoided. He recalls instances when Miss Kenton attempted to engage him in more personal conversation or hinted at her dissatisfaction with life at Darlington Hall. Rather than responding openly, Stevens consistently retreats behind the safety of formality. He later recounts these moments with a tone of puzzled reflection, as though only now beginning to recognize their significance. The reader understands that Stevens's regret does not stem from a single dramatic loss but from a pattern of emotional avoidance repeated over many years. His pain lies in the realization that he might have lived differently, had he possessed

the courage to deviate from his rigid ideals. The structure of the novel reinforces this theme of regret. Because the story is told retrospectively, Stevens's present reflections are constantly in dialogue with his past actions. Ishiguro allows the reader to observe the gradual shift in Stevens's self-perception. Early in the narrative, Stevens speaks with confidence about dignity, professionalism, and loyalty. Later, his tone becomes more uncertain. He begins to question whether his choices were truly justified, and whether his understanding of dignity may have been flawed. This shift suggests that regret is not merely an emotional experience but also an intellectual and moral awakening. It marks the moment when Stevens begins to confront the gap between the life, he believed he was living and the life he has actually lived.

Scholars have observed that regret in the novel is closely tied to the limitations of narration itself. James F. English argues that Stevens's narrative reveals the difficulty of reconciling lived experience with retrospective understanding, particularly when the narrator has long relied on self-deception (English, 2005). Stevens struggles to articulate his regret directly because doing so would require him to abandon the identity he has carefully constructed over decades. Instead, his regret emerges indirectly, through pauses, hesitations, and contradictions. This narrative technique encourages the reader to read between the lines, recognizing emotions that Stevens himself can barely name. The culmination of this process occurs during Stevens's meeting with Miss Kenton near the end of the novel. By this point, Stevens has allowed himself to hope, however cautiously, that she might return to Darlington Hall and perhaps resume their former partnership. Their conversation, however, reveals that Miss Kenton has built a life elsewhere and has come to terms with her own choices. Although she expresses moments of sadness about what might have been, she also affirms the value of the life she has created. This encounter forces Stevens to confront the finality of his own losses. His regret becomes explicit, though still understated: he acknowledges, if only to himself, that he has given his best years to an ideal that did not fully reward him.

What makes regret in *The Remains of the Day* so powerful is precisely its quietness. Ishiguro avoids melodrama, instead allowing the emotional weight of the novel to accumulate through subtle recognition and delayed understanding. Stevens does not collapse into despair, nor does he dramatically renounce his former beliefs. Instead, he arrives at a subdued awareness that his life has been shaped by missed opportunities and unspoken truths. This restrained portrayal of regret mirrors the reality of many human experiences, where the deepest sorrows are not shouted but carried silently. Ultimately, regret in the novel functions as a catalyst for partial self-awareness. Although Stevens cannot change the past, he begins to perceive it more honestly. This belated recognition does not offer redemption in the conventional sense, but it does provide a fragile form of insight. Through this complex portrayal of regret, Ishiguro invites readers to reflect on their own choices and to consider the emotional and moral costs of a life lived without reflection.

### **5. Emotional Restraint: Endurance as Self-Protection:**

Emotional restraint is perhaps the most defining feature of Stevens's character and the central lens through which all other themes in *The Remains of the Day* can be understood. His disciplined suppression of feeling shapes not only his relationships but also his narrative voice and moral outlook. Ishiguro does not present this restraint as a noble achievement; instead, it emerges as a deeply ingrained habit formed by professional expectations, social hierarchy, and personal insecurity. Stevens's emotional self-control operates simultaneously as protection and confinement. It shields him from vulnerability, yet it also prevents him from experiencing genuine intimacy, self-knowledge, and emotional fulfillment. Throughout the novel, Stevens demonstrates a remarkable reluctance to acknowledge personal desire. He rarely speaks directly about his own feelings and instead filters nearly every experience through the language of professionalism. Even when recalling deeply personal moments, such as conversations with Miss Kenton or memories of his father, his tone remains measured and detached. This persistent avoidance of emotional expression suggests that Stevens has constructed an identity rooted almost entirely in performance. His personality appears shaped by what psychoanalyst D. W. Winnicott terms the "false self," a socially acceptable persona developed to meet external expectations while the authentic self remains hidden and underdeveloped (Winnicott, 1965). Stevens's false self is the perfectly composed butler, a figure of decorum, control, and obedience. While this identity serves him well within the structured environment of Darlington Hall, it leaves him profoundly unprepared for the complexities of ordinary human relationships.

This emotional restraint is particularly evident in Stevens's interactions with Miss Kenton. Their exchanges are frequently infused with tension, misunderstanding, and suppressed feelings, yet Stevens consistently interprets these moments as professional disagreements rather than emotional encounters. When Miss Kenton expresses frustration, loneliness, or concern for him, Stevens responds with procedural language rather than emotional recognition. He focuses on staff arrangements, household order, and formal etiquette, as though acknowledging personal feeling would constitute a breach of professional discipline. The tragedy of their relationship lies not in overt conflict but in the quiet absence of honesty. Stevens's inability to articulate affection becomes the very force that distances them from one another. Ishiguro reinforces this theme through narrative style. Stevens's language is characterized by understatement, indirectness, and frequent qualification. He often speaks in careful abstractions rather than concrete emotional terms, describing events as "somewhat troubling" or "a matter of concern" rather than acknowledging sorrow, anger, or love. This stylistic choice mirrors Stevens's inner condition. His narrative does not overflow with feeling; instead, it withholds it, requiring the reader to infer emotional depth from what is left unsaid. As a result, the reader becomes an active participant in the construction of meaning, perceiving the pain and longing that Stevens himself cannot fully

admit. Emotional restraint thus becomes not only a psychological trait but also a narrative strategy that shapes the reader's experience of the novel.

Stevens's restraint also influences his moral development. Because he has trained himself to suppress emotional response, he struggles to respond empathetically to situations that demand moral engagement. His refusal to challenge Lord Darlington's questionable decisions, his compliance in the dismissal of the Jewish maids, and his emotional distance during his father's final moments all stem from the same impulse to prioritize composure over authenticity. Emotional suppression becomes a mechanism through which Stevens avoids both personal pain and ethical responsibility. In this sense, his stoicism functions as a form of self-protection, allowing him to maintain psychological stability within a rigid system, yet it also perpetuates his moral blindness. By the end of the novel, Stevens begins to recognize, however faintly, the limitations of his emotional restraint. His reflections during the final scenes suggest a growing awareness that his life has been constrained by an excessive commitment to self-control. He does not dramatically transform, nor does he abandon his values entirely, but he acknowledges that his emotional reserve has cost him deeply. This recognition gives the novel its poignant power. The reader is left with the sense that Stevens's tragedy is not simply that he served the wrong ideals but that he never fully allowed himself to feel. Ultimately, Ishiguro presents emotional restraint as a complex and ambiguous quality. It enables civility, order, and professionalism, yet it also stifles intimacy, spontaneity, and self-awareness. Through Stevens's life, the novel questions the cultural admiration of stoicism and exposes its human cost. Emotional restraint, when elevated above emotional honesty, becomes not a virtue but a quiet form of self-erasure.

**Conclusion:**

The Remains of the Day offers a deeply nuanced meditation on the ways individuals construct their sense of self within the constraints imposed by personal history, social expectation, and moral responsibility. Through the reflective voice of Stevens, Kazuo Ishiguro transforms what might initially appear to be a quiet narrative of professional life into a powerful exploration of identity, agency, and ethical awareness. The novel demonstrates that memory, dignity, duty, regret, and emotional restraint are not abstract thematic concerns but lived realities that shape how individuals understand themselves and relate to others. One of Ishiguro's most significant achievements lies in his portrayal of memory as both revelation and distortion. Stevens's recollections allow access to the key events of his life, yet they are filtered through the lens of self-protection and denial. This selective remembering illustrates how easily individuals can reshape their past to preserve a coherent self-image, even when doing so requires the suppression of uncomfortable truths. In this sense, the novel suggests that self-knowledge is often delayed not because the past is unknowable, but because the self resists confronting it honestly.

Similarly, the values of dignity and duty, which Stevens holds as guiding principles, are revealed to be deeply ambivalent. While these ideals provide structure and purpose, they also become mechanisms of limitation. Stevens's unwavering commitment to professional decorum and loyalty prevents him from exercising independent judgment and from acknowledging his own emotional needs. What he initially perceives as virtues gradually emerge as constraints that limit both his moral insight and his personal fulfillment. Ishiguro thereby challenges the cultural tendency to romanticize self-sacrifice and obedience, exposing the emotional and ethical costs of such ideals. Regret and emotional restraint further deepen the novel's exploration of the human condition. Stevens's regret is not expressed through dramatic confession but through the slow realization of what has been lost: meaningful relationships, emotional connection, and the possibility of a more authentic life. His emotional restraint, once seen as evidence of strength, is ultimately revealed as a form of self-denial that has shaped every aspect of his existence. Yet Ishiguro does not present this realization as entirely bleak. Stevens's belated awareness, however limited, suggests that self-understanding remains possible even in the later stages of life.

The enduring power of *The Remains of the Day* lies in its subtlety. Ishiguro avoids overt moralizing or dramatic confrontation, instead allowing meaning to emerge through silence, hesitation, and implication. The novel operates at the threshold of expression, where what remains unspoken carries as much weight as what is articulated. Through this delicate narrative approach, Ishiguro invites readers to reflect not only on Stevens's life but also on their own assumptions about identity, responsibility, and the cost of emotional restraint. In doing so, the novel secures its place as a timeless and profoundly human work of fiction.

#### **References:**

1. English, J. F. (2005). *The economy of prestige: Prizes, awards, and the circulation of cultural value*. Harvard University Press.
2. Ishiguro, K. (1989). *The remains of the day*. Faber and Faber.
3. Ricks, C. (2003). *Allusion to the poets*. Oxford University Press.
4. Schor, N. (1994). Memory and dissimulation in Ishiguro's fiction. *Modern Fiction Studies*, 40(1), 95–113.
5. Winnicott, D. W. (1965). *The maturational processes and the facilitating environment*. International University Press.
6. Wood, J. (1996). Human, all too inhuman. *The New Republic*.

## **SOCIAL WORK INTERVENTION IN CRIME AGAINST WOMEN**

**Sarika Sheoran**

Department of Social Work,

Kurukshetra university, Kurukshetra, Haryana, India

Corresponding author E-mail: [sarikasheorain@gmail.com](mailto:sarikasheorain@gmail.com)

### **Abstract:**

Crime against women represents a persistent and complex social problem rooted in gender inequality, patriarchal structures, and unequal power relations. Despite legal reforms and policy initiatives, women across societies continue to experience multiple forms of violence, including domestic abuse, sexual violence, trafficking, workplace harassment, and cybercrime. This book chapter critically examines the role of social work in addressing crime against women through a comprehensive, rights-based, and gender-sensitive framework. Drawing upon feminist theory, ecological systems theory, trauma-informed practice, strengths-based perspectives, and human rights approaches, the chapter explores the conceptual foundations that guide social work interventions. It analyses the multidimensional nature of social work practice at micro, mezzo, and macro levels, highlighting interventions such as crisis response, psychosocial counselling, legal advocacy, community mobilization, policy engagement, and preventive strategies. Ethical considerations, professional challenges, and institutional barriers faced by social workers are also discussed. The chapter emphasizes the need for survivor-centered, culturally responsive, and inter-sectoral interventions to ensure protection, empowerment, and social justice for women. It concludes by offering recommendations for strengthening social work education, practice, and policy to effectively prevent crime against women and promote gender equality. This chapter contributes to academic discourse and practice by positioning social work as a crucial agent of social transformation in the fight against violence against women.

**Keywords:** Crime Against Women, Social Work Intervention, Gender-Based Violence, Feminist Social Work, Women's Empowerment

### **1. Introduction:**

Crime against women is widely recognized as a profound violation of human rights and a global public health concern. Violence and abuse directed at women occur in multiple forms and contexts — ranging from physical and sexual violence to psychological abuse, economic exploitation, trafficking, and cybercrime. Despite legal reforms and policy interventions in many countries, including India, crime against women remains deeply embedded in social structures, cultural norms, and institutional practices that perpetuate gender inequality and power imbalances.

Social work, grounded in the values of social justice, dignity, and human rights, plays a central role in addressing crime against women. Social workers serve as advocates, counsellors, educators, community organisers, and policy influencers. Their interventions are not limited to crisis response; they also include prevention, rehabilitation, empowerment, and transformative social change. This chapter provides a comprehensive analysis of social work intervention in crime against women. It explores key concepts, theoretical frameworks, practice modalities, intervention strategies at various levels, ethical considerations, challenges, and future directions.

### **Defining Crime against Women**

Crime against women refers to acts of violence, abuse, or exploitation committed against women because of their gender or in ways that disproportionately affect them. These crimes can occur within private settings (such as homes) or public spheres (such as workplaces and online spaces). The United Nations Declaration on the Elimination of Violence against Women (1993) defines violence against women as “any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women” (UN General Assembly, 1993/2015).

### **Types of Crime against Women**

- **Domestic and Intimate Partner Violence:** Abuse by spouses, partners, or family members, including physical assault, emotional abuse, and coercive control.
- **Sexual Violence:** Rape, sexual assault, molestation, harassment, and other non-consensual sexual acts.
- **Dowry-Related Violence:** Abuse, torture, and murder linked to dowry demands and disputes.
- **Trafficking and Forced Labour:** Recruitment, transportation, and exploitation of women for sexual servitude, forced labour, and other forms of exploitation.
- **Workplace Harassment:** Sexual harassment, discrimination, and hostile work environments.
- **Cyber crime against Women:** Online harassment, stalking, non-consensual distribution of intimate images, and identity theft.
- **Honour-Based Violence:** Violence committed to protect perceived family or community honor, often related to women’s choices regarding marriage, clothing, or relationships.
- Each of these categories reflects distinct dynamics but shares common roots in gender inequality and systemic power imbalances.

## **2. Theoretical Frameworks Informing Social Work Interventions**

Social work interventions in the context of crime against women are informed by several theoretical perspectives. These frameworks guide assessment, planning, practice, and evaluation.

❖ **Feminist Theory:**

Feminist theory centers on understanding and challenging the patriarchal systems and gendered power relations that underpin violence against women. It emphasizes that violence is not merely an individual issue but a structural problem embedded within socio-cultural norms that devalue women and justify male dominance. Feminist social work practitioners advocate for empowerment, equity, and collective action, positioning survivors not as passive victims but as agents of change (Bates, 2019).

❖ **Ecological Systems Theory**

Bronfenbrenner's ecological systems theory posits that individual behavior and experiences are influenced by multiple interacting systems — microsystem, mesosystem, exosystem, and macrosystem. Applied to crime against women, this perspective highlights how family dynamics, community norms, institutional practices, and cultural narratives intersect to shape experiences of violence. Social workers drawing on this theory intervene at different ecological levels to address risk factors and strengthen protective systems (Heise, 1998).

❖ **Strengths-Based and Resilience Perspective**

The strengths-based approach focuses on survivors' capacities, resilience, and coping strategies rather than deficits. It acknowledges the agency of women and leverages their internal and external resources to promote healing and self-determination. This perspective is especially valuable in trauma-informed practice where the goal is to affirm survivors' strengths and foster recovery (Saleebey, 2006).

❖ **Trauma-Informed Practice**

Trauma-informed practice acknowledges the pervasive impact of trauma on survivors' lives. It emphasizes safety, trustworthiness, collaboration, choice, and empowerment. Social workers trained in trauma-informed care recognize the neurological, psychological, and social effects of trauma and avoid re-traumatization by cultivating supportive environments and empathetic engagement (Harris & Falot, 2001)

❖ **Human Rights Framework**

A human rights framework positions violence against women as a violation of fundamental rights and freedoms. It imposes obligations on states, institutions, and societies to respect, protect, and fulfil women's rights through legislation, policy, and practice. This framework guides advocacy, legal support, and accountability mechanisms within social work intervention.

### **3. Social Work Roles in Addressing Crime against Women**

Social workers fulfil multiple roles depending on the context, setting, and needs of survivors. Key roles include:

- **Counsellor and Therapist:** Providing individual and group counselling to help survivors process trauma, rebuild self-esteem, and develop coping strategies.

- **Advocate and Liaison:** Advocating for women's rights, connecting survivors with legal, medical, and social services, and liaising with justice systems.
- **Educator and Facilitator:** Conducting awareness programs on gender equality, violence prevention, and legal rights.
- **Policy Influencer:** Engaging in policy analysis, reform, and advocacy to strengthen protection mechanisms and services.
- **Community Organiser:** Mobilizing communities to challenge harmful norms, support survivors, and promote alternative narratives that value women's dignity.
- The multifaceted role of social work underscores its breadth — interventions span personal healing to systemic transformation.
- **Micro-Level Interventions:** Micro-level practice focuses on direct engagement with the survivor to address immediate needs, safety, psychological well-being, and empowerment.

### **Crisis Intervention and Immediate Support**

When a woman first seeks help after an incident of violence, social workers provide crisis intervention to stabilize emotions, assess safety, and reduce immediate risk. This may involve:

- Providing emotional support and active listening
- Conducting risk assessments for further harm
- Developing personalized safety plans
- Connecting with emergency services or shelters

Crisis intervention prioritizes survivor safety and dignity, ensuring that the woman feels heard, validated, and supported from the first contact.

### **Psychosocial Counselling**

Trauma from violence often impacts mental health, affecting self-esteem, trust, and functioning. Counselling helps survivors:

- Understand and process their experiences
- Reframe traumatic narratives
- Develop coping strategies for stress, anxiety, and depression
- Reconnect with personal strengths

Trauma-informed counselling emphasizes empathy, patience, and cultural sensitivity, recognizing that healing is non-linear and unique for each individual.

### **Safety Planning and Risk Management**

Safety planning involves anticipating potential danger and outlining practical steps to minimize risk. This may include:

- Identifying safe spaces

- Establishing emergency contacts
- Arranging secure communication
- Preparing practical tools (e.g., emergency funds, important documents)

Safety plans are individualized and revisited regularly based on changing circumstances.

### **Legal Referral and Court Support**

Access to justice is a critical component of survivor empowerment. Social workers often:

- Explain legal rights and options
- Refer survivors to legal aid services
- Accompany survivors to police stations, courts, or tribunals
- Coordinate with lawyers, paralegals, and legal counsellors

Court support helps reduce fear and uncertainty, ensuring survivors are not alone in navigating complex legal processes.

### **Rehabilitation and Reintegration Services**

Long-term recovery may involve economic and social reintegration:

- Vocational training
- Educational opportunities
- Financial literacy and micro-credit support
- Peer support and self-help groups

Rehabilitation fosters independence and reduces vulnerability to further exploitation.

### **❖ Mezzo-Level Interventions**

Mezzo-level practice addresses families, groups, and community systems that influence survivors' lives.

### **Family Counselling and Mediation**

For some survivors, family dynamics are both a source of stress and a potential support system.

Social workers:

- Facilitate family counselling where appropriate
- Help relatives understand the impact of violence
- Support families in building healthier communication patterns

Family mediation is used cautiously — only when the survivor consents and it does not compromise safety.

### **Support Groups and Peer Networks**

Support groups provide survivors with a platform to:

- Share experiences in a safe environment
- Learn from peers who face similar challenges
- Build social connections that reduce isolation

Such groups promote mutual support and collective resilience.

### **Community Awareness and Education Programs**

Community interventions focus on changing norms that perpetuate violence. Programs include:

- Workshops for men and boys on respectful relationships
- School-based education on consent and gender equality
- Public campaigns challenging harmful stereotypes

Community education fosters dialogue and shifts social attitudes over time.

### **Collaborative Practice with Social Institutions**

Social workers collaborate with:

- Health professionals
- Police personnel
- Legal aid organizations
- NGOs and civil society groups

Interdisciplinary collaboration ensures comprehensive support and coordinated responses.

### **❖ Macro-Level Interventions**

Macro-level practice targets systemic and structural change through policy, advocacy, and research.

### **Policy Development and Reform**

Social workers analyse existing policies and advocate for reforms that:

- Strengthen legal protections
- Enhance accountability mechanisms
- Provide adequate funding for services
- Integrate gender perspectives across sectors

Policy engagement positions social work as a critical voice in legislative arenas.

### **Research and Documentation**

Data on prevalence, patterns, and effects of violence against women are essential for informed interventions. Social work research:

- Documents lived experiences of survivors
- Evaluates intervention outcomes
- Identifies social determinants of vulnerability

Rigorous research influences policy, program design, and resource allocation.

### **Public Advocacy and Campaigns**

Macro-level social workers participate in public campaigns that:

- Raise awareness of women's rights
- Mobilize communities for social change
- Challenge systemic discrimination

Advocacy amplifies survivors' voices and builds broader movements against gender-based violence.

#### **4. Ethical Considerations in Practice**

Ethical conduct is central to social work interventions in sensitive contexts. Key principles include:

- **Confidentiality:** Protecting survivors' personal information to ensure safety and trust.
- **Informed Consent:** Ensuring that the survivor understands the purpose, risks, and options before participating in any intervention.
- **Non-Judgmental Attitude:** Respecting survivors' choices and cultural backgrounds without imposing personal values
- **Professional Boundaries:** Maintaining clear and respectful boundaries while providing empathetic support.
- **Cultural Sensitivity:** Respecting diverse cultural contexts and adapting interventions accordingly. Ethical practice reinforces dignity, autonomy, and trust. Social workers must continually reflect on power dynamics and ethical dilemmas inherent in practice.

#### **5. Challenges in Social Work Interventions**

Although social workers play a vital role, they confront multiple challenges:

- **Underreporting and Stigma:** Many women do not report violence due to shame, fear of retaliation, or social stigma. This limits access to help and accurate data.
- **Resource Constraints:** Limited funding, personnel shortages, and inadequate infrastructure restrict service delivery and outreach.
- **Safety Risks:** Social workers themselves may face threats, especially when working with perpetrators, in remote areas, or within hostile environments.
- **Cultural Resistance:** Deeply entrenched norms may resist change, making it difficult to challenge harmful practices or beliefs.
- **Legal and Institutional Gaps:** Even where laws exist, implementation can be inconsistent due to bureaucratic barriers, lack of training among law enforcement, and judicial delays.
- **Emotional Burden:** Working with trauma can lead to secondary traumatic stress, compassion fatigue, or burnout among practitioners.

Addressing these challenges requires systemic support, organizational policies for worker safety, and continuous professional development.

#### **6. Future Directions and Recommendations**

To strengthen social work interventions, the following strategies are recommended:

- **Integration of Gender Studies in Education:** Social work curricula should include gender analysis, feminist theories, and practice models specific to violence against women.

- **Capacity Building:** Ongoing training for social workers, law enforcement, healthcare providers, and educators is essential to enhance responsiveness and sensitivity.
- **Strengthening Inter-Agency Coordination:** Formal mechanisms for cooperation among stakeholders ensure timely, comprehensive support for survivors.
- **Use of Technology:** Digital platforms can support reporting mechanisms, tele-counselling, and public awareness campaigns.
- **Policy Advocacy:** Social workers should engage in sustained advocacy for policy reforms, budget allocations, and accountability frameworks.
- **Community Engagement:** Long-term prevention is possible when communities actively participate in changing norms and supporting women's rights.

### **Conclusion:**

Crime against women continues to be a pressing social, legal, and moral challenge in societies across the world. Addressing it requires more than punitive measures — it calls for holistic, rights-based, and culturally responsive interventions. Social work professionals, guided by ethical imperatives and informed by theory and evidence, are uniquely equipped to respond at multiple levels: supporting survivors, transforming communities, and influencing policies. Strengthening social work practice, education, collaboration, and advocacy is vital for creating safer, more equitable societies in which every woman can live with dignity and freedom from violence.

### **References:**

1. Bates, L. (2019). *Feminist social work theory and practice*. Routledge.
2. Freeman, M. (2017). *Human rights: An interdisciplinary approach*. Polity Press.
3. Harris, M., & Falot, R. D. (2001). *Using trauma theory to design service systems*. Jossey-Bass.
4. Heise, L. (1998). Violence against women: An integrated, ecological framework. *Violence Against Women*, 4(3), 262–290.
5. Saleebey, D. (2006). *The strengths perspective in social work practice* (4th ed.). Pearson.
6. United Nations General Assembly. (1993/2015). *Declaration on the elimination of violence against women*. United Nations.
7. World Health Organization. (2021). *Violence against women: Key facts*. WHO Press.

## **MARKETING IN THE AGE OF AI-GENERATED CONSUMERS: A CONCEPTUAL SHIFT**

**Deepok Kumar Chaudhary**

Department of Commerce,  
Mangalayatan University, Aligarh

Corresponding author E-mail: [deepok1234chaudhary@gmail.com](mailto:deepok1234chaudhary@gmail.com)

### **Abstract:**

The use of artificial intelligence in marketing has increased in recent years. In earlier work, AI was mainly applied to tasks such as automation, forecasting, and data analysis. These applications focused on processing information about consumers rather than creating representations of them. More recently, advances in generative AI have made it possible to construct AI-generated consumers (AICs). These include synthetic personas, digital consumer models, and simulated agents that are designed to imitate consumer characteristics, preferences, and decision-making behavior.

This paper examines how the emergence of AI-generated consumers represents a change in how consumers are viewed and studied in marketing research. Instead of relying only on data collected from real individuals, marketers can now work with artificial consumer representations. The paper discusses what this change means for marketing research, managerial decision-making, and governance. The study is conceptual and is based on a review of literature from marketing, information systems, and research that addresses ethical issues related to artificial intelligence.

Based on this review, the paper develops a framework that explains how AI-generated consumers are created and used in marketing contexts. The framework is referred to as the AIC Marketing Cycle. It includes four stages: the design of consumer models, the use of simulations and experiments, the application of results to marketing strategy, and ongoing monitoring and governance. The use of AI-generated consumers may offer certain advantages. These include lower research costs, faster analysis, scalability, and reduced dependence on personal consumer data. At the same time, their use raises several concerns. These concerns relate to bias, limited generalizability, inaccurate representations of real consumers, and possible negative effects on consumer trust. The paper contributes to marketing theory by reconsidering the role of the consumer in environments increasingly shaped by algorithmic systems. It also identifies tensions between synthetic consumer models and traditional approaches that focus on human consumers. The paper concludes by identifying areas for future research, including empirical testing, regulatory issues, and broader social consequences.

**Keywords:** Artificial Intelligence, AI-Generated Consumers, Synthetic Personas, Marketing Research, Generative AI.

### **1. Introduction:**

Marketing as a field has always changed over time. These changes have usually followed developments in technology, changes in society, and new forms of economic exchange. In the early twentieth century, marketing was shaped by mass production and mass advertising. Later, developments in digital technology and the spread of social media platforms changed how firms communicated with consumers and how consumers interacted with markets. Each of these developments influenced how marketing researchers and practitioners understood consumers. In recent years, artificial intelligence (AI) has become another important influence on marketing practice. At first, AI was mainly used as a support tool. It helped with forecasting, automation, and the processing of large amounts of data. These early uses focused on improving efficiency and speed. They did not significantly change how the consumer was defined in marketing theory. More recent developments in AI, especially generative systems that can produce text, images, voices, and simulated behavior, suggest a more substantial change. This change affects not only marketing activities but also the way the consumer is understood.

This change has led to the emergence of AI-generated consumers. These are not consumers in the traditional sense of human individuals who make decisions in real markets. Instead, they are artificial representations created using algorithms. They are designed to imitate consumer characteristics, preferences, emotions, and decision-making behavior. AI-generated consumers may appear in different forms. These include synthetic datasets, detailed consumer personas, digital twins of customer segments, and interactive agents that respond to marketing inputs. Their growing use suggests that marketing knowledge is increasingly created in simulated environments. In many cases, this knowledge is no longer based only on direct interaction with human consumers.

Marketing research has traditionally relied on surveys, interviews, experiments, ethnographic methods, and the analysis of transaction data. These methods remain important and are still widely used. However, they face a number of difficulties. Many consumers are unwilling to participate in surveys. Response level/standard has degraded over time. Privacy rules and regulations limit access to individual level data and at the same time, there is a rapid change in markets which creates pressure for faster decision-making. Under these situations, AI-generated consumers are useful to organizations. They allow marketers to model many situations at a minimum cost and in a short period of time. Artificial consumers can be used to evaluate marketing messages, product designs, and pricing options before being introduced to real markets. As a result, some marketing decisions are now made in simulated settings rather than through direct observation of human behavior.

This situation represents a conceptual change, not just a technical improvement. Traditional marketing theory assumes that consumers are human actors. Their behavior is influenced by psychological, social, and cultural factors. Even simplified models are usually based on data collected from real people. AI-generated consumers challenge this assumption. Although they are designed to behave like humans, they are created using historical data and modeling choices. These choices are made by organizations and system designers. As a result, AI-generated consumers apart from reflecting consumer behavior it also reflects the assumptions and priorities built into the models.

The increasing use of AI-generated consumers raises several important questions. One question concerns validity. It is not always clear whether insights produced by artificial consumers apply to real markets. Another question concerns agency. When marketing strategies are developed using simulated agents, it becomes difficult to determine whether decisions are responding to real consumers or to artificial representations. There is also an ethical question. Organizations must decide how to manage the use of AI-generated consumers to avoid bias, misleading outcomes, or loss of trust.

These issues are not only theoretical. In practice, firms already use synthetic personas to guide creative work. Digital twins are used to forecast demand. Virtual influencers are used to communicate with audiences. In certain contexts, AI-generated agents communicate directly with consumers and individuals may not realize that they are interacting with artificial systems. This makes less clear the boundary between analysis and participation. Because of this, the role of AI-generated consumers are no longer only research tools but they are also becoming active elements within markets.

Despite these developments, academic marketing research has not fully examined AI-generated consumers as a separate concept. Most existing studies on AI in marketing emphasizes efficiency, automation, and personalization. While this work is valuable, but it usually presents AI as a supporting technology rather than something that reshapes the foundations of marketing theory. Work on virtual influencers and digital avatars also tends to concentrate on communication outcomes and less focus on broader issues of consumer representation.

This paper argues that AI-generated consumers require a reconsideration of basic marketing concepts. These include consumer behavior, market signals, and the production of marketing knowledge. AI-generated consumers do not replace human consumers. Instead, they act as intermediaries between firms and markets. They influence how strategies are developed and tested. Their use adds an extra layer between marketers and real consumers. This layer can improve decision-making, but it can also create distortions if it is not carefully managed. The purpose of this paper is to examine marketing in the context of AI-generated consumers using a conceptual approach. The paper has three main objectives. The first objective is to clarify

the meaning and define the AI-generated consumers and differentiate them from related ideas such as segmentation models, fictional personas, and automation systems. The second objective is to present a conceptual framework that drafts how AI-generated consumers are designed, used, and governed in marketing settings. The third objective is to examine the theoretical, methodological, and ethical implications of this development and identifies directions for future research.

Through these objectives, the paper contributes to marketing theory in several ways. It shifts attention from prediction to representation. It highlights how reliance on artificial consumers affects the production of marketing knowledge. It also provides a basis for future empirical research that can examine when AI-generated consumers are useful and when they may create problems.

The remainder of the paper is organized as follows. The next section reviews relevant research on AI in marketing, synthetic data, and virtual consumer representations. The following section explains the conceptual approach used in the study. The results present the AI-generated consumer marketing cycle, followed by a discussion that relates the framework to earlier studies and real marketing practice. The final section highlights the main contributions and suggests avenues for future research.

## **2. Literature Review**

Research that is connected to marketing and AI-generated consumers does not come from one single research area. Instead, it comes from several different fields that were developed at different times and for different purposes. These include studies on artificial intelligence in marketing, consumer behavior research, work related to consumer representation, studies on synthetic data and simulation, research on virtual and digital actors in markets, and studies that discuss ethical and governance issues of algorithmic systems. These research areas usually focus on different questions and use different methods. Because of this, they are often not connected to each other. When they are considered together, however, they help to explain why AI-generated consumers should be studied as a separate topic in marketing. This review connects these areas and shows where existing research is still limited.

### **2.1 Artificial Intelligence in Marketing**

In early academic research, artificial intelligence in marketing was mainly understood as a supporting tool. The main purpose of AI systems was to help managers with decision-making. These systems were not designed to change marketing theory. Rule-based expert systems and early predictive models were commonly used for tasks such as pricing, media planning, and sales forecasting. These systems depended on rules created by human experts. As a result, they followed existing marketing ideas and rather than introducing new ways of thinking.

Later, scholarly focus shifted toward machine learning approaches. In this stage, AI was mainly examined in relation to prediction and data processing. Studies concentrated on applications such as classifying customer, recommendation systems, churn prediction, and demand forecasting. AI was portrayed as a tool that analyses past consumer data to enhance operational efficiency and accuracy. Consumers were still treated as real people outside the system. Their behavior was analyzed, but it was not created by AI.

More recent research focuses on generative and interactive AI systems such as chatbots, automated content creation, and real-time personalization systems. A substantial body of research examine how consumers respond to AI-mediated interactions.. Topics such as trust, fairness, transparency, and control are often discussed. However, even in this research, AI is usually described as a tool between firms and consumers. There is still little discussion about AI systems that generate consumer representations. Because of this, AI-generated consumers are not fully addressed in marketing research.

## **2.2 Consumer Behavior and Representation**

Consumer behavior research is generally based on the idea that marketing outcomes come from human behavior. Traditional models focus on attitudes, motivation, cognition, and decision-making. Other approaches focus more on identity, culture, and meaning. Although these approaches are different, they all assume that consumers are human actors.

Representation is an important part of consumer research. Researchers cannot observe all consumers directly. Instead, they use surveys, experiments, interviews, ethnographic research, and transaction data. These methods create representations of consumers based on what people report or what is recorded. They do not directly capture consumers themselves.

AI-generated consumers represent a different situation. These representations do not describe past behavior only. They simulate possible behavior in different conditions. These simulated consumers can change and respond to inputs. Marketing theory has not fully explained what this means for research. When consumer representations are not directly based on observation, questions appear about validity, generalization, and theory development.

## **2.3 Segmentation, Personas, and Digital Twins**

Segmentation and personas are long-used tools in marketing. They help to simplify complex markets. Traditional personas are usually created using qualitative research and demographic or psychographic data. These personas are helpful, but they are often fixed in nature and simplified. The idea of a digital twin originated from engineering and operations research. More recently, it has been used in marketing and customer analytics. Digital twins aim to model behavior over time and allow organizations to test different scenarios. AI-generated consumers extend this idea by enabling the development of numerous synthetic consumer profiles that can change their

behavior. Even though these tools are used in practice, academic studies have not clearly defined how they differ from traditional personas in terms of reliability or decision-making use.

#### **2.4 Synthetic Data and Simulation**

Concerns about privacy and restricted data access has led to increase in research on synthetic data. Studies in information systems and data science often evaluate synthetic data by comparing it with real data. Many studies show that synthetic data can reproduce important patterns when it is carefully generated.

In marketing, synthetic data allows testing without using personal data. However, most studies treat synthetic data as a technical solution. They do not address it as a conceptual shift. In contrast, AI-generated consumers go beyond this by simulating consumer behavior which creates challenges for interpretation. As a result, it is always unclear how results from simulated consumers should be understood.

#### **2.5 Virtual Influencers and Artificial Market Actors**

Another stream of research focuses on virtual influencers, avatars, and artificial agents that interact with consumers. Studies show that these entities can influence engagement and brand attitudes. Their effectiveness often depends on authenticity and disclosure. Consumers may also form emotional connections with these agents.

This research shows that artificial actors can participate in markets. However, it mainly focuses on communication outcomes. It does not fully study markets where artificial agents and human consumers interact more broadly. AI-generated consumers are different because they are used both for analysis and simulation.

#### **2.6 Ethical and Governance Issues**

Ethical research on AI often discusses issues such as bias, transparency, and accountability. Generative systems may repeat patterns found in historical data, including inequality. In marketing, this can influence targeting and representation.

Governance research focuses on oversight mechanisms such as audits and documentation. However, most governance studies focus on decision-making algorithms. Synthetic consumer representations receive less attention. Because AI-generated consumers combine data and agency, they raise governance challenges.

#### **2.7 Research Gap**

Overall, the literature remains fragmented. AI research focuses on technical issues, consumer research focuses on humans, synthetic data research focuses on accuracy, and ethical research focuses on risks. Few studies connect these perspectives.

The gap is significant because organizations are using synthetic consumers for decision-making. In the absence of a clear framework, there is a risk of misinterpretation simulated results. This

study responds to this gap by positioning AI-generated consumers as a core concept in marketing research.

### **3. Methodology**

#### **3.1 Research Design and Philosophical Orientation**

This study follows an interpretive and theory-oriented research approach on the ground that marketing knowledge does not exist independently but is shaped by social and technological contexts. Instead, it is produced through practices, tools, and representations. When the tools used to represent consumers change, the way markets are understood can also change. AI-generated consumers are treated in this study as such a change in representational tools. The study does not attempt to measure causal effects or test hypotheses using statistical methods. It does not aim to predict outcomes. Its purpose is to develop explanatory reasoning that can account for observed developments and emerging practices in marketing.

This approach is consistent with earlier conceptual research in marketing and information systems. In these fields, scholars often begin by revisiting assumptions when new technologies appear. Empirical modelling usually follows at a later stage. At the present stage, the priority is to clarify concepts and relationships. Greater emphasis is placed on in-depth than on generalization. This approach is considered as appropriate given the early state of research on AI-generated consumers.

#### **3.2 Literature Synthesis Strategy**

The first methodological step consisted of synthesizing literature from multiple academic fields. Sources were drawn from marketing, consumer behavior, information systems, artificial intelligence, data science, and ethics. The study did not follow a formal systematic review procedure. There were no fixed inclusion or exclusion rules. Instead, a thematic synthesis strategy was used. This made it possible to identify ideas that appear repeatedly across different bodies of literature.

As the review progressed, several recurring topics became visible. These included algorithmic mediation, the representation of consumers, questions about the reliability of synthetic data, the use of simulation in decision-making, and concerns related to governance and ethics. These topics were reviewed repeatedly as new sources were added. Over time, they were grouped into broader categories that are directly relevant to AI-generated consumers. The aim was not completeness. The aim was to reach a point where additional sources did not introduce substantially new conceptual issues.

#### **3.3 Abductive Reasoning and Practice-Based Insights**

Alongside the academic literature academic literature, the study relied on abductive reasoning. This involved moving between theory and practice. Industry reports, practitioner case descriptions, and policy-related documents were examined. These materials were used to

understand how organizations currently apply synthetic personas, digital twins, and virtual agents in marketing activities. Many of these practices are not yet well documented in academic research.

Abductive reasoning helped identify differences between established theory and current practice. In traditional marketing theory, consumers are treated as empirical subjects. They are observed, measured, and analyzed. In practitioner discourse, consumers are increasingly described as simulated entities. These entities can be tested, modified, and optimized. Identifying this difference helped refine the concepts used in the study. It also pointed to the need for a framework that explicitly addresses simulation and governance.

### **3.4 Conceptual Modeling and Framework Development**

The main outcome of the methodology is the development of the AI-Generated Consumer (AIC) Marketing Cycle. Conceptual modeling was used to organize key elements. These elements include design decisions, simulation activities, strategic use, and governance practices. The framework was developed gradually. Specific examples were first examined. These examples were then translated into more general stages.

Each stage of the framework was reviewed using three basic criteria. The first was whether the stage is consistent with existing marketing theory. The second was whether it helps explain observed practices. The third was whether it is useful for future research and managerial reflection. The framework was designed to be modular. This means that individual parts can be examined independently in future studies. Researchers are not required to adopt the full model.

### **3.5 Ethical Considerations and Reflexivity**

Even though the study does not involve human participants or original data collection, ethical considerations remain pertinent. The methodology reflects awareness of the broader consequences of treating AI-generated consumers as standard elements of marketing practice. Ethical reflection and governance are included as part of the framework. This reflects the view that research choices are not neutral.

Reflexivity was also applied when interpreting practitioner materials. Industry sources often emphasize efficiency and benefits. Risks and limitations are discussed less frequently. This imbalance was taken into account during analysis. A critical stance was maintained. This strengthens the conceptual contribution and supports responsible theorization.

In summary, the methodology integrates literature synthesis, abductive reasoning, and conceptual modelling. The main aim is to develop a framework for understanding marketing practices related to AI-generated consumers. The approach aims to provide conceptual clarity at an early stage of enquiry and to support future empirical investigation.

**Results:**

This study is conceptual so it does not use numbers or statistical tests. The results are explained using ideas and theory instead of data. One main outcome of the study is the AI-Generated Consumer Marketing Cycle. This model shows how artificial consumer profiles are created, how they are used in marketing, and how they are managed over time. The study also explains that these artificial consumers can be useful, but they also have limits when used for marketing decisions.

The marketing cycle includes several connected steps. First, the artificial consumer is designed. Then it is tested using simulations. After that, the results are used to support marketing decisions. Finally, the system is checked over time to see if it still fits real market conditions. These steps explain how artificial consumers move from planning to actual use.

In the design stage, organizations decide why they want to use artificial consumers and how they will use them. They decide how much detail the consumer profiles should be and what type of data is included. The research explain that decisions made at this stage are very important. Simple models are easier to use and help generate ideas fast, but they often miss important parts of real consumer behavior. More detailed models may look more realistic, but they are harder to control and can increase existing bias.

During the simulation stage, artificial consumers are placed into imagined situations. These may involve price changes, trying new products, or different marketing messages. it allows many ideas to be tested fast and at cheaply, which is difficult to do with real consumers. However, the study also shows that simulations usually behave in predictable ways. Because of this, unusual behavior that happens in real markets may not always appear.

The study also looks at how these results are used in decision making. It shows that artificial consumers work best when they are used together with other sources of information, such as market data or research with real people. If organizations rely only on simulated results, they may become too confident in the models. Using artificial consumers as support tools instead of final decision makers helps organizations stay flexible.

Monitoring matters because markets change. Consumer behavior also change over time. Data used for artificial consumers can get old and stop matching real markets. Because of this, results from simulations should be checked often with real outcomes. If not, bias and wrong decisions can happen, and trust can be lost.

In general, artificial consumers should not replace normal research. They are better used to help think through ideas. They do not remove uncertainty, they only change how it is dealt with. This study gives ideas that future research can build on.

**Conclusion:**

This paper looked at marketing in relation to AI-generated consumers and shows that their growing use is not only a technical development. As generative AI is becoming common in organizations, marketers are no longer limited to studying only real consumers. They are now able to create artificial consumer models, run simulations, and explore possible outcomes before entering real markets. This shift affects how marketing knowledge is produced and how decisions are justified inside firms.

One important conclusion of this study is that AI-generated consumers change the way insight is created in marketing. Traditional marketing research depends on interaction with human consumers through surveys, interviews, experiments, or behavioral data. Even when models are used, they are based on observed human behavior. AI-generated consumers differ because insight is produced through simulation. Marketing decisions are increasingly explored in artificial environments rather than through direct observation. As a result, marketing knowledge relies more on assumptions, design choices, and model logic. This can make interpretation more difficult and requires more caution.

To describe this process, the paper introduced the AI-Generated Consumer (AIC) Marketing Cycle. The framework shows how synthetic consumers are designed, used for simulations, applied in strategic decisions, and monitored over time. The findings suggest that value does not come only from technical sophistication. Early design choices strongly shape the behavior of artificial consumers. In addition, results from simulations must be interpreted carefully and compared with real market information. Without monitoring, AI-generated consumers may slowly move away from real consumer behavior.

From a theoretical point of view, the paper contributes by reconsidering how consumers are understood in marketing research. Consumers are usually treated as human actors whose behavior is measured and predicted. This study highlights that consumers are also represented through models and tools. AI-generated consumers make this representation more visible. This raises questions about whose behavior is being represented and how much control organizations have over these representations. As a result, the focus shifts from consumer psychology alone to the processes used to construct consumer knowledge.

From a managerial perspective, the findings show both benefits and risks. AI-generated consumers can help lower costs, speed up analysis, and allow testing at large scale. However depending only on simulated results can reduce sensitivity to real market conditions. Organizations that depend too much on artificial consumers may become overconfident. The study suggests that AI-generated consumers work best when used together with empirical research, market data, and managerial judgement, not as replacements for them.

There are ethical risks here. When artificial consumers are used to shape marketing messages or choose audiences, they can cause unfair or inaccurate results. To avoid this, teams should keep clear notes, explain what they are doing, and check their work often. Thinking about ethics should be a normal part of marketing

This study is conceptual and does not test the framework empirically, which is a limitation. Future research can test the framework, compare simulated and human-based insights, and study consumer reactions to markets shaped by artificial representations. In general, AI-generated consumers offer new possibilities for marketing, but they also challenge long standing ideas about who the consumer is and how marketing knowledge is created.

**References:**

1. Chaudhary, D. K. (n.d.). *Artificial intelligence and AI-generated consumers in marketing research*. Mangalayatan University, Aligarh.
2. Davenport, T. H., & Ronanki, R. (2018). Artificial intelligence for the real world. *Harvard Business Review*, 96(1), 108–116.
3. Davenport, T. H., Guha, A., Grewal, D., & Bressgott, T. (2020). How artificial intelligence will change the future of marketing. *Journal of the Academy of Marketing Science*, 48(1), 24–42.
4. Dwivedi, Y. K., et al. (2021). Artificial intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. *International Journal of Information Management*, 57, 101994.
5. Dwivedi, Y. K., Hughes, L., Ismagilova, E., Aarts, G., Coombs, C., Crick, T., ... Williams, M. D. (2021). Artificial intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. *International Journal of Information Management*, 57, 101994.
6. Huang, M.-H., & Rust, R. T. (2021). A strategic framework for artificial intelligence in marketing. *Journal of the Academy of Marketing Science*, 49(1), 30–50.
7. Kaplan, A. M., & Haenlein, M. (2020). Rulers of the world, unite! The challenges and opportunities of artificial intelligence. *Business Horizons*, 63(1), 37–50.
8. Kaplan, A. M., & Haenlein, M. (2019). Siri, Siri, in my hand: Who’s the fairest in the land? On the interpretations, illustrations, and implications of artificial intelligence. *Business Horizons*, 62(1), 15–25.
9. Kotler, P., & Keller, K. L. (2016). *Marketing management* (15th ed.). Pearson Education.
10. Lugmayr, A., Stockleben, B., Zou, Y., Anzenhofer, S., & Jalonen, M. (2017). Applying “design thinking” to digital transformation of business models. *Journal of Business Models*, 5(1), 1–17.

11. Marinchak, C. L., Forrest, E., & Hoanca, B. (2018). The impact of artificial intelligence and virtual personal assistants on marketing. *Journal of Marketing Development and Competitiveness*, 12(1), 39–47.
12. Puntoni, S., Reczek, R. W., Giesler, M., & Botti, S. (2021). Consumers and artificial intelligence: An experiential perspective. *Journal of Marketing*, 85(1), 131–151.
13. Rutz, O. J., Bucklin, R. E., & Sonnier, G. P. (2019). A marketing analytics roadmap for the future. *Journal of Marketing Analytics*, 7(3), 135–145. <https://doi.org/10.1057/s41270-019-00060-8>
14. Thaler, R. H., & Sunstein, C. R. (2008). *Nudge: Improving decisions about health, wealth, and happiness*. Yale University Press.
15. van Esch, P., & Black, J. S. (2019). Factors that influence new generation candidates to engage with and complete digital, AI-enabled recruiting. *Journal of Business Research*, 96, 93–106.
16. Rosenbaum, M. S., & Russell-Bennett, R. (2019). The role of artificial intelligence in service research. *Journal of Service Research*, 22(3), 229–234.
17. van der Aalst, W. (2021). *Process mining and digital twins*. Springer.
18. van Esch, P., & Black, J. S. (2019). Factors that influence new generation candidates to engage with and complete digital, AI-enabled recruiting. *Journal of Business Research*, 96, 93–106.
19. Zuboff, S. (2019). *The age of surveillance capitalism*. PublicAffairs.
20. Aguirre, E., Mahr, D., Grewal, D., de Ruyter, K., & Wetzels, M. (2015). Unraveling the personalization paradox: The effect of information collection and trust-building strategies on online advertisement effectiveness. *Journal of Retailing*, 91(1), 34–49.
21. Erevelles, S., Fukawa, N., & Swayne, L. (2016). Big data consumer analytics and the transformation of marketing. *Journal of Business Research*, 69(2), 897–904.

**TINSUKIA'S ROADS, TINSUKIA'S RIDES:  
ASSESSING CAR OWNERSHIP SATISFACTION**

**Anjan Kumar Bordoloi**

Department of Commerce,

Margherita College, Margherita, Tinsukia, Assam

Corresponding author E-mail: [anjankrbordoloi@gmail.com](mailto:anjankrbordoloi@gmail.com)

**Abstract:**

This study examines consumer preferences and satisfaction with personal vehicle purchases, particularly SUVs, in Tinsukia, Assam. The findings reveal that safety features and fuel efficiency are the top factors influencing purchase decisions, followed by price and after-sales service. The level of satisfaction among consumers is high, with respondents expressing satisfaction with the overall performance, value for money, and comfort and features of their SUVs. The study provides valuable insights for manufacturers and marketers in the automotive industry, highlighting the importance of prioritizing safety features, fuel efficiency, and quality after-sales service to meet the evolving needs of consumers in Tinsukia, Assam.

**Keywords:** Consumer Preferences, Suvs, Safety Features, Fuel Efficiency, After-Sales Service, Customer Satisfaction, Tinsukia, Assam.

**Introduction:**

India's car market plays a vital role in the economy, influencing lifestyle, mobility, and regional growth. The surge in SUV demands, driven by urbanization, rising incomes, and infrastructure development, is spreading beyond cities to areas like Tinsukia, Assam. This study explores consumer preferences, brand choices, and satisfaction with personal vehicles, particularly SUVs, in Tinsukia, highlighting key factors that shape purchasing decisions.

In the rapidly evolving Indian automobile industry, rising incomes, urbanization, and shifting lifestyles are driving growth. SUVs and eco-friendly technologies like electric vehicles are gaining popularity, while global competition and government policies like Bharat Stage VI norms are pushing innovation. As personal mobility becomes increasingly preferred post-COVID, this study examines consumer preferences and satisfaction in Tinsukia, Assam, shedding light on local trends amidst national changes.

**Overview of Automobile Sector in India:**

The auto industry in India has been one of the fastest-growing and most important for the country's economic growth. It not only meets the needs of people in its own country, but it also has a strong presence in the worldwide car market. The sector covers a wide range of vehicles,

from two-wheelers to passenger cars, commercial vehicles, and three-wheelers. In recent years, passenger automobiles, especially SUVs, have become more and more popular.

### **Growth and Evolution of the Indian Automobile Industry:**

Over the years, the Indian car industry has changed a lot. It went from being a small, tightly controlled industry to one of the biggest car marketplaces in the world. We may understand the industry's growth path in stages, with each era bringing forth major changes in policies, technologies, and consumer behaviour that have created the industry's current structure.

The Indian automobile industry has undergone significant transformations, evolving from a small, controlled market to a global hub. Key phases include: pre-independence (1900s-1947) with limited access and imports; post-independence (1947-1980s) stagnation due to restrictive policies; liberalization (1991-2000) with global players and innovation; consolidation and growth (2000-2010) with rising demand and exports; SUV rise and tech integration (2010-2020); and contemporary trends (2020 onwards) focusing on sustainability and advanced mobility solutions, positioning India as a global hub for eco-friendly and tech-driven vehicles.

### **Contribution to the Indian Economy:**

The Indian car industry contributes significantly to GDP (7.1% in FY22-23), employment (37 million+ jobs), and global competitiveness. India is the world's 3rd-largest car market, selling 4.25 million+ passenger vehicles in 2022. Exports (5.6 million vehicles in FY22-23) and FDI inflows (USD 35 billion, 2000-2023) highlight the sector's strength, driven by govt initiatives like AMP, PLI, and FAME schemes.

**Table 1: Contribution of Automobile Sector to the Indian Economy (FY 2022–23)**

<b>Indicator</b>	<b>Value (Approx.)</b>
Contribution to GDP	7.10%
Contribution to Manufacturing GDP	49%
Employment Generated	~37 million
Passenger Vehicle Sales	4.25 million
Two-Wheeler Sales	15.9 million
Commercial Vehicle Sales	0.96 million
Total Vehicle Exports	5.6 million
FDI Inflows (2000–2023)	USD 35+ billion
Share of SUVs in Passenger Vehicle Sales	~50%

These numbers clearly show how big and important the car industry is for India's economy. The sector has not only helped India become a worldwide automotive powerhouse by increasing domestic production, creating jobs, and extending export capacities. It has also helped the economy thrive. The increased demand for passenger cars, especially SUVs, along with more

foreign direct investment (FDI) and government backing for electric vehicles, means that the sector will continue to play a big role in shaping India's economic destiny.

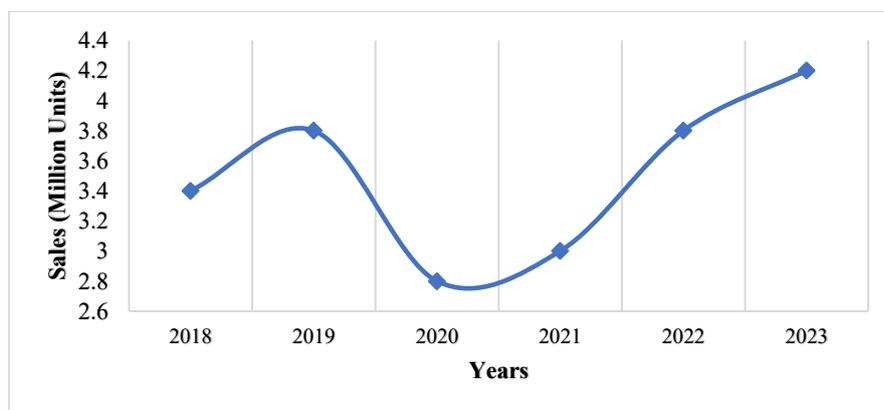
**Passenger Vehicle Segment in India:**

The Passenger Vehicle (PV) market, dominated by hatchbacks, is shifting towards SUVs, now accounting for half of sales. Factors driving growth include rising incomes, financing options, and tech upgrades. Post-pandemic, personal mobility demand surged. Exports, Bharat Stage VI norms, and EVs boost the PV market's global competitiveness. Here's the sales trend (2018-2023):

**Table 2: Passenger Vehicle Sales in India by Segment (2018–2023)**

Year	Total PV Sales (in million units)	Hatchbacks (%)	Sedans (%)	SUVs (%)	MUVs (%)
2018	3.38	49%	22%	21%	8%
2019	3.08	47%	20%	24%	9%
2020	2.43	46%	18%	27%	9%
2021	3.08	43%	17%	31%	9%
2022	3.79	40%	15%	37%	8%
2023	4.11	36%	13%	47%	4%

The data plainly reveals that the passenger vehicle market is changing in a big way. Hatchbacks used to be the most popular type of car, with almost 50% of the market in 2018. By 2023, its proportion had dropped to 36%. Sedans also saw a big dip, going from 22% in 2018 to only 13% in 2023. On the other hand, SUVs were the most popular choice among Indian buyers, almost doubling their market share from 21% in 2018 to 47% in 2023. This rise is due to people wanting to buy more, having more money to spend, and preferring vehicles that are high-tech, have a lot of features, and can do a lot of things. The rapid rebound after 2020 also shows how robust the PV market is in India.



**Figure 1: Trend of Passenger Vehicle Sales in India (2018–2023)**

Looking at the sales trends of the Passenger Vehicle (PV) segment in India over the past few years will help us better understand its growth. The segment slowed down during the COVID-19

epidemic in 2020, but it has bounced back strongly, especially in the SUV category, which has changed what people want. Keeping an eye on these data gives us a better idea of how consumer tastes are changing and how strong the Indian auto sector is.

The graph highlights the sales trajectory of passenger vehicles in India, showing both challenges such as the COVID-19 dip in 2020 and the strong recovery thereafter.

The PV segment continues to evolve as a symbol of India's economic aspirations and lifestyle transformation. It not only drives the automobile industry's revenues but also serves as a barometer of consumer confidence and purchasing power in the country.

### **Changing Consumer Trends in India's Car Market:**

Over the past 20 years, India's car market has shifted from prioritizing price and fuel efficiency to lifestyle, safety, and eco-friendliness. Key trends include:

- **SUV Boom:** Compact and mid-sized SUVs like Hyundai Creta and Tata Nexon have become super popular, making up about 50% of passenger vehicle sales in 2023.
- **Tech Integration:** Infotainment systems, smartphone connectivity, and advanced driver-assistance systems are now must-haves, especially for younger buyers.
- **Eco-Friendly Ride:** Electric Vehicles (EVs) and hybrids are gaining traction, driven by government incentives and growing environmental awareness. Models like Tata Nexon EV and Hyundai Kona Electric are gaining popularity.

These trends reflect India's evolving lifestyle, aspirations, and priorities in the automotive sector.

### **Policy and Government Initiatives:**

The Indian government drives the auto industry's growth through regulations and initiatives focusing on production, eco-friendly transport, safety, and investments. Key policies include:

- **Make in India and Automotive Mission Plan (AMP):** Aims to make India a global hub for auto design and manufacturing, generating 65 million jobs and contributing 12% of GDP by 2026.
- **FAME India Scheme:** Promotes electric mobility with incentives for EVs, charging infrastructure, and pilot projects. FAME-II allocated ₹10,000 crore for supporting 1 million electric two-wheelers, 500,000 electric three-wheelers, and 55,000 passenger EVs.
- **Bharat Stage (BS) Emission Norms:** Implemented BS-VI norms in 2020, reducing emissions by up to 70%.
- **Production-Linked Incentive (PLI) Scheme:** Encourages investments in advanced automotive technologies like hydrogen fuel cell vehicles and EVs, with a budget allocation of ₹25,938 crore.
- **Road Safety and Regulatory Reforms:** Stricter road safety laws, mandatory safety features like airbags and ABS, and enhanced penalties for traffic violations.

- Scrapage Policy (2021): Aims to phase out old, polluting vehicles, with incentives for scrapping and buying new vehicles.

### **Challenges Facing the Sector:**

The Indian auto industry faces several challenges, including:

- High Production Costs: Rising raw material costs (steel, aluminium, lithium) impact vehicle pricing and EV adoption.
- Infrastructure Gaps: Inadequate road infrastructure, charging networks, and logistics inefficiencies hinder growth.
- Environmental Pressures: The sector contributes 10-12% of India's CO<sub>2</sub> emissions, necessitating a shift to cleaner tech and sustainability.
- Intense Competition: Global players like Hyundai and Kia intensify competition, driving innovation and cost optimisation.
- Regulatory Compliance: Stricter emission norms (BS-VI) and safety standards require significant investments.

These challenges require strategic investments, innovation, and government support to ensure sustainable growth.

### **Review of literature:**

#### **Studies on Consumers Preferences:**

- Monga, N., Chaudhary, B. and Tripathi, S. (2012) in their study stated that car sale has been increased due to increase in disposal income and easy finance availability. International player have shown keen interest in Indian market and competition is getting stiff. The study revealed that customer relationship management and personal connection are very much helpful for the car companies. Further, they found that brand perception in auto sector is mainly depend upon quality of services provided, price, availability of spare parts and maintenance cost. They concluded that car dealers act as an important link between manufacturers and customers and in selection of brand.
- Raj, M., Sasikumar, J. and Sriram, S. (2013) in their study identified six main factors named as product reliability, monetary factor, trendy appeal, frequency of non-price promotions, trustworthiness and customer feeling or association towards brand, that influences customers brand preferences towards the SUVs and MUVs.
- Poornima, T. and Rita, D. (2013) in their study revealed that automobile industry is one of the fastest growing industries in the world and in last few years many foreign companies had launched their products in Indian market. The growth of Indian automobile sector is mainly due to rise income of middle class, easy availability of finance, improvement in basic infrastructure, rising family income, favourable duty structure, poor public transport, low car penetration, exchange of cars, and changing

lifestyle etc. They also remarked that buying behaviour of car buyers had undergone significant changes and purchase of luxury cars acts as status symbol, social recognition and independence level.

- Sravan, D. K. S., Sarakamu, V. and Rao, P. (2014) in their study stated that changing customer perception has made Indian automobile sector as one of the most growing sector in four wheeler industry. They have studied buying behaviour of customer with regard to SUVs and found that customers influenced by the various factors that includes brand image, price, fuel efficiency, performance, comfort, after sales service, ease of maintenance, safety of passengers etc.

#### **Studies on Customer Satisfaction:**

- Kumar, V.S. (2018) explained in his study that the customer satisfaction highly influences customers repurchase intentions. Satisfied customers are most likely to share their experiences with ten or more people around them.
- Akhila, M. and Thayyullathil, A. A. T. (2015) in their study explained that no matter what type of cars the customers use, it has to satisfy the customers' needs.
- Thirunarayanassamy, M. and Rajavel, R. (2016) in their study explained that a customer who has a good experience with the concerned dealer may probably use the same brand again and again while the customer who experiences problems with a particular brand of car may not use the same in the next time.

#### **Tinsukia District in Assam:**

Tinsukia is one of the most important districts in Assam, which is in the northeast of India. The district is an important part of the state's social and economic structure since it has a lot of natural resources, a lot of different cultures, and a lot of economic potential. Tinsukia is often called the "commercial capital of Assam." It is known for its tea plantations, oil deposits, coal reserves, and rich biodiversity.

Tinsukia district in eastern Assam is a strategic hub connecting the Brahmaputra Valley to Arunachal Pradesh and other northeastern states. With 3,790 sq km of fertile plains, rivers, and forests, it's ideal for agriculture and rich in resources like tea, oil, and coal. The district's economy thrives on industries like tea, oil, and natural gas, leveraging its location for trade and commerce.

Tinsukia district in Assam, India, is a significant industrial and cultural hub, known for its rich natural resources like tea, oil, coal, and forests. The district borders Arunachal Pradesh to the north and east, Dibrugarh to the south, and Dhemaji to the west, making it a strategic gateway to northeastern states. Tinsukia's history blends indigenous rule, colonial past, and socio-economic shifts, with its name originating from "Tinkunia Pukhuri". The district has a diverse population of 1.3 million, comprising Assamese, Tea Tribes, Marwaris, Bengalis, and indigenous groups.

The economy thrives on tea production, oil and natural gas, coal mining, agriculture, and trade, with the district being a major hub for Upper Assam and Arunachal Pradesh.

**Scope and Area of the Study:**

The current study is limited to the Tinsukia district of Assam, concentrating on its historical context, demographic characteristics, economic framework, and cultural diversity. The research encompasses significant industrial sectors, including tea, oil, coal, agriculture, and trade, while also analysing the social composition of populations, such as Assamese, Tea Tribes, Marwaris, Bengalis, and indigenous people. The research region includes important places like Digboi, Margherita, Doomdooma, and Tinsukia town, which show how important the district is for business and culture. The study is confined to secondary data sources, including census reports, government publications, and academic literature, underpinned by descriptive and analytical methodologies. By setting these limits, the study makes sure that Tinsukia's growth path and its significance as an economic and cultural centre in Assam are looked at in a concentrated and systematic way.

**Objectives of the Study:**

1. Identify the key factors influencing SUV purchase decisions in Tinsukia, Assam.
2. Analyze the level of consumer satisfaction with SUV purchases, focusing on performance, features, and value for money.
3. Examine brand preferences for SUVs in Tinsukia, Assam, and identify factors driving brand loyalty and choice.

**Methodology:**

This study on SUV preferences in Tinsukia district used a mixed-method approach. A random sample of 65 respondents from diverse backgrounds completed a structured questionnaire, providing insights into purchase decisions, satisfaction levels, and brand preferences. Secondary data from dealer reports, publications, and online sources supplemented the primary findings, which were analyzed using simple statistical tools to understand consumer behavior in the SUV segment.

**Factors Influencing Consumer Preferences and Satisfaction:**

Consumer preference and satisfaction are crucial in determining demand in the automotive industry. Preferences are shaped by needs, aspirations, and socio-economic conditions, while satisfaction reflects the fulfillment of these preferences post-purchase. In Tinsukia, Assam, factors like urbanization, economic growth, and cultural diversity influence mobility needs.

**Theoretical Foundations of Consumer Preference**

Consumer preference is influenced by practical concerns (price, safety, mileage, design) and psychological, cultural, and aspirational aspects. Theoretical models highlight that consumer behavior is driven by demands, perceptions, and external cues.

### **Factors Influencing Consumer Preferences**

1. Economic factors: income, affordability, budget constraints, financing options
2. Social and cultural factors: family influence, peer groups, cultural aspirations
3. Psychological factors: perception, motivation, attitude formation
4. Marketing and promotional factors: advertisements, celebrity endorsements, digital marketing
5. Product-related factors: design, comfort, technology, safety, fuel efficiency

In Tinsukia, preferences are shaped by traditional and modern aspirations, with a focus on affordability, durability, and technological sophistication.

Consumer preference and satisfaction play a crucial role in determining demand in the automotive industry. Preferences are shaped by needs, aspirations, and socio-economic conditions, while satisfaction reflects the fulfillment of these preferences post-purchase.

### **Theoretical Foundations of Consumer Preference**

Consumer preference is influenced by practical concerns (price, safety, mileage, design) and psychological, cultural, and aspirational aspects. Theoretical models highlight that consumer behavior is driven by demands, perceptions, and external cues.

### **Factors Influencing Consumer Preferences**

1. Economic factors: income, affordability, budget constraints, financing options
2. Social and cultural factors: family influence, peer groups, cultural aspirations
3. Psychological factors: perception, motivation, attitude formation
4. Marketing and promotional factors: advertisements, celebrity endorsements, digital marketing
5. Product-related factors: design, comfort, technology, safety, fuel efficiency

In Tinsukia, Assam, preferences are shaped by traditional and modern aspirations, with a focus on affordability, durability, and technological sophistication.

### **Key Determinants of Consumer Preferences in SUV Segment**

1. Safety Features: airbags, ABS, crash test ratings
2. Comfort and Design: interiors, seating, aesthetics
3. Fuel Efficiency: mileage, environmental concerns
4. Price and Value: affordability, cost-benefit analysis
5. Brand Value: reputation, reliability, after-sales service

These factors influence consumer preferences and satisfaction, ultimately driving demand in the automotive industry.

### **Analysis and Findings:**

#### **Demographic Profile:**

The demographic profile of the respondents reveals a majority of males (69.2%) and a significant proportion of respondents in the 25-35 age groups (38.5%). This suggests that the survey

primarily captured the opinions of young to middle-aged males. The educational qualification of respondents is predominantly graduate (46.2%), indicating a well-educated sample. The occupation distribution shows a majority in the service sector (38.5%), followed by business (23.1%). The income distribution is spread across various brackets, with a significant proportion earning between ₹25,000-₹50,000 (30.8%).

#### **Factors Influencing Purchase of SUV Cars:**

The survey reveals that safety features (92.4% agree or strongly agree) and fuel efficiency (87.6% agree or strongly agree) are the top factors influencing the purchase of SUV cars. This indicates that respondents prioritize these aspects when buying an SUV. Price (73.9% agree or strongly agree) and after-sales service (60% agree or strongly agree) are also important considerations, while brand image (46.2% agree or strongly agree) is relatively less influential.

#### **Consumer Satisfaction with SUV Cars:**

The survey shows high satisfaction levels among respondents, with 76.9% satisfied with the overall performance of their SUV and 83% feeling it provides good value for money. Comfort and features meet expectations for 66.2%, and 53.8% are satisfied with after-sales service. A significant 76.9% would recommend their brand to others, indicating a positive brand experience.

#### **Brand Preferences:**

Respondents prefer established brands (46.2% agree or strongly agree) and are influenced by peer recommendations (66.2% agree or strongly agree). Spare parts availability affects brand preference for 87.7% of respondents. Advertising, however, has a relatively low influence (23.1% agree or strongly agree) on brand choice.

#### **Relationship between Purchase Factors and Satisfaction:**

The survey reveals that respondents are satisfied with their purchase decisions, citing factors like fuel efficiency (87.6% agree or strongly agree) and safety features (92.4% agree or strongly agree). This suggests that these factors contribute significantly to overall satisfaction.

#### **Relationship between Purchase Factors and Brand Preferences:**

Safety features (92.4% agree or strongly agree), fuel efficiency (87.6% agree or strongly agree), and after-sales service (60% agree or strongly agree) strongly influence brand preference. This indicates that respondents prioritize these aspects when choosing a brand.

The survey also reveals key insights into SUV purchase decisions in Tinsukia, Assam. Safety features (92.4%) and fuel efficiency (87.6%) are top priorities, followed by price (73.9%) and after-sales service (60%). Most respondents are satisfied with their SUV's performance (76.9%), value for money (83%), and comfort (66.2%). Established brands and peer recommendations influence choices, while advertising has a relatively low impact (23.1%). Spare parts availability

(87.7%) and after-sales service (60%) significantly influence brand preference. Overall, respondents prioritize practicality, reliability, and cost-effectiveness when choosing an SUV.

### **Findings:**

#### **Factors Influencing Purchase of SUV Cars:**

The study reveals that safety features (92.4% agree or strongly agree) and fuel efficiency (87.6% agree or strongly agree) are the top factors influencing the purchase of SUV cars in the Tinsukia district. Price (73.9% agree or strongly agree) and after-sales service (60% agree or strongly agree) are also significant considerations, while brand image (46.2% agree or strongly agree) is relatively less influential.

#### **Level of Satisfaction:**

The study shows high satisfaction levels among respondents, with 76.9% satisfied with the overall performance of their SUV and 83% feeling it provides good value for money. Comfort and features meet expectations for 66.2%, and 53.8% are satisfied with after-sales service. A significant 76.9% would recommend their brand to others, indicating a positive brand experience.

#### **Brand Preferences:**

Respondents prefer established brands (46.2% agree or strongly agree) and are influenced by peer recommendations (66.2% agree or strongly agree). Spare parts availability affects brand preference for 87.7% of respondents. Advertising, however, has a relatively low influence (23.1% agree or strongly agree) on brand choice.

#### **Relationship between Purchase Factors and Satisfaction:**

The study reveals that respondents are satisfied with their purchase decisions, citing factors like fuel efficiency (87.6% agree or strongly agree) and safety features (92.4% agree or strongly agree). This suggests that these factors contribute significantly to overall satisfaction.

#### **Relationship between Purchase Factors and Brand Preferences:**

Safety features (92.4% agree or strongly agree), fuel efficiency (87.6% agree or strongly agree), and after-sales service (60% agree or strongly agree) strongly influence brand preference. This indicates that respondents prioritize these aspects when choosing a brand.

### **Conclusion:**

This study aimed to understand the factors influencing SUV purchases and satisfaction among consumers in Tinsukia, Assam. The findings reveal that safety features and fuel efficiency are the top priorities driving purchase decisions, followed by price and after-sales service. Notably, consumers are satisfied with their SUVs, citing positive experiences with performance, value for money, and comfort. Established brands and peer recommendations also play a significant role in shaping brand preferences. To succeed in this market, manufacturers should prioritize safety features, fuel efficiency, and quality after-sales service, leveraging their brand reputation and

harnessing the power of word-of-mouth. By addressing these key factors, manufacturers can improve customer satisfaction, retention, and ultimately, their market share in the region. The study's insights offer valuable guidance for manufacturers and marketers in the automotive industry, with potential for future research in other segments and regions.

**References:**

1. Abraham, H., Lee, C., Brady, S., Fitzgerald, C., Mehler, B., Reimer, B., & Coughlin, J. F. (2016). Autonomous vehicles, trust, and driving alternatives: A survey of consumer preferences. *Massachusetts Inst. Technol, AgeLab, Cambridge, 1*(16), 2018-12.
2. Bennett, R., & Vijaygopal, R. (2018). Consumer attitudes towards electric vehicles: Effects of product user stereotypes and self-image congruence. *European Journal of Marketing, 52*(3/4), 499-527.
3. Balinado, J. R., Prasetyo, Y. T., Young, M. N., Persada, S. F., Miraja, B. A., & Redi, A. A. N. P. (2021). The effect of service quality on customer satisfaction in an automotive after-sales service. *Journal of Open Innovation: Technology, Market, and Complexity, 7*(2), 116.
4. Dsouza, D., & Sharma, D. (2021). Online food delivery portals during COVID-19 times: an analysis of changing consumer behavior and expectations. *International Journal of Innovation Science, 13*(2), 218-232.
5. Globisch, J., Plötz, P., Dütschke, E., & Wietschel, M. (2019). Consumer preferences for public charging infrastructure for electric vehicles. *Transport Policy, 81*, 54-63.
6. He, X., Zhan, W., & Hu, Y. (2018). Consumer purchase intention of electric vehicles in China: The roles of perception and personality. *Journal of Cleaner Production, 204*, 1060-1069.
7. Janoskova, K., Kral, P., Popescu, G. H., Rowland, Z., & Kramarova, K. (2021). Perception of car brands with an emphasis on expected benefits and features as prerequisites for customer satisfaction. *Management & Marketing, 16*(3), 300-315.
8. Krishna, D. G. R., & Narasimham, M. S. (2018). Consumer preferences and satisfaction levels towards luxury cars—a study of Rayalaseema region in AP. *Asia Pacific Journal of Research, 1*, 127-132.
9. Moravcikova, D., Krizanova, A., Kliestikova, A. & Rypakova, M. (2017). Green Marketing as the Source of the Competitive Advantage of the Business. *Sustainability, 9*(12), art. no. 2218.
10. Moons, I. & de Pelsmacker, P. (2015). Self-Brand Personality Differences and Attitudes towards Electric Cars. *Sustainability, 7*(9), 12322-12339.
11. Morton, C., Anable, J., & Nelson, J. D. (2016). Exploring consumer preferences towards electric vehicles: The influence of consumer innovativeness. *Research in transportation business & management, 18*, 18-28.

12. Ngo, V. M. & Nguyen, H. H. (2016). The relationship between service quality, customer satisfaction and customer loyalty: An investigation in Vietnamese retail banking sector, *Journal of Competitiveness*, 8(2), 103-116.
13. Nadanyiova, M. (2014). The Customer Satisfaction with Services Railway Company Cargo Slovakia as a Factor of Competitiveness. *Transport Means - Proceedings of the International Conference*, 120-124.
14. Rachmad, Y. E. (2024). *The Evolution of Consumer Behavior: Theories of Engagement, Influence, and Digital Interaction*. PT. Sonpedia Publishing Indonesia.
15. Suchanek, P. & Kralov, M. (2018). The Influence of Customers' Personal Characteristics on their Satisfaction with the Food Industry. *Journal of Competitiveness*, 10(4), 151-170.
16. Sicoe, G. M., Belu, N., Rachieru, N. & Nicoalae, E. V. (2017). Improvement of the customer satisfaction through Quality Assurance Matrix and QC-Story methods: A case study from automotive industry. *International Congress of Automotive and Transport Engineering – Mobility Engineering and Environment (CAR 2017)*, vol. 252, Pitesti, Romania.
17. Vij, A., Ryan, S., Sampson, S., & Harris, S. (2020). Consumer preferences for Mobility-as-a-Service (MaaS) in Australia. *Transportation Research Part C: Emerging Technologies*, 117, 102699.
18. Valaskova, K., Kliestikova, J. & Krizanova, A. (2018). Consumer Perception of Private Label Products: An Empirical Research. *Journal of Competitiveness*, 10(3), 149-163.
19. Wen, N., & Lurie, N. H. (2018). The Case for Compatibility: Product Attitudes and Purchase Intentions for Upper versus Lowercase Brand Name. *Journal of Retailing*, 94(4), 393- 407.
20. Yu, S.B., Hudders, L. & Cauberghe, V. (2018). Seeling Luxury Products Online: The Effect of a Quality Label on Risk Percpetion, Purchase Intention and Attitude toward the Brand. *Journal of Electronic Commerce Research*, 19, 16-35.
21. Yagil, D. & Medler-Liraz, H. (2019). The effect of customer social status and dissatisfaction on service performance. *Service Business*, 13(1), 153-169.
22. Zhang, H., Song, X., Xia, T., Yuan, M., Fan, Z., Shibasaki, R., & Liang, Y. (2018). Battery electric vehicles in Japan: Human mobile behavior based adoption potential analysis and policy target response. *Applied Energy*, 220, 527-535.

**UNPACKING "STOMACH INFRASTRUCTURE" IN AFRICAN POLITICS –  
WHY LEADERS FEED BELLIES INSTEAD OF BUILDING FUTURES  
IN AFRICAN PUBLIC AND CREATIVE WRITINGS**

**Vernyuy Gilbert Nyuyshiyi and Alfred Ndi**

Department of English Modern Letters,  
The University of Bamenda, Cameroon

Corresponding author E-mail: [vernyuygilbert53@gmail.com](mailto:vernyuygilbert53@gmail.com), [alfredndi@yahoo.com](mailto:alfredndi@yahoo.com)

**Abstract:**

In many postcolonial African states, political leadership has undergone a profound transformation from a vocation of public service to a monetized enterprise, wherein power is strategically accumulated, reproduced, and protected through short-term material appeasement. This phenomenon, popularly termed “stomach infrastructure” in Nigeria but resonant across the continent, involves the deliberate deployment of public resources—cash handouts, food distributions, minor infrastructure projects—for immediate citizen gratification in exchange for electoral loyalty, political silence, or acquiescence, while long-term structural development in education, healthcare, industry, and infrastructure is systematically deferred or abandoned. This paper interrogates stomach infrastructure not as isolated corruption or cultural aberration but as a historically produced, systemic mechanism of elite class reproduction, deeply embedded in colonial legacies, neocolonial dependencies, and global capitalist pressures.

Drawing on various theoretical frameworks, the study begins by anchoring the problem in the dominant paradigm of neo-patrimonialism, which describes hybrid regimes blending formal bureaucracy with informal personalist networks of patronage and clientelism. However, through a multi-lens critical expansion, the paper exposes profound biases within this framework: its Eurocentric privileging of Western rational-legal models that pathologize African political forms as deviant; cultural essentialism that treats clientelism as timeless rather than as historically contingent; ahistorical tendencies that ignore colonial disruption of pre-existing accountable systems and the role of structural adjustment programs in forcing short-term survival strategies; and methodological overgeneralization that marginalizes exceptions and contradictions, such as rising programmatic politics in Benin or Botswana’s institutional successes. Employing postcolonial (Fanonian psychic alienation), Marxist (comprador bourgeoisie and class accumulation), feminist/indigenous (exclusion of women’s and oral voices), and psychoanalytic (narcissistic *jouissance* in performative governance) lenses, the analysis reveals power dynamics of elite privatization of public wealth, North-South inequalities exacerbated by IMF/World Bank policies, and ethnic/regional schisms weaponized for division, as seen in selective distribution

under this regime. A comprehensive critical report highlights methodological gaps, contradictory evidence like Gen Z protests rejecting handouts, and polarized viewpoints between reformers and revolutionaries.

Enriched by African creative and public writings—novels such as Chinua Achebe's *A Man of the People* (1966), Ayi Kwei Armah's *The Beautiful Ones Are Not Yet Born* (1968), Ngũgĩ wa Thiong'o's *Wizard of the Crow* (2006), oral traditions including Yoruba proverbs and Bamenda Grassfields folktales warning against greedy leadership, and contemporary digital testimonies from Nigerian, Kenyan, and other social media—the paper humanizes the crisis, illustrating deferred futures through vivid narratives of resistance and moral tragedy. Comparative qualitative analysis of Nigeria (godfatherism and vote-buying), Gabonese (bureaucratized clientelism), Kenya (degenerated Harambee and youth uprisings), and South Africa (tenderpreneurship amid social grants) demonstrates how elites mask neo-patrimonial accumulation with discourses of empowerment and development. Findings underscore urgent consequences: democratic erosion, entrenched poverty, and citizen disillusionment manifesting in apathy, migration, or protest.

The paper concludes with practical, community-led solutions—hybrid institutions blending palaver traditions with modern oversight, cooperative economics, trauma-informed civic education via storytelling, youth/women digital empowerment, and global debt justice campaigns—flipping biases into decolonial strengths. By centering African voices, the study calls for structural, ideological, and cultural reforms to disrupt leadership monetization, reclaiming politics as collective future-building rather than elite feast.

**Keywords:** Stomach Infrastructure, Neo-Patrimonialism, Clientelism, Postcolonial Leadership, Elite Reproduction, Political Monetization, African Public and Creative Writings, Decolonial Governance

### **Introduction:**

It is election time in a neighborhood in Africa. Trucks roll in loaded with bags of rice, envelopes of cash, and promises that feel as warm as a full stomach on a hungry day. Everyone cheers, votes flow in, and for a moment, life feels a little easier. But months later, the roads are still potholed, the schools crumbling, hospitals empty of medicine, and that same leader is building a mansion somewhere far away. This is the heartbreaking reality of "stomach infrastructure" – that clever, painful phrase born in Nigeria but lived across postcolonial Africa. It is when leaders use public money for quick handouts (food, cash, small jobs) to buy loyalty, votes, or just silence, while big dreams like good roads, jobs, education, and health get pushed aside. In many countries in Africa, it is not just occasional bad behaviour – it is a system that keeps power in a few hands while poverty sticks around. The framework that seems to explain it all: Neo-

patrimonialism, is the "Big Man" paradigm. Picture a wise elder in a village circle, sharing wisdom under the moonlight. That is the old African tradition of leadership – personal, trusting, communal. Now fast-forward to today: That elder has a private jet and the "sharing" only goes one way. Coined by scholars building on Max Weber's ideas, it describes how modern African states mix formal bureaucracy (laws, elections, parliaments) with informal personal rule. The leader acts like a "Big Man" or patriarch, distributing favours, jobs, contracts, and – stomach infrastructure – through clientelist networks in exchange for loyalty.

Neo-patrimonialism is prevalent and important because it explains why elections happen but power feels personal. In many countries, presidents maintain grip through selective handouts and elite pacts. In Nigeria, "stomach infrastructure" became famous when Governor Ayodele Fayose handed out food in 2014-2015 – and it was still alive in 2025 elections and digital campaigns. This framework fits because it highlights how leadership turned from public service into a "monetized enterprise" – power accumulated through networks of patrons and clients where the godfather politician hands over envelopes at rallies. It draws stakeholders in because anti-corruption folks use it to call for "good governance."

But neo-patrimonialism has some serious baggage. It is like that friend who explains everything by saying "it's just culture" – comforting at first, but ultimately unfair and incomplete. For decades, scholars have used neo-patrimonialism to describe African political systems where formal bureaucratic rules co-exist uneasily with informal personal networks of loyalty, patronage, and clientelism (Clapham, 1985; Médard, 1982). The "Big Man" leader distributes resources – jobs, contracts, cash handouts, or what Nigerians call "stomach infrastructure" – not based on universal policy but on personal ties. It seems to fit perfectly: the politician doles out selective favours to maintain his decades of rule, or the power brokers and godfathers trading votes for oil blocks. But here is the rub – this paradigm, while useful for spotting patterns, carries deep biases that distort our understanding of post-colonial African leadership. It does not just describe; it often judges, marginalizes and oversimplifies. In this section, we'll unpack those flaws layer by layer, drawing on postcolonial, Marxist, feminist, psychoanalytic, and indigenous lenses. We will see how it hurts real people by fostering hopelessness and blocking complex solutions with the stakes high and trapped in poverty, as democracies are undermined and futures are deferred.

The biggest elephant in the room is *Eurocentrism*. Neo-patrimonialism stems directly from Max Weber's typology of authority: traditional (patrimonial), charismatic and rational-legal (bureaucratic) (Weber, 1978). In the African context, scholars added the "neo" to describe hybrid regimes where rational-legal facades mask patrimonial realities (Eisenstadt, 1973). The implicit benchmark is the Western rational-legal state which is impersonal, merit-based, and rule-bound. African systems, by contrast, appear deviant, hybrid failures – with "neo" implying they are not

quite modern (Pitcher *et al.*, 2009). This privileging of European models is a classic postcolonial hangover. As Pitcher, Moran, and Johnston argue in their seminal rethinking of the concept, contemporary usages amount to a "serious misreading of Weber" and pathologize African politics as inherently backward (Pitcher *et al.*, 2009, p. 125). Why the U.S. lobbying or European pork-barrel politics is called "neo-patrimonial"? Because the framework assumes Western states have achieved pure rational-legal authority, while African ones lag in perpetual hybridity. Through a Fanonian lens, this is nothing short of psychic violence. Frantz Fanon warned in *The Wretched of the Earth* that postcolonial elites would mimic colonial structures, but the neo-patrimonial paradigm flips this: It blames inherent "personalism" rather than acknowledging how colonialism deliberately destroyed pre-colonial accountable systems (like Ashanti councils or Buganda clans with checks on kings) and imposed extractive bureaucracies designed for exploitation, not development (Fanon, 1961; Mamdani, 1996). The African leader becomes pathologized as eternally tribal or corrupt, ignoring the structural inheritance of dependency. Counter-criticism often emerges: "It's not biased; it's just descriptive!" Defenders like von Soest (2021) claim the term empirically captures informal practices without normative judgment. But this defense reinforces the bias – description is never neutral. By centering Weber's European-derived ideal, it marginalizes African political forms as aberrations, echoing colonial discourses of "civilizing" the continent (Mkandawire, 2015). In the Congo, for instance, Mobutu's regime was not just "patrimonial"; it was a product of Belgian neo-colonial pacts that sustained personal rule post-independence (von Soest, 2021). This Eurocentrism hurts because it shifts blame from global structures (debt traps, unfair trade) to African "culture," discouraging systemic reforms and feeding Afro-pessimism.

Another major flaw is that neo-patrimonialism treats clientelism as a timeless African trait, static and cultural, rather than as historically produced. It freezes politics in an eternal present of "Big Man" rule, overlooking evolution and causation (Pitcher *et al.*, 2009). Marxist and post-Marxist lenses expose this blind spot brilliantly. Post-independence elites did not invent clientelism; they inherited and adapted colonial indirect rule, becoming a comprador bourgeoisie dependent on global capital (Ake, 1981; Shivji, 1976). Structural adjustment programs (SAPs) in the 1980s–1990s, imposed by IMF/World Bank, slashed public spending, forcing leaders into short-term survival strategies: privatize gains, distribute crumbs via stomach infrastructure to quell unrest (Mkandawire & Olukoshi, 1995). In Nigeria, oil booms funded godfatherism; in Kenya, Harambee degenerated into elite capture under neoliberal pressure. This is not inherent culture – it is class reproduction in a dependent economy. Elites accumulate through neo-patrimonial networks while deferring structural development, as the original topic argues. Yet the paradigm rarely integrates this historical materialism, preferring cultural explanations that essentialize Africa (Bayart, 1993, has been critiqued for this too). Adding a Freudian/post-Freudian twist:

The "Big Man" syndrome is not just rational calculation. It is narcissistic *jouissance* – excessive enjoyment in power-display, masked as paternal generosity (Lacan, 1977). Leaders derive addictive pleasure from performative handouts (rice bags at rallies), defending against the "lack" of true legitimacy in postcolonial states. Fanon saw this as internalized colonial inferiority: The leader overcompensates with conspicuous accumulation (Fanon, 1952). Neo-patrimonialism misses this psychic depth, reducing everything to instrumental exchange.

Let's bring in a feminist lens: Where are the women? Neo-patrimonial networks are overwhelmingly patriarchal, reinforcing male dominance through elite pacts and clientelist chains that marginalize female agency (Goetz, 2007). Women's movements, however, often challenge these structures if one considers Kenyan women's groups demanding accountability beyond handouts or South African gender activists pushing programmatic social grants (Tripp, 2001; Hassim, 2006). Yet the paradigm rarely genders its analysis, treating "Big Man" as universal while ignoring how stomach infrastructure disproportionately affects women (who queue for food parcels) and excludes them from power networks (Alhassan-Alolo, 2007). An indigenous/oral tradition lens – especially resonant in places like Bamenda, Cameroon – reveals another exclusion. The framework privileges written, state-centric views of bureaucracy, dismissing community mutual aid (like grassroots rotating savings or village palavers) as pre-modern or clientelist (Pitcher *et al.*, 2009). In Grassfields traditions, leadership was reciprocal, not purely personalist. Colonialism disrupted this; neo-patrimonialism erases that history, privileging Global North text-based models over African oral epistemologies.

Methodologically, neo-patrimonialism is over-applied as a catch-all, ignoring variations and exceptions (von Soest, 2021). Botswana, often hailed as Africa's success story, exhibits patrimonial elements (elite cattle networks) yet thrives with strong institutions and low corruption – thanks to pre-colonial statecraft and diamond revenue management (Acemoglu *et al.*, 2003; Hillbom, 2012). Why the exception? Interests and institutions aligned against rampant neopatrimonialism, not cultural superiority (von Soest & de la Croix, 2009). Contradictory evidence abounds: Programmatic politics is rising. In South Africa, social grants (reaching millions) have elements of universalism, sometimes used progressively despite ANC clientelism (Seekings, 2016). Benin and Ghana show declining vote-buying with urbanization and youth demands (Roelofs, 2019). Kenyan Gen Z protests (2024–2025) rejected handouts for systemic change. Yet neo-patrimonialism predicts persistence, missing these shifts toward accountability (Bleck & van de Walle, 2019). Whose voices are excluded? Ordinary citizens reduced to passive clients; youth labeled "unrealistic" for demanding jobs over rice; diaspora critics silenced; marginalized groups or Nigerian poor trading votes for survival (Human Rights Watch, 2025 reports).

This paradigm fails complexity because it explains persistence but not transformation possibilities. By essentializing clientelism as African destiny, it leaves us hopeless – "That's just how it is." It hurts citizens enduring poverty (resources diverted to elite reproduction), erodes faith in democracy (votes bought, silence purchased), and discourages reforms by blaming culture over structures. In stomach infrastructure terms: It masks how leaders invoke "empowerment" rhetoric while practicing performative governance, deferring real development. A better approach integrates history, psyche, gender, and indigeneity for hopeful, decolonial alternatives.

## **Findings**

### **Textual Mindmap Infographics: Visualizing the Journey**

Now, let us map the intellectual and emotional journey with simple, powerful textual mindmaps. These are embeddable as code blocks. They are clear, hierarchical—perfect for readability. We will expand each with narrative explanations, added sub-branches for depth, and why they illuminate biases, criticisms, solutions. We will use monospace font or boxes for visual pop.

### **Mindmap 1: Biases in Neo-Patrimonialism – Exposing the Flawed Lens**

This map uncovers hidden prejudices pathologizing African politics.

#### Neo-Patrimonialism Biases

- |— Eurocentrism
  - | |— Privileges Western rational-legal model as "ideal"
  - | |— Pathologizes African personal rule as "deviant/hybrid"
  - | |— Echoes colonial "civilizing" narratives (Fanon psychic violence)
- |— Cultural Essentialism
  - | |— Treats clientelism as timeless "African trait"
  - | |— Ignores colonial disruption of accountable systems (e.g., palavers)
  - | |— Blames culture over structures
- |— Ahistorical View
  - | |— Freezes politics in eternal "Big Man" present
  - | |— Misses class reproduction & global capitalism (SAPs, debt)
  - | |— Overlooks pre-colonial checks (Ashanti councils)
- |— Methodological Overgeneralization
  - | |— Catch-all label ignoring exceptions (Botswana success)
  - | |— Quantitative gaps measuring informal networks

The branches show interconnected flaws—Eurocentricism feeds essentialism. On site, they can be made clickable for expansions. They illustrate why the paradigm hurts: it leaves Africans feeling inherently flawed.

## Mindmap 2: Criticisms and Complexities – Multi-Lens Depth

This explodes the critique, showing intertwined layers.

### Multi-Lens Criticisms

- ├— Postcolonial (Fanon)
  - | └— Psychic alienation of elites mimicking colonial desire
  - | └— Violence of internalized inferiority in performative rule
- ├— Marxist/Post-Marxist
  - | └— Elite class accumulation via comprador bourgeoisie
  - | └— Neocolonial dependency reinforcing short-term politics
- ├— Feminist/Indigenous
  - | └— Marginalized voices (women in networks, oral traditions excluded)
  - | └— Patriarchal reinforcement & state-centric bias
- ├— Psychoanalytic (Freud/Lacan)
  - | └— Narcissistic *jouissance* in power-display/generosity mask
  - | └— Addictive desire defending against lack
- └— Contradictions/Evidence
  - ├— Rising programmatic demands (Gen Z protests)
  - └— Exceptions showing change possible (Benin reforms)

In the narrative, the dialectical flow consists of biases that meet counter-lenses, revealing complexity. There are ties to literary/oral critiques.

## Mindmap 3: Solutions Forward – From Critique to Action

This is a hopeful roadmap flipping flaws.

### Practical Ways Forward

- ├— Structural Reforms
  - | └— Debt relief canceling neocolonial traps
  - | └— Independent institutions with citizen oversight
- ├— Community-Led
  - | └— Local watchdog groups (palaver-inspired)
  - | └— Cooperatives/savings for economic self-reliance
- ├— Ideological/Cultural
  - | └— Decolonial education via storytelling/oral traditions
  - | └— Trauma-informed civic programs
- └— Global Action
  - ├— Solidarity campaigns (fair trade)
  - └— Youth/women digital platforms for monitoring

The mindmap mirrors biases (e.g., ahistorical → ideological fix). On site, the branches may be animated to reveal steps. These mindmaps visualize the anchor in theory, show how critique explodes, and solutions synthesize. The journey is embedded as text trees—simple, profound. Together with visuals, they make the page alive, motivating action.

What is really going on beneath the surface of “stomach infrastructure” and the neo-patrimonial paradigm that tries to explain it, is about real lives stalled in poverty, dreams deferred, and communities fractured across postcolonial Africa. We will draw deeply from African novels that expose the rot with brutal honesty, oral literature that has warned us for generations through proverbs and folktales, and digital writings—blogs, essays, and social media voices from Nigeria, Ghana, Kenya, South Africa, and beyond—that capture the raw frustration of today’s generation. Think of Chinua Achebe’s Chief Nanga in *A Man of the People* (1966), throwing parties and handing out favours while the nation crumbles—or the anonymous man in Ayi Kwei Armah’s *The Beautiful Ones Are Not Yet Born* (1968), watching the “gleam” of corruption seduce everyone around him. These stories are not fiction; they are mirrors. Oral traditions, like Yoruba proverbs warning that “the king’s stomach is never full” or Griot tales from Mali about greedy rulers bringing drought to the land, echo the same truths. And in 2026, young voices on X (formerly Twitter) cry out: “The stomach infrastructure has eaten deep. Just some naira and rice. Extremely cheap people” (@\_\_Inyene, 2026). This report uncovers the hidden depths: biases that pathologize Africans, power structures that reproduce inequality, methodological gaps that oversimplify, contradictory hopes rising amid the mess, silenced voices screaming for recognition, and urgent crises threatening the continent’s democracies. It hurts because it is personal—from the rural woman trading her vote for a bag of rice to the Kenyan Gen Z protester risking teargas for a future beyond handouts.

The neo-patrimonial paradigm carries heavy biases that distort our view of African leadership monetization. At its core is a Eurocentric/Weberian bias that pathologizes African politics as “failed” or perpetually hybrid (Pitcher *et al.*, 2009). Max Weber’s ideal of rational-legal bureaucracy becomes the unspoken standard, making African personalist rule seem deviant—a postcolonial echo of colonial narratives that painted Africans as incapable of “modern” governance (Mkandawire, 2015). Frantz Fanon would call this psychic violence: the African leader reduced to an eternal “Big Man,” ignoring how colonialism dismantled accountable pre-colonial systems—like the Igbo village assemblies Okonkwo manages before the messenger arrives from the colonial master’s headquarters as Achebe romanticizes in *Things Fall Apart* (1958) or the Ashanti councils with impeachment powers. Instead, colonialism built extractive states for European profit, leaving Africans with structures primed for elite capture (Mamdani, 1996). A second blind spot is cultural essentialism, treating clientelism as a timeless African trait rather than as historically produced. This ignores colonial extraction and neocolonial

dependency—IMF/World Bank structural adjustment programs that slashed social spending and forced short-term survival politics (Bayart, 1993, critiqued in Pitcher *et al.*, 2009). In Ngũgĩ wa Thiong’o’s *Wizard of the Crow* (2006), the fictional Aburiria’s Ruler mirrors this: endless accumulation masked as generosity, rooted not in “African culture” but in global capitalist pressures.

Oral literature exposes this essentialism beautifully. A Yoruba proverb warns: “Bi a ba fi owo osi juwe ile baba eni, owo otun a maa gbona” (If you point at your father’s house with the left hand, the right hand will tremble)—implying disrespect to elders brings misfortune, but flipped in modern contexts to critique leaders who betray communal trust for personal gain (Owomoyela, 2005). In Bamenda Grassfields folktales from Cameroon, the greedy hyena chief who hoards food while villagers starve is eventually outwitted by collective wisdom—reminding us that accountability existed before colonialism (Nkwi, 1997). Finally, the paradigm individualizes structural issues, blaming “Big Men” while ignoring global capital’s role. Armah’s nameless protagonist watches colleagues succumb to bribes, not because they are inherently corrupt, but because the system offers no other path (Armah, 1968). Digital voices echo this: Nigerian blogger Elnathan John writes of “politics as eating, the state as a meal” (John, 2026), quoting Bayart’s *Politics of the Belly* to show accumulation as ingestion, not individual moral failure. These biases blind us to history, psyche, and global forces, leaving Africans feeling inherently flawed rather than structurally constrained.

At the heart of stomach infrastructure lies elite class reproduction: public wealth privatized upwards, crumbs distributed downwards to buy silence. This is not accidental; it is a system. In Nigeria, oil rents fund godfatherism; in other regimes selectively distributes posts and infrastructure to loyal regions (Geschiere, 2009). Marxist readings illuminate this: post-independence elites became comprador bourgeoisie, dependent on global markets (Ake, 1981). Sony Labou Tansi’s *Life and a Half* (1979) from Congo satirizes a dictator devouring his people literally—symbolizing how power consumes the nation for elite reproduction. North-South inequality deepens this. Structural adjustment cut social spending, forcing clientelism as survival. In Kenya, Harambee degenerated into elite capture under IMF pressure (Widner, 1992). South African “tenderpreneurship” under ANC shows similar: state capture for black elite enrichment while social grants buy votes (Bhorat *et al.*, 2017). Ethnic/regional schisms weaponize distribution. In Cameroon, Biya’s regime favors Francophone areas, using minor handouts to divide Anglophone regions amid ongoing conflict (Human Rights Watch, 2025). A Cameroonian digital essayist writes: “Selective rice bags keep us quiet while the palace grows” (Anonymous blog, 2024). Oral traditions critique this: the *Sundiata* epic from Mali warns rulers who favour kin bring ruin to the kingdom (Niane, 1965). In Ngũgĩ’s *Petals of Blood* (1977), ethnic manipulation masks class exploitation. These dynamics entrench inequality: elites accumulate,

masses appease temporarily, structural change is deferred. Neo-patrimonialism's overgeneralization labels all personal rule the same, missing out on complexity. Botswana succeeds with patrimonial elements but strong institutions (Acemoglu *et al.*, 2003). Benin's recent anti-clientelist reforms show change as being possible (Roelofs, 2019). A quantitative bias struggles to measure informal networks—surveys capture votes bought, not psychic hold of “Big Man” aura. Psychoanalytic depth is lacking: the narcissistic *jouissance* of performative governance, where leaders enjoy the theater of handouts (Lacan-inspired in Fanon, 1952). Zakes Mda's *The Heart of Redness* (2000) from South Africa shows tradition vs. modernity not as hybrid failure but as complex negotiation—something the paradigm flattens. Digital writings highlight gaps: Kenyan blogger on 2024 protests: “We're not clients; we're citizens demanding accounts” (Various X threads, 2024–2025).

Hope flickers amid persistence. Rising voter demand for accountability caused Kenyan Gen Z protests to reject handouts for systemic change (2024–2025). Nigerian youth on X: “No more rice politics” (@RealOkonkwo, 2026). Programmatic successes made Benin's Talon to crack down on vote-buying; Ghana's urbanization reduces clientelism (Bleck & van de Walle, 2019). South Africa's grants are sometimes universalist (Seekings, 2016). Literary readings offer alternatives: Achebe's Chief Nanga is tragic, not inevitable—his downfall hints at possibility (Achebe, 1966). Armah's man resists the gleam, showing moral alternatives exist.

Oral literature provides counter-narratives: An Akan proverb: “One finger cannot lift a load”—this speaks to collective action over individual patronage (Yankah, 1998). Digital perspectives: Elnathan John's 2026 essay quotes Bayart but adds: “When closeness to the plate is the only path, people stop pretending—but some refuse the meal” (John, 2026). These contradictions show change is not impossible.

The next research question from here is: Whose stories are missing? Rural women trading votes for rice—are disproportionately affected yet excluded from networks (Goetz, 2007). In Patrice Nganang's Cameroonian novel *Mount Pleasant* (2011), women bear the brunt of regime neglect. Youths see no future: Kenyan protesters chant against wheelbarrow politics; Nigerian X user: “Stomach infrastructure mentality is why you think BAT isn't working—but we want jobs” (@\_AbiolaPharays, 2026). Diaspora calls for revolution but these are labeled as being unrealistic. Older generations accept “peace” (handouts) vs. youth demanding justice—and this is a polarization evident in Cameroonian Anglophone crisis writings. Oral voices show women's folktales from Senegal feature clever heroines outwitting greedy kings (Hale, 1998).

Digital excluded voices show bloggers are silenced or exiled, writing anonymously about divide-and-feed tactics. These schisms weaken collective resistance.

With eroding democracy, votes are bought, and accountability dies; turnout declines and protests rise (Human Rights Watch, 2025). With entrenched poverty, resources are diverted—hospitals

are empty while elites build mansions. With loss of faith, migration, apathy, or violent extremism emerge. As one Nigerian X user laments: “Nigeria have overwhelming population of idiots” exhausted by the cycle (@RealOkonkwo, 2026). But literature, orality, and digital voices remind us: resistance endures. The beautiful ones are being born. Neo-patrimonialism’s hidden depths: biases essentialize people, while inequalities reproduce elites, and these gaps oversimplify complexity, but contradictions offer hope, as voices demand inclusion, and problems demand action. African novels like Achebe’s and Ngũgĩ’s, oral wisdom from proverbs and epics, digital cries from 2026 screens—all converge: leadership monetization is historically produced, psychologically driven, and structurally maintained. Yet they also point forward: collective memory of accountability, moral resistance, and youth fire. In Nairobi’s protests, change stirs. We must listen to these sources for truly African solutions.

### **Discussion:**

In this section, we discuss certain practical and friendly solutions to this problem by drawing from the critical analysis above. After unpacking the heavy biases, blind spots, and hurts of the neo-patrimonial paradigm, we can finally breathe and look forward. The critiques here are not intended to leave us hopeless; they are a map showing us exactly where to step next. If the problem of "stomach infrastructure" and monetized leadership is historical (colonial extraction feeding neocolonial dependency), structural (global capital reinforcing elite reproduction), psychological (narcissistic power displays), and cultural (Eurocentric lenses pathologizing African ways), then our solutions must tackle all those layers too. But here is the beautiful part: We do not need to wait for perfect revolutions or imported fixes. Solutions can start small, sensitive, community-led, and deeply rooted in African realities—flipping those biases into strengths. By centering African voices, oral traditions, local innovations, and collective wisdom, we decolonize governance itself. Imagine turning the "Big Man" narrative on its head by reviving *palaver tree dialogues* in Africa, or using digital tools built by Kenyan youth to monitor handouts in real-time. This section offers practical, friendly advice drawn directly from the critiques. We will expand each idea with relatable stories, examples from Nigeria, Cameroon, Kenya, South Africa, and beyond, plus inspirations from novels, oral literature, and digital voices. These are not abstract policies—they are actionable steps that can be taken today, whether one is in Accra, Nairobi, Lagos, or the diaspora.

### **Build Hybrid Institutions: Merging Modern Oversight with Traditional Accountability**

The critique showed how neo-patrimonialism's Eurocentric bias dismisses African personal rule as backward, ignoring pre-colonial accountable systems. So, let us build hybrid institutions that strengthen formal bodies while honouring local traditions—like the *palaver tree*, where communities gather under a sacred tree for open dialogue, consensus, and accountability (Kingah, n.d.; Mboumoua, 2025). In practice, we can empower independent anti-corruption

commissions with real teeth, but add citizen oversight panels rooted in traditional methods. We can revive "palaver tree" forums for public hearings on budget spending—elders, youth, and women discussing leaders' actions openly, just as in Grassfields traditions where chiefs faced community judgment (Nkwi, 1997; ACCORD, 2025). South Africa's Public Protector office could incorporate community ethics circles inspired by *Ubuntu* gatherings. Kenya's Ethics and Anti-Corruption Commission (EACC) has piloted citizen reporting apps; they can hybridize this with village *barazas* (public meetings) for follow-up. A touching story: in northern Ghana, community watchdog groups use traditional "guardians at the borders" models to monitor extremism and governance, blending local leadership with modern reporting (WANEP, 2025). Start small: Organize neighborhood palavers to discuss local council spending. This flips the "hybrid failure" bias into a strength — proving that African systems can enhance, not hinder, accountability (Pitcher *et al.*, 2009).

### **Economic Alternatives: Cooperatives and Savings Groups to Break Dependency**

The Marxist lens in our critique highlighted elite class reproduction fueled by dependency—structural adjustment forcing short-term clientelism. Counter this with **economic alternatives** that build self-reliance: cooperative models and community savings groups. Across Africa, savings groups (like VSLA—Village Savings and Loan Associations) are booming successes. In Benin, they have boosted financial inclusion, agriculture, and health (FSD Africa, 2025). South African *stokvels*—traditional rotating savings clubs—have evolved into entrepreneurial powerhouses, funding businesses and empowering women (AB Academies, n.d.).

In Cameroon, grassroots *tontines* (similar to *njangi*) already exist; scale them into formal cooperatives for local manufacturing—think of agro-processing in the Northwest Region to reduce import dependency. Kenya's SACCOs (Savings and Credit Cooperatives) drive inclusion and growth, with strong governance support (Hessons Consulting, n.d.). Oral literature inspires in this direction: The Malian *Sundiata* epic praises collective labour for communal wealth, not individual hoarding (Niane, 1965). Ngũgĩ wa Thiong'o's *Petals of Blood* dreams of worker cooperatives as resistance to elite capture. Digital voices also amplify this solution: Blogs celebrate how savings groups transformed lives during COVID, fostering resilience over handouts (WN.org, 2024). The solution starts with the personal level: Join or form a savings circle in your community—pool resources for shared ventures. This disrupts North-South inequality by building internal capital, turning dependency into interdependency (NCBA CLUSA, 2020; Coops4Dev, 2019).

### **Civic Education with Heart: Trauma-Informed, Story-Based Learning**

The paradigm's cultural essentialism ignores African epistemologies—oral traditions as knowledge systems. So, there is a need to create civic education with heart: trauma-informed programmes using storytelling, proverbs, and folktales to teach critical thinking, not just Western

civics textbooks. In Eritrea and Senegal, pre-colonial education used initiation rituals and oral narratives for values like honesty and community (MDPI, 2023). This can be modernized: Programmes like South Africa's reflections on storytelling for civic acts (SciELO, 2024), or UNESCO's decolonizing history teaching across Africa (UNESCO, 2023). In Cameroon, we can use Bamenda folktales of clever animals outwitting greedy chiefs to discuss accountability. Nigerian initiatives draw from Yoruba proverbs for anti-corruption workshops (Owomoyela, 2005). Achebe's *A Man of the People* can spark discussions: Chief Nanga's tragedy can serve as a warning against *jouissance*/ performative governance. Digital platforms can get apps to share African stories for global citizenship education (ElgarOnline, n.d.). Trauma-informed means acknowledging colonial psychic wounds (Fanon, 1952)—healing through narrative, as in INTRAC's folklore for monitoring/evaluation (INTRAC, 2022). A friendly step would be to host community storytelling circles on governance—invite elders to share proverbs like "One finger cannot lift a load" for collective action (Yankah, 1998). This centers marginalized oral voices, decolonizing education (University World News, 2025; Taylor & Francis, 2023).

### **Youth and Women Empowerment: Quotas, Training, and Digital Tools**

Feminist readings revealed patriarchal networks marginalizing women and youth voices being dismissed. We can empower them through quotas plus real substance and digital monitoring. Africa leads globally in women's parliamentary quotas—Rwanda at 61% (International IDEA, 2024). But quotas need training: UN Women's work in Africa pushes young women's political participation (UN Women, 2020). Digital platforms for monitoring handouts: can draw inspiration from Kenyan apps tracking campaign spending, or Nigerian Yiaga Africa's *WatchingTheVote* for election observation (Yiaga Africa, 2024). Cameroonian young women use social media for advocacy amid Anglophone crisis. South Africa's #FeesMustFall showed youth power; these can be channelled into programmatic demands. A case of inspiration is Patrice Nganang's novels highlighting women's resilience in Cameroonian politics. Oral tales also feature clever heroines (Hale, 1998). Action should be taken to support youth/women candidates with skills workshops; we should also build apps for reporting vote-buying. This includes polarized viewpoints, amplifying excluded voices (WACSI, 2024; Co-Creation Hub, 2025; PMC, 2025).

### **Global Solidarity: Campaigns for Debt Justice and Fair Trade**

North-South inequalities deepen clientelism—IMF cuts force the culture of handouts. Therefore there is the need to push for global solidarity in the form of debt cancellation and ethical trade. In 2025, Pan-African rallies demanded reparative debt cancellation (ITUC-Africa, 2025; PACJA, 2025). civil societies urged G20 action (Eurodad, 2025). Trade unions should march for ending illicit flows (IndustriALL, 2024). We should join campaigns like AFRODAD's Stop the Bleeding (AFRODAD, n.d.). Bayart's "politics of the belly" was critiqued, but global debt feeds

it. Solidarity can flip this by freeing resources for development, not for debt service. At the personal level, we can sign petitions, and we can support fair trade products.

### **Personal Starting Point: Everyday Actions for Change**

Finally, we can start wherever we are by joining/starting watchdog groups (Black Sash in South Africa; Yiaga in Nigeria—Participedia, n.d.; Freedom House, 2023). We can vote programmatically by demanding policies over rice (Brookings, 2024) and we can share stories online in order to amplify digital voices rejecting stomach infrastructure. In Douala, a simple palaver under a tree could spark a watchdog circle. Armah's resistant man shows individual moral stands matter (Armah, 1968). These actions build cumulative change.

### **Conclusion:**

#### Practical Ways Forward

- |— Structural Reforms |
- |— Debt relief canceling neocolonial traps |
- └— Independent institutions with citizen oversight
- |— Community-Led |
- |— Local watchdog groups (palaver-inspired) |
- └— Cooperatives/savings for economic self-reliance
- |— Ideological/Cultural |
- |— Decolonial education via storytelling/oral traditions |
- └— Trauma-informed civic programs
- └— Global Action
- |— Solidarity campaigns (fair trade)
- └— Youth/women digital platforms for monitoring

By flipping biases into strengths, we may have a hopeful close to the neo-patrimonial era. By embracing hybridity as strength, history as guide, psyche as healable, and African voices as centre, we can decolonize governance. From palaver trees to digital apps, cooperatives to global campaigns—these solutions draw hope from the critique. We are not powerless; we are part of Africa's resiliency story. Our call to action is that let us build real results together. We are here because we want change – not just insights, but results. Here our step-by-step plan:

1. Reflect — keep a Journal recording the following: "What stomach infrastructure have I seen/experienced?"
2. Educate — Read one African literary critique (start with Achebe's *A Man of the People* – free PDFs online).
3. Act Locally — Join/create a community monitoring group; use apps to track promises.
4. Amplify — Share this article; start conversations.
5. Sustain — Subscribe for ongoing tools.

Recommended Video (under 4 minutes): Watch PLO Lumumba's powerful clip "Africa's Leadership Crisis" (search YouTube: "PLO Lumumba on Africa's Leadership Crisis, Corruption & Future" – 2025 upload, ~3:30 min excerpt). He calls us to ethical leadership with fire – perfect motivation.

For deeper results, read e-books on decolonial governance, e-courses with worksheets, live mentoring/coaching for activists/policymakers, register in private forums for networking, partner with organizations (NGOs, philanthropists), affiliate tools, testimonials from change-makers in Cameroon/Nigeria, and group coaching driving real behaviour shifts and recurring value that builds community and impact. We need each other. Subscribe to the Clicksites.ai and your future self (and Africa) will thank you.

**References:**

1. AB Academies. (n.d.). *Traditional savings association for entrepreneurial success in Africa*.
2. ACCORD. (2025). *The palaver tree and the notions of national tribunal*.
3. Acemoglu, D., Johnson, S., & Robinson, J. A. (2003). An African success story: Botswana. In D. Rodrik (Ed.), *In search of prosperity* (pp. 80–119). Princeton University Press.
4. Achebe, C. (1958). *Things fall apart*. Heinemann.
5. Achebe, C. (1966). *A man of the people*. Heinemann.
6. AFRODAD. (n.d.). *Stop the bleeding campaign*.
7. Ake, C. (1981). *A political economy of Africa*. Longman.
8. Alhassan-Alolo, N. (2007). Gender and corruption: Testing the new consensus. *Public Administration and Development*, 27(3), 227–237.
9. Armah, A. K. (1968). *The beautiful ones are not yet born*. Heinemann.
10. Bayart, J.-F. (1993). *The state in Africa: The politics of the belly*. Longman.
11. Bhorat, H., Buthelezi, M., Chipkin, I., Duma, S., Mondli, L., Peter, C., Qobo, M., & Swilling, M. (2017). *Betrayal of the promise: How South Africa is being stolen*. Public Affairs Research Institute.
12. Bleck, J., & van de Walle, N. (2019). *Electoral politics in Africa since 1990*. Cambridge University Press.
13. Brookings. (2024). *Democratic resilience in Africa*.
14. Cheeseman, N., Bertrand, E., & Husaini, S. (n.d.). *A dictionary of African politics*. Oxford University Press.
15. Clapham, C. (1985). *Third World politics*. Croom Helm.
16. Co-Creation Hub. (2025). *Accelerating action for women's digital and political inclusion*.
17. Coops4Dev. (2019). *Building inclusive enterprises in Africa*.
18. Eisenstadt, S. N. (1973). *Traditional patrimonialism and modern neopatrimonialism*. Sage.
19. ElgarOnline. (n.d.). *Introducing African storytelling for global citizenship*.

20. Eurodad. (2025). *Civil society letter to SA G20*.
21. Fanon, F. (1952). *Black skin, white masks*. Grove Press.
22. Fanon, F. (1961). *The wretched of the earth*. Grove Press.
23. Freedom House. (2023). *Collective action and local leadership*.
24. Freud, S. (1920). *Beyond the pleasure principle*. Standard Edition.
25. FSD Africa. (2025). *Savings groups national stakeholder meeting*.
26. Geschiere, P. (2009). *The perils of belonging*. University of Chicago Press.
27. Goetz, A. M. (2007). Political cleaners: Women as the new anti-corruption force? *Development and Change*, 38(1), 87–105.
28. Hale, T. A. (1998). *Griots and griottes*. Indiana University Press.
29. Hassim, S. (2006). *Women's organizations and democracy in South Africa*. University of Wisconsin Press.
30. Hesson Consulting. (n.d.). *SACCOs & financial inclusion in Africa*.
31. Hillbom, E. (2012). Botswana: A development-oriented gate-keeping state. *African Affairs*, 111(442), 1–22.
32. Human Rights Watch. (2025). *World report: Cameroon*.
33. INTRAC. (2022). *Reimagining monitoring through African folklore*.
34. International IDEA. (2024). *Women's political participation: Africa barometer*.
35. ITUC-Africa. (2025). *Africa rises rally*.
36. John, E. (2026). Substack essay on politics of the belly. <https://x.com/i/article/2014296609159>
37. Joseph, R. (1987). *Democracy and prebendal politics in Nigeria*. Cambridge University Press.
38. Kingah. (n.d.). *Using the palaver settlement paradigm*.
39. Lacan, J. (1977). *Écrits*. Tavistock.
40. Lacan, J. (1991). *The seminar, Book II*. Cambridge University Press.
41. Mamdani, M. (1996). *Citizen and subject*. Princeton University Press.
42. Mboumoua. (2025). *Palaver tree tradition* (LinkedIn).
43. MDPI. (2023). *Rediscovering our roots: Character education*.
44. Médard, J.-F. (1982). The underdeveloped state in tropical Africa. In *The African state in transition* (pp. 173–197). Macmillan.
45. Mkandawire, T. (2015). Neopatrimonialism and the political economy of economic performance in Africa. *World Politics*, 67(1), 163–193.
46. Mkandawire, T., & Olukoshi, A. (Eds.). (1995). *Between liberalisation and oppression*. CODESRIA.
47. NCBA CLUSA. (2020). *What difference do cooperatives make?*
48. Nganang, P. (2011). *Mount Pleasant*. Farrar, Straus and Giroux.

49. Ngũgĩ wa Thiong'o. (1977). *Petals of blood*. Heinemann.
50. Ngũgĩ wa Thiong'o. (2006). *Wizard of the crow*. Harvill Secker.
51. Niane, D. T. (1965). *Sundiata: An epic of old Mali*. Longman.
52. Nkwi, P. N. (1997). *Traditions in Cameroon Grassfields*.
53. Owomoyela, O. (2005). *Yoruba proverbs*. University of Nebraska Press.
54. PACJA. (2025). *Africa's defining moment campaign*.
55. Participedia. (n.d.). *Black Sash community-based monitoring*.
56. Pitcher, M. A., Moran, M. H., & Johnston, M. (2009). Rethinking patrimonialism and neopatrimonialism in Africa. *African Studies Review*, 52(1), 125–156.
57. PMC. (2025). *Impact of women's political empowerment*.
58. Roelofs, P. (2019). Beyond programmatic versus patrimonial politics. *Journal of Modern African Studies*, 57(4), 533–558.
59. Seekings, J. (2016). *Social grants and party politics in South Africa* [Working paper]. Centre for Social Science Research, University of Cape Town.
60. Shivji, I. G. (1976). *Class struggles in Tanzania*. Heinemann.
61. Tansi, S. L. (1979). *Life and a half*. Indiana University Press.
62. Taylor & Francis. (2023). *The power of stories*.
63. Tripp, A. M. (2001). Women's movements and challenges to neopatrimonial rule. *Comparative Politics*, 33(1), 33–52.
64. UN Women. (2020). *Young women's participation in politics*.
65. UNESCO. (2023). *Decolonizing the teaching of Africa's history*.
66. University World News. (2025). *How oral literature is shaping Africa's knowledge systems*.
67. Various X users. (2026). [Social media posts from @\_\_Inyene, @RealOkonkwo, & \_AbiolaPharays].
68. von Soest, C. (2021). *Neopatrimonialism: A critical assessment* (GIGA Working Paper No. 316). German Institute of Global and Area Studies.
69. von Soest, C., & de la Croix, D. (2009). *Stagnation of a "miracle": Botswana's governance record revisited* (GIGA Working Paper No. 99). German Institute of Global and Area Studies.
70. WANEP. (2025). *Guardians at the borders*.
71. WACSI. (2024). *Youth representation in African governance*.
72. Weber, M. (1978). *Economy and society* (Vols. 1–2). University of California Press.
73. Widner, J. A. (1992). *The rise of a party-state in Kenya*. University of California Press.
74. WN.org. (2024). *Community-based capital transforming development*.
75. Yankah, K. (1998). *The proverb in the context of Akan rhetoric*. Diasporic Africa Press.
76. Yiaga Africa. (2024). *Yiaga at a glance*.

## **ROLE OF EDUCATION IN REDUCING GENDER INEQUALITY: EVIDENCE FROM INDIA'S STATES**

**Rujuta Milind Joshi**

DES Pune University,

Symbiosis International (Deemed University), Pune, Maharashtra 412115

Corresponding author E-mail: [rujjos@gmail.com](mailto:rujjos@gmail.com)

### **Introduction:**

Gender inequality remains a persistent challenge in India, despite constitutional guarantees of equality and decades of policy interventions, with education emerging as a pivotal mediator in its mitigation. As the world's largest democracy grapples with a female literacy rate of 70.3% against 84.7% for males—a national gender gap of 14.4%—inter-state disparities underscore the uneven impact of educational access on broader equality indicators (Census, 2011). UDISE+ 2024 data reveal stark variations: Kerala boasts near gender parity (GPI 1.02 at secondary level) with 99.4% girls' GER, while Bihar lags with a GPI of 0.80, secondary GER at 54.8%, and dropout rates for girls at 6.8% (upper primary) to 19.7% (secondary). Similarly, Rajasthan shows a 20.1% literacy gender gap (males 85.9%, females 65.8%), reflecting how educational outcomes influence labor force participation (FLFPR), where India's female rate rose to 41.7% in 2023–24 but remains low in lagging states like Bihar and Uttar Pradesh (UDISE+, 2024). NITI Aayog's SDG India Index 2023–24 flags gender equality as the lowest-scoring goal, with concerns over sex ratio at birth, asset ownership, and workforce entry, positioning education as a human capital driver for empowerment (Mehta, 2024; Gohain, 2025).

This qualitative thematic analysis, guided by Braun and Clarke's six-step framework (Braun and Clarke, 2006), investigates education's role in curbing gender inequality across high-performing (e.g., Kerala, Tamil Nadu), transitional (e.g., Rajasthan, Odisha), and lagging states (e.g., Bihar, Jharkhand), using purposive sampling for regional diversity (IIPS and MoHFW, 2021; UNDP, 2022). Drawing on secondary sources like NFHS-5/6, Census data, MoE reports, and UNESCO/World Bank analyses, the study codes emergent themes such as access parity, policy interventions, and socio-cultural barriers, triangulating for validity. Initial codes like "female enrollment gaps" coalesce into broader themes, including "secondary education as a turning point," where states like Mizoram achieve optimal girls' secondary GER despite challenges. These variations reveal how education mediates outcomes: Kerala's 68.5% female teachers correlate with 98.2% transition rates, contrasting Bihar's 42.1% female faculty and 68.9% transitions, highlighting institutional mechanisms' role in retention (IIPS and MoHFW, 2024)

The analytical framework dissects dimensions like literacy (national 80.9% overall, with urban-rural gaps), FLFPR (targeting 55% by 2030), marriage age delays, reproductive health, and autonomy, applying human capital theory to link schooling to economic agency (Sasongko *et al.*, 2020). High performers like Tamil Nadu (94.4% secondary girls' GER, GPI 1.01) translate education into better workforce integration, while low performers face compounded issues: Jharkhand's 19.7% secondary dropout for girls fuels cycles of early marriage and exclusion. Yet, inconsistencies persist—educational gains do not uniformly yield equality, as PLFS data shows 37.94% women citing education as a workforce barrier, demanding nuanced state-specific strategies under NEP 2020 and Samagra Shiksha (Indian-Express, 2026).

Ultimately, this study identifies education-driven pathways to equity, such as targeted secondary retention and teacher gender balance, while exposing gaps in translating literacy into autonomy (Wang, 2023). A critical yet underexplored outcome is the integration of comprehensive sex education (CSE) within curricula, essential for addressing reproductive health disparities, consent awareness, and stigma reduction—areas where low female literacy exacerbates vulnerabilities like teen pregnancies (7.9% nationally per NFHS-5) (IIPS and MoHFW, 2021). By synthesizing themes, the chapter offers evidence-based recommendations for tailored interventions, urging policymakers to leverage education not just for enrolment but holistic gender transformation (UNESCO, 2020).

### **Research Objectives:**

This chapter seeks to illuminate the transformative potential of education in mitigating gender inequality across India's diverse states, employing a rigorous thematic analysis to unpack how educational access, retention, and quality mediate broader socio-economic disparities. By juxtaposing high-performing states like Kerala—where near-parity in secondary enrolment (GPI 1.02) and robust teacher gender ratios foster empowerment—with lagging regions such as Bihar (GPI 0.80, 19.7% girls' secondary dropout), the study aims to discern pathways through which schooling disrupts cycles of exclusion, from literacy gaps to diminished workforce participation (national FLFPR 41.7%) and early marriage. Grounded in human capital theory and Braun and Clarke's six-phase framework, it distils recurrent themes—such as policy efficacy, socio-cultural barriers, and secondary education as a pivotal juncture—from triangulated secondary sources including NFHS-6, UDISE+, and NITI Aayog indices, offering nuanced, evidence-based insights into state-specific levers for equity.

Achievement of these goals hinges on a purposive, comparative lens that codes emergent patterns (e.g., "access parity" from enrolment disparities) into coherent narratives, refined through iterative theme review and synthesis with verbatim policy excerpts for transparency and validity. This interpretative approach not only highlights scalable successes—like Tamil Nadu's 94.4% girls' GER translating into autonomy gains—but also exposes translational gaps,

culminating in actionable recommendations under NEP 2020, such as enhanced female teacher recruitment and curriculum integration of comprehensive sex education to address reproductive vulnerabilities (e.g., 7.9% teen pregnancy rates)( UDISE+, 2025). The mentioned objectives of this study would help achieve the abridgement of empirical patterns with policy praxis, advocating tailored interventions that harness education's full emancipatory promise as mentioned in the methodology given below.

### **Methodology:**

The study uses a qualitative research approach and Thematic Analysis (TA) to investigate the role that education plays in reducing gender inequality across the states in India. The method makes it possible to find, examine, and analyse recurrent patterns (themes) in reports, policy papers, and secondary qualitative data. The comparative and interpretative study focusses on inter-state variations in educational outcomes and gender inequality indicators.

This article relies on secondary qualitative and mixed-method data, collected from the following sources:

#### **a. Government and Institutional Reports**

- National Family Health Survey (NFHS) reports
- Census of India (education and gender tables)
- Ministry of Education reports (Samagra Shiksha, GER, literacy data)
- NITI Aayog gender and education indices
- State education policy documents

#### **b. Academic Literature**

- Peer-reviewed journal articles on gender inequality and education
- Working papers and policy briefs by research institutes

#### **c. International Organization Reports**

- UNESCO, World Bank, UNDP reports on gender and education in India
- d. State-Level Case Materials
- Best-practice documentation from selected states
- NGO and civil society reports on girls' education

A purposive sampling technique is employed to select Indian states by considering factors such as educational performance categorized into high, medium, and low literacy states, gender inequality indicators including the female literacy gap, workforce participation, and school dropout rates, as well as regional diversity spanning North, South, East, West, and Central India. The states are further categorized into high-performing, transitional, and lagging states, which serves to provide analytical depth and comparative insights.

The study uses Braun and Clarke's six-step thematic analysis framework (Braun and Clarke, 2006) to explore the relationship between education and gender equality, focusing on policy and socio-economic aspects.

- Step 1 - Familiarisation with Data: It involves thorough examination of relevant reports and literature to pinpoint recurring themes related to education and gender equality, particularly state-specific trends.
- Step 2 - Generating Initial Codes: This step entails a systematic coding process. The identified initial codes include themes such as female literacy improvement, gender gap in enrolment, access to secondary education, and socio-cultural barriers.
- Step 3 - Searching for Themes: Researcher organizes these codes into broader themes central to the research, such as Access to Education and Gender Parity, Policy Interventions, and Regional Disparities.
- Step 4 - Reviewing Themes: This step involves refining themes for coherence, eliminating weak themes, and enhancing comparative analysis across states.
- Step 5 - Defining and Naming Themes: It involves clarifying each theme's definition and relevance, particularly emphasizing themes like "Access to Secondary Education as a Turning Point in Gender Equality."
- Step 6 - Interpretation and Synthesis: The researcher analyses these themes using frameworks such as human capital theory, assessing the relationship between education and gender equality, identifying effective state strategies, and noting impactful institutional mechanisms.

The article outlines an analytical framework that examines key dimensions of gender inequality, including literacy and educational attainment, labor force participation, age of marriage, health and reproductive outcomes, and decision-making autonomy. This analysis positions education as a significant mediating factor in understanding gender disparities. Additionally, the framework emphasizes validity and reliability through methods such as triangulation of multiple data sources, transparency in coding and theme development, comparative consistency across different states, and the incorporation of verbatim excerpts or policy evidence to substantiate themes. Ethical considerations are highlighted, stressing the use of publicly available secondary data, proper citation of sources, and maintaining objectivity in interpretation to avoid regional or cultural biases.

The expected outcomes from using this methodology are the identification of education-driven pathways that help reduce gender inequality, insights into the inconsistent translation of educational success into gender equality, and evidence-based policy recommendations for tailored state-specific interventions.

### **Analysis and Interpretation:**

Education has long been recognised as a central instrument for reducing gender inequality. However, the relationship between education and gender equality is neither automatic nor uniform across regions. Drawing on the thematic coding framework developed earlier, this section presents an in-depth thematic analysis of how education operates as a transformative force across Indian states, while also identifying the structural, cultural, and institutional conditions under which its impact is strengthened or weakened.

Using secondary qualitative and mixed evidence, the analysis identifies six interrelated themes:

- Access to education and gender parity
- Socio-cultural constraints on girls' education
- Role of state policy interventions
- Technology and gender equality in education
- Education–employment linkages
- Education and women's empowerment

Together, these themes explain both the successes and limitations of education as a tool for reducing gender inequality in India.

#### **1. Access to Education and Gender Parity**

The most visible and measurable contribution of education to gender equality lies in expanding access, particularly at the primary and secondary levels. States that have achieved near gender parity in school enrolment demonstrate that when educational infrastructure is accessible, affordable, and socially accepted, gender gaps in literacy and schooling narrow substantially.

The thematic evidence shows that improvements in female literacy and enrolment are strongest where schools are located within safe travelling distance, supported by basic infrastructure such as separate toilets, transport facilities, and hostels. These material conditions matter because they directly shape household decisions regarding girls' schooling. In several states, the expansion of secondary education emerges as a critical turning point: once girls remain in school beyond the primary level, early withdrawal for domestic work or marriage declines sharply.

However, access alone does not ensure equality. While enrolment gaps have narrowed in many states, disparities persist in retention, learning outcomes, and transition to higher education, indicating that access is a necessary but insufficient condition for sustained gender equality.

#### **2. Socio-Cultural Constraints on Girls' Education**

One of the strongest themes emerging from the analysis is the continued influence of socio-cultural norms on girls' educational trajectories. Despite improvements in enrolment, early marriage, unpaid care responsibilities, and concerns over safety continue to restrict girls' educational participation in several states.

Thematic patterns show that in regions where early marriage remains prevalent, dropout rates among adolescent girls are significantly higher. Education in such contexts often competes with entrenched expectations around gender roles, rather than replacing them. This explains why similar levels of schooling can produce very different gender outcomes across states.

Importantly, the analysis reveals that education becomes transformative only when it challenges gender norms, not when it merely coexists with them. States that combine schooling with community awareness programmes, life-skills education, and gender-sensitisation initiatives show stronger reductions in gender inequality indicators.

### **3. Role of State Policy Interventions**

State policy interventions emerge as a decisive mediating factor in translating educational access into gender equality outcomes. Scholarships for girls, free textbooks, bicycles, uniforms, and residential facilities are repeatedly identified as effective in reducing dropout rates, particularly among economically disadvantaged households.

The thematic evidence suggests that targeted policies matter more than generic expansion. States that explicitly design programmes for girls—especially at the secondary and higher secondary levels—demonstrate better outcomes in terms of delayed marriage, improved educational attainment, and enhanced social participation.

At the same time, uneven implementation weakens policy effectiveness. Where schemes suffer from delays, inadequate coverage, or lack of awareness, educational gains do not translate into meaningful reductions in gender inequality. Thus, governance capacity and institutional commitment are critical to sustaining educational progress.

### **4. Technology and Gender Equality in Education**

Digital education has emerged as a double-edged phenomenon in the Indian context. On one hand, technology expands access to learning resources and can potentially reduce spatial and social barriers faced by girls. On the other hand, the thematic analysis reveals that unequal access to digital devices and internet connectivity often reinforces existing gender gaps.

During periods of increased reliance on online education, girls from poorer households were disproportionately excluded due to limited device ownership and restricted digital autonomy. This highlights that technological interventions must be accompanied by gender-sensitive design, including device access for girls and parental awareness about digital learning.

Thus, technology enhances gender equality only when it is embedded within broader social and institutional support systems.

### **5. Education–Employment Linkages**

A critical insight from the analysis is that education does not automatically translate into improved labour market outcomes for women. While higher educational attainment increases

employability, female labour force participation remains low in several states, even among educated women.

The thematic evidence points to disconnect between education systems and labour market structures. Gendered job segregation, safety concerns, lack of childcare, and social expectations often prevent educated women from entering or remaining in paid employment. Consequently, education's economic returns for women remain conditional rather than guaranteed.

However, states that integrate skill development, vocational education, and local employment opportunities demonstrate stronger education–employment linkages. This suggests that aligning education with labour market realities is essential for education to function as a true equaliser.

## **6. Education and Women's Empowerment**

Beyond economic outcomes, education plays a profound role in shaping women's agency, decision-making power, and social participation. The thematic analysis consistently links higher levels of education—particularly secondary and higher education—to increased autonomy in household decisions, health choices, and civic engagement.

Educated women are more likely to delay marriage, exercise reproductive choice, and invest in their children's education, creating intergenerational benefits. These empowerment outcomes highlight that education's most enduring impact lies not merely in economic productivity but in transforming social relations.

### **Synthesis of Findings:**

Taken together, the thematic analysis demonstrates that education reduces gender inequality most effectively when it:

- Ensures sustained access beyond primary schooling
- Challenges socio-cultural norms through curriculum and community engagement
- Is supported by well-implemented, gender-targeted state policies
- Integrates digital inclusion with gender sensitivity
- Connects education meaningfully to employment opportunities
- Includes comprehensive sex education as a core component

Education, therefore, is not a singular intervention but a multi-dimensional social process whose impact depends on institutional design, cultural context, and policy coherence.

A key outcome emerging from the thematic synthesis is the urgent necessity of comprehensive sex education within school curricula. The absence of structured, age-appropriate sex education limits the transformative potential of schooling, particularly for adolescent girls.

The analysis indicates that lack of knowledge about reproductive health, consent, and bodily autonomy contributes to early marriage, early pregnancy, school dropout, and restricted life choices. Where education systems avoid or marginalise sex education, gender inequality persists despite improvements in enrolment and literacy.

Integrating sex education into the curriculum serves multiple functions:

- It equips girls with knowledge to make informed health and life decisions
- It challenges harmful gender norms and stereotypes among both boys and girls
- It promotes respect, consent, and equality from an early age

Thus, sex education should not be viewed as supplementary but as integral to education's role in reducing gender inequality.

The evidence from India's states confirms that education is a powerful but conditional instrument for reducing gender inequality. Its transformative capacity lies not merely in expanding schooling but in reshaping social norms, enhancing agency, and enabling informed life choices. Strengthening education systems—particularly through secondary education, gender-responsive policies, and compulsory sex education—remains essential for achieving substantive and sustainable gender equality.

### **Policy Recommendations**

Based on the thematic analysis and inter-state comparative evidence, the following 10–12 policy recommendations are proposed to strengthen education's role in reducing gender inequality in India. These recommendations are designed to be state-specific, scalable, and institutionally grounded, rather than one-size-fits-all.

#### **1. Prioritise Universal Secondary Education for Girls:**

States must treat secondary education as a non-negotiable threshold for gender equality by expanding school availability, residential facilities, and transport support, particularly in lagging regions where dropout rates peak after upper primary.

#### **2. Strengthen Retention-Focused Interventions Rather Than Enrolment Alone:**

Policy emphasis should shift from enrolment targets to retention, transition, and completion indicators, with conditional cash transfers, attendance-linked scholarships, and mentoring for adolescent girls.

#### **3. Expand Recruitment and Deployment of Female Teachers:**

Increasing the proportion of female teachers—especially in rural and secondary schools—should be a strategic priority, given its strong association with girls' retention, safety, and parental trust.

#### **4. Institutionalise Comprehensive Sex Education (CSE) Across States:**

Age-appropriate, scientifically grounded sex education must be integrated into school curricula nationwide to address reproductive health knowledge gaps, consent awareness, early pregnancy, and gender stereotypes.

#### **5. Integrate Life-Skills and Gender-Sensitisation into Curricula:**

Education systems should embed modules on gender equality, legal rights, digital safety, and negotiation skills, ensuring that schooling actively challenges discriminatory norms rather than passively coexisting with them.

**6. Bridge the Digital Gender Divide in Education:**

Digital education initiatives must ensure device access, internet connectivity, and digital autonomy for girls, especially in low-income households, to prevent technology from reinforcing existing inequalities.

**7. Align Education with Local Labour Markets and Skill Pathways:**

States should link secondary and higher education with vocational training, apprenticeships, and local employment opportunities to improve education-to-employment transitions for women.

**8. Address Structural Barriers to Female Workforce Participation:**

Education policy must be coordinated with labour, transport, and childcare policies to ensure that educational gains translate into sustained labour force participation and economic independence.

**9. Target Early Marriage Through School-Community Linkages:**

Schools should act as intervention hubs by collaborating with local institutions, health workers, and community leaders to delay marriage and support continued education for adolescent girls.

**10. Adopt State-Specific Gender Education Action Plans:**

Each state should develop tailored action plans under national frameworks like NEP 2020, recognising regional socio-cultural contexts, implementation capacity, and baseline disparities.

**11. Strengthen Monitoring Using Gender-Disaggregated Indicators:**

Education monitoring systems should track gender-specific outcomes beyond enrolment—such as transitions, learning outcomes, autonomy indicators, and post-school trajectories.

**12. Enhance Inter-Sectoral Policy Coordination**

Gender equality outcomes improve when education policies are synchronised with health, nutrition, social protection, and urban development initiatives, reinforcing education's multiplier effects.

**Conclusion:**

This chapter examined the role of education in reducing gender inequality across India's states using a qualitative thematic analysis grounded in Braun and Clarke's six-step framework. Drawing on extensive secondary data from national surveys, policy documents, and international reports, the study compared high-performing, transitional, and lagging states to uncover how education mediates gender outcomes in diverse contexts.

The analysis identified six interrelated themes—access and parity, socio-cultural constraints, policy interventions, technology, education–employment linkages, and empowerment—revealing that education's impact on gender equality is powerful but conditional. While states like Kerala and Tamil Nadu demonstrate how sustained secondary education, female teacher representation, and supportive policies translate into empowerment and workforce participation, states such as Bihar and Jharkhand highlight the persistence of dropout, early marriage, and exclusion despite enrolment gains.

A central contribution of the chapter lies in foregrounding comprehensive sex education as a missing yet critical link in education's transformative potential. Without structured learning on reproductive health, consent, and bodily autonomy, educational expansion alone fails to dismantle deeply rooted gender inequalities.

Thus, this chapter demonstrates that education remains one of the most potent instruments for reducing gender inequality in India—but only when it is designed, delivered, and sustained as a holistic social intervention rather than a narrow enrolment exercise. The inter-state evidence confirms that access to schooling is a necessary foundation, yet insufficient in isolation. Gender equality advances most decisively when education is retained through adolescence, embedded within gender-responsive institutions, and aligned with broader socio-economic structures.

The findings underscore that education's true emancipatory power lies not merely in literacy or credentials, but in its capacity to reshape norms, expand agency, and enable informed life choices. In this context, the integration of comprehensive sex education emerges as a defining requirement for meaningful gender transformation—equipping young people with the knowledge, autonomy, and respect necessary to challenge inequality at its roots.

Ultimately, achieving substantive gender equality in India demands a shift from viewing education as input to recognising it as a multi-dimensional process of social change. Tailored state strategies, robust policy implementation, and curriculum reforms that centre dignity, autonomy, and inclusion are essential if education is to fulfil its promise as a cornerstone of gender-just development.

References:

1. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
2. Gohain, M. P. (2025, June 3). India clears literacy exam with 80.9%, but gender and urban–rural gaps remain. *The Times of India* <https://timesofindia.indiatimes.com/india/india-clears-literacy-exam-with-80-9-but-gender-urban-rural-gaps-remain/articleshow/121580031.cms>
3. Indian Express. (2026, January 6). TN ranks first among states in climate action, gross enrolment in higher education: Report. *The New Indian Express*. <https://www.newindianexpress.com/states/tamil-nadu/2026/Jan/06/tn-ranks-first-among-states-in-climate-action-gross-enrolment-in-higher-education-report>
4. International Institute for Population Sciences (IIPS), & Ministry of Health and Family Welfare. (2021). *National Family Health Survey (NFHS-5), 2019–21: India fact sheet*. Government of India.

5. International Institute for Population Sciences (IIPS), & Ministry of Health and Family Welfare. (2024). *National Family Health Survey (NFHS-6), 2023–24: India fact sheet*. Government of India.
6. Mehta, A. C. (2024, December 12). *The status of girls' education in India in 2025: Progress, disparities, and pathways to equity*. Education for All in India. <https://educationforallinindia.com/the-status-of-girls-education-in-india-in-2025/>
7. Ministry of Education, Government of India. (2021). *Samagra Shiksha: An integrated scheme for school education (pre-school to Class XII)*. Ministry of Education, Government of India.
8. Ministry of Education, Government of India (UDISE+). (2024). *UDISE+ statistical report: Gross enrolment ratio (GER) and related indicators*. Ministry of Education.
9. Office of the Registrar General & Census Commissioner, India. (2011). *Census of India 2011: Provisional population totals—Literacy and related tables*. Government of India.
10. Sasongko, G., Huruta, B. E., & Huruta, A. D. (2020). Male labor force participation rate in Indonesia: An empirical evidence from panel data approach. *Management and Economics Review*, 5(1), 136–146. <https://doi.org/10.24818/mer/2020.06-11>
11. United Nations Development Programme. (2022). *Human Development Report: Gender development measures and indicators (India country profile)*. UNDP.
12. United Nations Educational, Scientific and Cultural Organization. (2020). *Global education monitoring report 2020: A new generation—25 years of efforts for gender equality in education*. UNESCO.
13. Wang, Y. (2023). Book review: *Education and equity in times of crisis: Learning, engagement and support*. *Journal of Social Work*, 24(4), 601–604. <https://doi.org/10.1177/14680173231165927>

**PHOTOGRAPHY AS ART AND SCIENCE:  
A HISTORICAL AND TECHNOLOGICAL REVIEW**  
**Sachin S. Bansode, Santosh G. Mahajan and N. A. Shaikh\***

Sardar Babasaheb Mane Mahavidyalaya,  
Rahimatpur, Tal. Koregaon, Dist. Satara, Maharashtra  
\*Corresponding author E-mail: [nilofar26shaikh@gmail.com](mailto:nilofar26shaikh@gmail.com)

**Photography**

Photography refers to the creative and technical process of producing images by capturing light through a camera, using either digital sensors or sensitive film. In simple terms, photography involves taking photographs by recording visual scenes with a camera.

Photography is the art, science, and practice of capturing images using light, a camera, and a photosensitive surface (film or digital sensor).

The word comes from Greek: “Photo” = light and “Graphy” = drawing → drawing with light.

**History and Evolution of Photography:**

Photography has developed through a long process of scientific discovery and technological advancement. Its early foundation can be traced to the ancient concept of the *camera obscura*, a simple optical device that projected images onto a surface and helped artists understand light and perspective. The first successful permanent photograph was produced in 1826 by Joseph Nicéphore Niépce, marking the beginning of practical photography. This achievement was followed by Louis Daguerre’s introduction of the daguerreotype process in 1839, which produced clear and detailed images and quickly gained popularity. Around the same period, William Henry Fox Talbot developed the calotype process, which allowed multiple prints to be made from a single negative, an important step toward modern photography.

During the late 19th century, photography became more accessible to the public with the introduction of roll film by George Eastman through the Kodak camera in 1888. This innovation simplified the photographic process and encouraged widespread use. Film cameras dominated photography throughout the 19th and 20th centuries, while further advancements such as colour film enhanced realism and artistic expression. In the late 20th century, digital photography brought a major transformation by replacing film with electronic image sensors. This shift allowed instant image review, easy storage, and digital editing, greatly expanding photographic possibilities. In recent times, the integration of cameras into smartphones and the use of drones have made photography more accessible than ever before, enabling people to capture images from new perspectives and share them instantly. As a result, photography has evolved into a widely practiced art form and an essential tool for communication, science, and creative expression in modern society.

## **Basic Elements of Photography**

- **Camera** – device to capture images
- **Lens** – controls focus and perspective
- **Exposure Triangle** Aperture (controls light & depth of field), Shutter Speed (controls motion blur), ISO (controls sensitivity to light)
- **Lighting** – natural or artificial
- **Composition** – arrangement of subjects in the frame (rule of thirds, symmetry, leading lines, etc.)
- Documents **culture, society, and history**

## **Camera Basics**

- Parts of a camera (lens, shutter, sensor, viewfinder, etc.)
- Types of cameras (DSLR, Mirror less, Compact, Smartphone)
- Camera formats and image resolution

## **Exposure and Camera Settings**

- Exposure triangle: aperture, shutter speed, ISO
- White balance and colour temperature
- Metering modes and exposure compensation

## **Lenses and Optics**

- Types of lenses: wide-angle, telephoto, prime, zoom, macro
- Focal length and field of view
- Depth of field and bokeh effect

## **Lighting Theory**

- Natural light vs. artificial light
- Properties of light: direction, intensity, colour
- Use of flash, reflectors, and diffusers

## **Composition and Aesthetics**

- Rules of composition: rule of thirds, symmetry, framing, leading lines
- Perspective, angles, and viewpoints
- Visual storytelling through images

## **Digital Imaging & File Formats**

- RAW vs. JPEG
- Image resolution, DPI, and file storage
- Basics of digital workflow

## **Editing Theory**

- Concepts of post-processing
- Colour correction, cropping, exposure adjustment

- Ethical considerations in editing

### **Photography as Communication**

- **Photography in media and journalism:** Photography functions as a powerful means of communication by conveying information, emotions, and ideas through visual images. In media and journalism, photographs play a vital role in reporting events and telling news stories. They provide visual evidence, enhance credibility, and help audiences understand complex situations quickly and effectively
- **Photography as an art form:** As an artistic medium, photography allows creative expression and personal interpretation. Artists use photographs to explore themes, express emotions, and present unique perspectives, making it an important form of visual art in contemporary culture.
- **Photography in advertising, fashion, and social media:** Photography also has a strong presence in advertising, fashion, and social media, where images are used to influence opinions, promote products, and shape trends. Visually appealing photographs attract attention, communicate brand messages, and engage audiences across digital and print platforms.

### **Professional & Ethical Aspects**

- Photography involves not only technical skill but also professional responsibility and ethical awareness. Copyright and intellectual property rights are essential aspects of photography, as they protect photographers' creative work from unauthorized use and ensure proper recognition and legal ownership of images.
- Ethical considerations in photography focus on honesty, consent, and respect for privacy. Photographers are expected to represent subjects truthfully, avoid manipulation that misleads viewers, and obtain permission when required. Respecting personal dignity and cultural sensitivity is especially important in journalism and documentary photography.
- In addition, developing a strong portfolio and exploring career pathways are crucial for professional growth. A well-curated portfolio demonstrates technical ability, creativity, and specialization, helping photographer's access opportunities in media, advertising, education, and freelance work. Understanding career options and maintaining ethical standards together contribute to long-term success in the field.

### **Practical Work in Photography**

#### **1. Camera Handling & Controls**

- Practice switching between auto and manual modes
- Adjusting ISO, aperture, and shutter speed for different light conditions
- Focusing techniques: manual focus vs. autofocus
- Practice with different lenses (wide-angle, telephoto, macro)

## **2. Lighting Practice**

- Shooting in natural daylight (morning, noon, evening)
- Using artificial light sources (lamps, studio lights, flash)
- Controlling shadows with reflectors and diffusers
- Low-light and night photography experiments

## **3. Composition Exercises**

- Rule of thirds practice
- Capturing symmetry, leading lines, framing, and perspective
- Experimenting with different angles and viewpoints

## **4. Genre-Based Practice**

- **Portrait Photography** – indoor & outdoor portraits, group photos
- **Landscape Photography** – nature, cityscapes, panoramic shots
- **Street Photography** – candid people and activities
- **Product Photography** – small objects with proper background and lighting
- **Event Photography** – covering functions, festivals, or college events
- **Macro Photography** – flowers, insects, textures

## **5. Editing & Post-Processing**

- Importing and organizing photos
- Cropping, colour correction, brightness/contrast adjustment
- Retouching portraits
- Creating a final portfolio using Light room, Photoshop, or similar software

## **6. Assignments & Fieldwork**

- Weekly photo assignments (e.g., “Capture shadows,” “Tell a story in 3 photos”)
- Outdoor shoots (nature trips, markets, historical places)
- Photojournalism project (covering a local event or issue)

## **7. Final Project / Portfolio**

- Select best photos from different genres
- Compile into a portfolio (digital or printed)
- Presentation and evaluation by teachers/mentors

## **Types of Photography**

There are many types of photography, depending on the subject, style, and purpose.

Here’s a structured list for you:

### **Main Types of Photography**

1. **Portrait Photography:** Capturing people’s expressions, moods, and personality (e.g., studio portraits, family photos, professional headshots).

2. **Landscape Photography:** Photographing natural scenery such as mountains, rivers, sunsets, forests, and other outdoor environments.
3. **Wildlife Photography:** Capturing animals, birds, and insects in their natural habitats with minimal human interference.
4. **Macro Photography:** Producing close-up images of very small subjects like flowers, insects, and surface textures.
5. **Street Photography:** Taking candid photographs of everyday life and human activities in public spaces.
6. **Travel Photography:** Documenting cultures, people, landscapes, and experiences encountered while traveling.
7. **Event Photography:** Covering special occasions such as weddings, parties, concerts, festivals, and formal events.
8. **Fashion Photography:** Photographing clothing, accessories, and models, mainly for magazines, advertising, and branding.
9. **Sports Photography:** Capturing dynamic action shots of sporting events, athletes, and competitions.
10. **Architectural Photography:** Photographing buildings, structures, interiors, and exteriors with emphasis on design and form.
11. **Product Photography:** Creating images of products for advertisements, catalogues, and e-commerce (e.g., food, jewellery, gadgets).
12. **Documentary Photography:** Telling real-life stories, events, or social issues through a sequence of meaningful images.
13. **Photojournalism:** Capturing newsworthy events to inform the public through newspapers, magazines, and digital media.
14. **Aerial Photography:** Taking photographs from elevated positions using drones, aircraft, or helicopters.
15. **Astrophotography:** Capturing celestial objects such as stars, planets, galaxies, and night skies.
16. **Food Photography:** Specialised photography of food for menus, blogs, advertisements, and culinary branding.
17. **Black and White Photography:** Creating artistic images that emphasize light, shadow, texture, and contrast without colour.
18. **Fine Art Photography:** Expressing creative and artistic ideas through photography, often intended for galleries and exhibitions.

Photography has benefits on both a personal level (for creativity, memory, and stress relief) and a professional level (career, business, communication).

## **Benefits of Photography**

### **Personal Benefits**

1. **Creativity & Self-Expression** – Helps you express ideas, emotions, and perspectives through images.
2. **Stress Relief & Mindfulness** – Taking photos encourages you to notice details, live in the moment, and reduce stress.
3. **Memory Preservation** – Captures important life events, people, and places for the future.
4. **Improved Observation Skills** – Trains your eye to notice light, colours, patterns, and beauty in everyday life.
5. **Confidence Building** – Sharing your photos and improving skills boosts self-esteem.

### **Professional Benefits**

1. **Career Opportunities** – Jobs in media, advertising, journalism, fashion, wildlife, wedding, and product photography.
2. **Freelancing & Business** – Can work independently, run studios, or sell images online.
3. **Marketing & Branding** – Businesses use professional photos to attract customers (e.g., food, fashion, real estate).
4. **Global Reach** – Platforms like Instagram, YouTube, or photography websites allow global recognition.

### **Educational & Social Benefits**

1. **Documentation of Culture & History** – Preserves traditions, events, and social issues.
2. **Learning Tool** – Helps in teaching, research, and science (e.g., nature, medicine, and astronomy).
3. **Social Connection** – Builds communities of like-minded photographers and artists.

## **Importance of Photography**

### **1. Preservation of Memories**

- Captures moments, people, and places for future generations.
- Helps us relive personal and cultural history.

### **2. Medium of Communication**

- A picture often conveys emotions and messages more strongly than words.
- Used in news, social media, advertising, and education.

### **3. Artistic & Creative Expression**

- Photography is an art form that allows individuals to showcase creativity and imagination.
- Inspires new perspectives and appreciation of beauty.

### **4. Educational & Research Tool**

- Used in science, medicine, archaeology, astronomy, and environmental studies.

- Helps document and analyse subjects for learning purposes.

### **5. Social & Cultural Documentation**

- Records festivals, traditions, and social issues.
- Plays a role in preserving and promoting culture.

### **6. Professional & Economic Value**

- Provides career opportunities (media, fashion, journalism, wildlife, product photography).
- Supports industries like marketing, tourism, and entertainment.

### **7. Awareness & Advocacy**

- Photojournalism highlights global issues (poverty, climate change, human rights).
- Raises awareness and inspires action.

### **Career Options in Photography**

Career opportunities in photography are vast and diverse, depending on your skills, interests, and creativity. With the rise of digital media, social platforms, and the growing importance of visual communication, photography has become a rewarding career option.

Here are some major career opportunities in photography:

### **Career Options in Photography**

- 1. Commercial Photographer:** Produces product images, advertising campaigns, fashion brand visuals, e-commerce content, and corporate shoots.
- 2. Fashion Photographer:** Works with models, fashion designers, magazines, and fashion houses to create style-focused imagery.
- 3. Wedding & Event Photographer:** Specializes in weddings, parties, and ceremonies, offering high-demand services with strong earning potential.
- 4. Photojournalist:** Captures news, current events, and social issues for newspapers, magazines, and online media platforms.
- 5. Wildlife & Nature Photographer:** Documents animals, landscapes, and ecosystems for conservation, research, and media purposes.
- 6. Sports Photographer:** Covers live sporting events, action moments, and athlete portraits.
- 7. Portrait Photographer:** Creates studio portraits, family and baby photographs, and celebrity photoshoots.
- 8. Fine Art Photographer:** Produces artistic works intended for galleries, exhibitions, and private collectors.
- 9. Travel Photographer:** Documents cultures, places, and traditions for magazines, blogs, and tourism boards.
- 10. Scientific / Medical Photographer:** Captures images for scientific research, medical documentation, and clinical studies.

- 11. Forensic Photographer:** Assists law enforcement by photographing crime scenes and forensic evidence accurately.
- 12. Industrial Photographer:** Documents factories, machinery, and industrial processes for reports, marketing, and presentations.
- 13. Food Photographer:** Works with restaurants, food brands, and blogs to create visually appealing food imagery.
- 14. Real Estate / Architectural Photographer:** Captures buildings, interiors, and landscapes for real estate and construction industries.
- 15. Freelance / Stock Photographer:** Sells photographs online through stock platforms (e.g., Shutterstock, Adobe Stock, Getty Images) or works independently for clients.

### **Additional Opportunities**

- Photography offers a wide range of career possibilities beyond traditional practice. One such option is working as a photography teacher or trainer, where professionals can share their knowledge and skills by teaching in educational institutions, workshops, or through online learning platforms.
- Another expanding field is cinematography and videography, which allows photographers to move into visual storytelling through films, documentaries, commercials, and digital advertisements. This area combines technical expertise with creative vision.
- Photo editing and retouching is also a significant career opportunity. Specialists in post-production enhance images by adjusting colour, clarity, and composition using advanced software such as Adobe Photoshop and Light room, contributing greatly to the final visual quality.
- In the digital age, photography has also opened paths as a content creator or influencer. By producing engaging visual content on social media platforms like Instagram, YouTube, and blogs, individuals can build a personal brand, reach global audiences, and generate income through collaborations and digital media.

### **Photography in Modern Life**

- **Social media and personal branding:** Photography strongly influences how individuals present themselves in digital spaces. Well-composed images allow users and influencers to highlight their identity, create credibility, and maintain audience interaction across various social networking platforms.
- **Marketing and e-commerce (product photography):** In business and online commerce, photography is vital for showcasing products effectively. Attractive and accurate images improve customer confidence, strengthen brand recognition, and play a major role in purchasing decisions.

- **Scientific research (microscopy, astronomy, medicine):** Photography serves as an important research tool in scientific fields. It assists scientists in recording detailed observations, examining microscopic and celestial objects, and documenting medical findings for study and diagnosis.
- **Storytelling and awareness (photojournalism):** Photojournalism relies on visual imagery to present real-life events and social concerns. Through impactful photographs, it helps inform the public, evoke emotional responses, and promote social awareness.

#### **Uses of Photography:**

- **Capturing memories:** Photography allows people to store meaningful moments, making it possible to remember and reflect on personal experiences as well as cultural and historical occasions in the future.
- **Art and creativity:** As an art form, photography provides a creative platform for expressing thoughts, emotions, and individual viewpoints through images.
- **Media and journalism:** In journalism, photographs help record real events, strengthen news stories, and provide visual authenticity to media reporting.
- **Education and research:** Photographs are widely used in education and research as visual aids that support learning, explanation, and academic investigation.
- **Scientific study and documentation:** In scientific fields, photography is used to systematically record observations, experiments, and natural processes for detailed study and long-term reference.

#### **References:**

1. Bedi, R. (2019). *The visual language of photography*. Oxford University Press India.
2. Gupta, S. (2016). *Photography in India: From archives to contemporary practice*. Routledge India.
3. Sharma, R. K. (2018). *Fundamentals of photography*. PHI Learning Pvt. Ltd.
4. Barthes, R. (1981). *Camera lucida: Reflections on photography* (R. Howard, Trans.). Hill and Wang. (Original work published 1980)
5. Freeman, M. (2010). *The photographer's eye: Composition and design for better digital photos*. Focal Press.
6. Langford, M., Fox, A., & Smith, R. S. (2015). *Langford's basic photography: The guide for serious photographers* (9th ed.). Focal Press.
7. Wells, L. (2015). *Photography: A critical introduction* (5th ed.). Routledge.

## GODDESS *KĀLĪ*: POWER, RITUAL, AND TRANSFORMATION

Dibya Ranjan Tripathy

Department of History,

Govt (Auto.) College, Angul, Odisha

Corresponding author E-mail: [tripathydibya090@gmail.com](mailto:tripathydibya090@gmail.com)

### **Introduction:**

The worship of Goddess *Kālī* occupies a distinctive position within the religious and philosophical traditions of Hinduism. Unlike benevolent and serene goddesses such as Lakṣmī or Sarasvatī, *Kālī* embodies fierce energy, destruction, and transcendence. Her terrifying iconography naked form, blood-red tongue, garland of skulls, and her dance upon Śiva has long intrigued scholars of religion, anthropology, and history. The evolution of *Kālī* worship is deeply rooted in early human struggles for survival, territorial control, and spiritual dominance. Emerging from pastoral and agrarian societies marked by conflict and uncertainty, *Kālī* represents the ultimate manifestation of feminine power (*Śakti*), conceived as both creative and destructive. This study attempts to reinterpret the origin, symbolism, and regional expressions of Goddess *Kālī* through socio-historical, Purāṇic, Tantric, and Odishan perspectives.

### **Early Social Context and the Emergence of Feminine Power**

In their earliest phase, Aryan communities were predominantly pastoral and nomadic. Gradually, they transitioned into settled agricultural societies, relying on domesticated animals and cultivated crops for survival. This transformation inevitably led to conflicts with indigenous nomadic groups over land and resources. Such prolonged and often violent struggles created a psychological need for divine protection and supernatural strength. Consequently, the idea of supreme power was conceptualized in religious thought. This power was envisioned as feminine in nature, rooted in the belief that womanhood possessed the extraordinary capacity to generate and sustain life. The womb, as the site of creation, symbolized an inherent superiority of feminine energy over masculine force. This belief gave rise to *Matrkā* worship, from which evolved the powerful image of *Kālī*, a deity representing raw, unrestrained, and primordial *Śakti*.

### **Mythological Origins and Purāṇic Interpretations of *Kālī***

Purāṇic literature offers multiple narratives explaining the origin of *Kālī*, reflecting diverse theological and philosophical traditions. One widely known myth relates to the Dakṣa Yajña episode. When Satī, humiliated by her father's insult toward Śiva, manifested intense rage, she assumed terrifying forms that later became known as the *Daśa Mahāvidyās*. Among these, *Kālī* emerged as the foremost expression of divine wrath and cosmic power.

*Kālī Tārā Mahāvidyā Ṣoḍaśī Bhuvaneśvarī*  
*Bhairavī Chinnamastā ca Vidyā Dhūmāvātī tathā*  
*Bagalā Siddhavidyā ca Mātāṅgī Kamalātmakā*  
*Etāḥ Daśamahāvidyāḥ Siddhavidyāḥ Prakīrtitāḥ.*

Texts such as the *Mārkaṇḍeya Purāṇa* and *Devī Bhāgavata Purāṇa* associate Kālī with the destruction of demonic forces threatening cosmic order. She appears as a dark, fearsome goddess emerging from the body of the Supreme Goddess to restore balance. In this context, Kālī is not merely destructive but functions as a necessary force for regeneration and renewal.

### **Kālī in Tantric Philosophy and Symbolism**

*Kālī* holds a central place in Tantric traditions, particularly in Śākta philosophy. She is revered as Dakṣiṇa Kālī, the supreme Tantric deity who transcends moral binaries of good and evil. Her nakedness symbolizes absolute truth, free from illusion (māyā), while her dance upon Śiva signifies the dominance of energy (Śakti) over inert matter. Her three eyes represent the sun, moon, and fire provide the symbols of time, consciousness, and transformation. The garland of skulls signifies the cyclical nature of existence, while her blood-stained tongue reflects the consumption of ego and ignorance. Tantric interpretations view Kālī not as an object of fear, but as a guide toward spiritual liberation through the destruction of ignorance.

### **Alternative Mythic Forms and Interpretations**

Some lesser-known traditions, such as the *Adbhuta Rāmāyaṇa*, identify Kālī as an alternate form of Sītā, manifested during the destruction of Rāvaṇa. In this narrative, Sītā assumes a terrifying form to complete the cosmic cycle of annihilation. Other Purāṇas describe Kālī as another manifestation of Umā, the daughter of the Himalayas, reinforcing the idea that Kālī, Durgā, and Umā are interconnected expressions of the same divine principle. The *Kūrma* and *Varāha Purāṇas* further elaborate on her cosmic nature, presenting Kālī as Mahākālī, the embodiment of time itself. Here, darkness and fire combine to form a powerful metaphysical symbol of both destruction and rebirth.

### **Kālī, Durgā, and the Philosophy of Duality**

Philosophically, Kālī and Durgā are often understood as two dimensions of the same divine reality. While Durgā represents structured, protective power, Kālī embodies its unrestrained and primal form. Symbolically, when Durgā sheds her ornaments and social order, she transforms into Kālī. Śiva represents time (kāla), while Kālī represents the force that governs and transcends time. When energy departs from the body, life ceases thus reinforcing the belief that Śakti is the essence of existence.

### **Kālī Worship in Odisha: Historical and Cultural Dimensions**

The tradition of Śākta worship in Odisha is ancient and deeply rooted in indigenous belief systems. Archaeological and cultural evidence suggests that goddess worship predates classical

Hinduism in the region. The worship of Stambheśvarī stands as one of the earliest examples of goddess veneration. Over centuries, these indigenous practices merged with Brahmanical, Buddhist, and Jain Tantric elements, giving rise to a unique regional tradition. In Odisha, Kālī is often identified with Cāmuṇḍā or Caṇḍī and is depicted as dark-complexioned, skull-adorned, four-armed, and standing upon Śiva. The worship of clay idols of Kālī on Kārtika Amāvāsyā is relatively recent about a century old whereas Cāmuṇḍā worship dates back nearly fourteen centuries. Despite her wide significance, the worship of Goddess Kālī remains especially prominent in the south-eastern regions of Odisha, including Boudh, Kandhamal, Ganjam, Sonepur, Balangir, Bargarh, Sambalpur, and Angul. This form of worship attains particular importance during the month of Chaitra (March–April), when the Danda Jatra begins. During this period, Goddess Kālī is regarded as the principal deity (*Parava*) of the festival and occupies a central place in its ritual and devotional practices.

### **Conclusion:**

Goddess Kālī represents one of the most complex and profound symbols in Indian religious thought. Far from being merely a deity of destruction, she embodies the totality of existence creation, preservation, and annihilation. Her terrifying imagery serves as a philosophical metaphor for confronting fear, ego, and ignorance. The evolution of Kālī worship from primitive matriarchal traditions to sophisticated Tantric philosophy reflects broader socio-cultural transformations within Indian civilization. In Odisha, Kālī stands as a testament to the region's deep Śākta heritage, shaped by indigenous traditions and enriched by Tantric syncretism. Understanding Kālī, therefore, requires moving beyond literal interpretations to appreciate her as a dynamic force of transformation, balance, and ultimate liberation.

### **References:**

1. Kinsley, D. (1997). *Tantric visions of the divine feminine: The ten Mahāvidyās*. University of California Press.
2. McDermott, R. F., & Kripal, J. J. (Eds.). (2003). *Encountering Kali: In the margins, at the center, in the West*. University of California Press.
3. Pattanaik, D. (2013). *Shakti: The realm of the goddess*. HarperCollins India.
4. Sircar, D. C. (1973). *The Śākta pīṭhas*. Motilal Banarsidass.

## **FARMER EDUCATION AND TRAINING PROGRAM**

**Anjali Tomar\*<sup>1</sup> and Rahul Dhankar<sup>2</sup>**

<sup>1</sup>School of Agricultural Sciences, K. R. Mangalam University, Gurugram.

<sup>2</sup>School of Agricultural Sciences, G.D. Goenka University, Gurugram.

\*Corresponding author E-mail: [tomar.anjali1997@gmail.com](mailto:tomar.anjali1997@gmail.com)

### **Abstract:**

Agriculture is vital for global food security and economic growth, making farmer education increasingly important in the face of climate change, technological advancement, and market pressures. This chapter examines the role of farmer education and training programmes in enhancing sustainable agricultural practices, productivity, and livelihoods. It discusses key challenges faced by farmers and highlights education-based solutions that empower farmers to adapt, innovate, and contribute effectively to rural development.

**Keywords:** Agriculture, Education, Farmer, Training

### **Introduction:**

Agriculture plays a crucial role in global food security and economic development, influencing the well-being of individuals, communities, and nations. As the agricultural sector evolves in response to technological advancements, climate change, and market demands, the need for well-educated and trained farmers becomes increasingly crucial. This chapter explores the various aspects of farmer education and training programmes, their significance, challenges, and potential solutions.

Farmers around the world encounter numerous challenges that impact their ability to sustainably produce food, contribute to economic development, and enhance their overall well-being. These challenges arise from various factors, including environmental, economic, technological, and social issues. Education and training programs play a pivotal role in equipping farmers with the knowledge and skills needed to navigate and overcome these challenges.

### **Challenges Faced by Farmers:**

#### **1. Climate Change and Environmental Pressures:**

- **Erratic Weather Patterns:** Farmers contend with unpredictable and extreme weather events, such as droughts, floods, and heat waves, which can disrupt crop cycles and impact yields.
- **Soil Degradation:** Agricultural practices, if not managed sustainably, can lead to soil erosion, degradation, and loss of fertility, compromising long-term productivity.

#### **2. Market Volatility and Economic Uncertainty:**

- **Fluctuating Prices:** Farmers often face volatility in commodity prices, affecting their income and financial stability.

- **Access to Markets:** Limited access to markets and fair pricing mechanisms can hinder farmers' ability to sell their produce at competitive rates.

### **3. Technological Gaps:**

- **Limited Technology Adoption:** Many farmers, particularly in developing regions, face challenges in adopting and integrating modern agricultural technologies that could enhance efficiency and productivity.
- **Digital Divide:** The digital divide in rural areas can limit access to information and technology, hindering farmers' ability to benefit from innovations.

### **4. Resource Constraints:**

- **Limited Access to Capital:** Farmers, especially smallholders, often lack access to financial resources needed for investments in equipment, seeds, and technology.
- **Water Scarcity:** Water availability and irrigation challenges pose significant constraints, affecting crop growth and yields.

### **5. Knowledge Gaps and Education Deficits:**

- **Outdated Farming Practices:** Traditional farming methods may not be sustainable or resilient to contemporary challenges, necessitating education on modern and sustainable practices.
- **Lack of Agribusiness Skills:** Farmers may face challenges in marketing, financial management, and other aspects of agribusiness, impacting their overall success.

### **The Role of Education and Training:**

In this landscape of challenges, education and training emerge as powerful tools for empowering farmers. Targeted programs can:

- **Build Climate Resilience:** Educate farmers on climate-smart agriculture, sustainable practices, and adaptation strategies to mitigate the impacts of climate change.
- **Promote Technology Adoption:** Provide training on the use of modern technologies, precision farming, and digital tools to enhance efficiency and productivity.
- **Foster Financial Literacy:** Equip farmers with financial management skills, access to credit, and knowledge of market dynamics to improve economic outcomes.
- **Encourage Sustainable Practices:** Educate farmers on agroecology, conservation agriculture, and organic farming to promote environmental sustainability.
- **Bridge Knowledge Gaps:** Address information asymmetry by providing farmers with up-to-date knowledge on best practices, market trends, and innovations.
- **Enhance Agribusiness Skills:** Offer training in marketing, value chain development, and agribusiness management to empower farmers as entrepreneurs.

### **Definition of Education:**

Education is the process of bringing about desirable change into the behaviour of human beings (Dahama and Bhatnagar, 1988).

Education is a life-long process which helps an individual (a) adapt himself to the real world through participation and reciprocal interactions with the environment and (b) enhances the quality of social, professional and national life.

### **Types of Education:**

There are mainly three types of education, namely, Formal, Informal and Non-formal. Each of these types is briefly described below-

**a) Formal Education:** It is highly institutionalized, chronologically graded and hierarchically structured education starting from primary school and reaching upto university education.

**b) Informal Education:** It is the life-long educational process by which every person acquires knowledge, skills, attitudes and insights from daily experiences and exposure to the environment at home, at work, at play etc.

**c) Non-formal Education:** It is an organized, systematic educational activity carried on outside the frame work of the formal system to provide selected types of learning to particular sub-groups in the population, including adults and children. E.g.: adult education, vocational education, functional literacy, continuing education, extension education, farmers education etc.

### **Importance of Farmer Education**

- **Enhancing Agricultural Productivity:** Education equips farmers with the knowledge and skills needed to adopt modern farming techniques, leading to increased productivity and efficiency.
- **Sustainable Practices:** Educated farmers are more likely to embrace sustainable agricultural practices, promoting environmental conservation and long-term resilience.
- **Market Access and Entrepreneurship:** Farmer education empowers individuals to understand market dynamics, negotiate better prices, and explore entrepreneurial opportunities within the agricultural value chain.
- **Adaptation to Climate Change:** Training programmes can educate farmers on climate-smart practices, helping them adapt to changing weather patterns and mitigate the impact of climate change on their crops.
- **Risk Management:** Education enables farmers to understand and manage risks associated with agriculture, from pests and diseases to market fluctuations.

### **Meaning of Training:**

Training means to educate a person so as to be fitted, qualified and proficient in doing some job.

### **Definition of Training:**

Training is a process of acquisition of new skills, attitudes and knowledge in the context of preparing for entry into a vocation or improving ones productivity in an organization or enterprise.

Training is a systematic instructional means to develop knowledge, skills and attitude for adults in order to keep pace with the changes in life. It is the process by which individuals are helped to

acquire certain specific skills related to a given set of operations in certain specified contexts only.

**Methods of Farmer Education and Training:**

Training methods are means of communication of message(s) to the trainees. Several educational methods like lecture, group discussion, seminar, conference, case study, role play etc. are being used in providing training to farmers.

**Group Discussion:** It consists of two words –group and discussion, The word ‘Group’ is defined as a collection of individuals who interact with each other, accept expectations and obligations as members of the group and share a common identity. The word 'Discuss' has been derived from the Latin root 'discutere', which means to shake or strike. Thus 'discussion' refers to thoroughly shaking up the subject to reach a conclusion or solution of a specific problem.

Group discussion, as the name itself indicates is training or teaching method carried out through group activity by participating individuals. It is an exchange of ideas and thoughts among the individuals of a group on a specific topic. Group discussions may be defined as an activity in which a small number of persons meet face to face and exchange & share their ideas freely in an effort to take a decision on a common issue. Group discussions are a creative and dynamic activity which stimulates reflective thinking among the members

**Purpose of Group Discussion:**

- To solve a problem through group efforts.
- To exchange information.
- To motivate the members of the group.
- To plan a programme of action.
- To provide an opportunity to hear the opinions of other persons.
- To generate new ideas or new approaches to solve a problem.
- To enable each participant to put across his/her viewpoint.
- To enhance confidence of participants for expressing their ideas.
- To provide a deeper understanding of the specific topic or subject. 10. To train individuals.

**Advantages of Group discussion:**

- It is a democratic method, giving equal opportunity for each participant to express his ideas.
- It appeals to the practical type of individuals.
- It creates a high degree of interest.
- The strength of group discussion lies in the fact that the discussants approach the problem with an open mind and suspended judgment in a spirit of enquiry.
- It is a co-operative effort and not combative or persuasive in nature.

- Combined and co-operative thinking (Pooling of wisdom) of several persons is likely to be superior to that of isolated individuals.
- A small group can think together on a problem in an informal fashion and workout solutions better and faster by using this method than by following rigid parliamentary procedure. (Even parliament and legislatures recognize this when they appoint adhoc committees)
- Develops group morale. When a group discusses a question and then comes to a decision that is “our” decision for the group and they will see that our decision is carried out.
- It is a scientific method (employing the reflective thinking pattern).
- Participants need not be good speakers or debaters.
- Continued experience with such group discussions improves one's capacity for critical and analytical thinking

**Lecture:**

Lecture is a method of verbal presentation of a topic by a speaker to a group of audience. The lecture method is extensively used to present authoritative or technical information to develop back-ground, appreciation and to integrate ideas. The range of subjects that can be covered by this method is unlimited. But the speaker presents a specific subject to a particular audience. The speaker can use Audio visual aids in support of speech. The lecture is an excellent method for presenting information to a large number of persons in a short period of time. Its weakness is that people are not likely to master as much of the information as the speaker is likely to assume; It is a one-way communication. Members of audience listen in terms of their interests and remember in terms of motivation and memory. The chief limitation of this method is passive role of the audience. To compensate some what for this weakness, a discussion or a question-and-answer period may be held following the speech. This is generally called a forum. However, lectures designed to entertain or commemorate (e. g., humorous talks; patriotic addresses etc.,) are more-effective without a forum.

The chief characteristics of the “Lecture Method” are: (1) It is an organized presentation. (2) It can be used to cover thoroughly the subject matter. (3) It is adaptable to large groups. (4) It appeals to the “ear-minded”. (5) It conserves time. (6) Results are easy to check. (7) Listeners absorb information without thinking. (8) Material gained through lecture is not really learned. (9) The lecturer may “lose” his group or go over the heads of his group.

**Advantages:**

The Lecture method can be used advantageously

- With large groups where the individuals have some common back-ground of information and experience;
- When it is necessary to cover a large quantity of material in a given time;

- When it is necessary to arouse enthusiasm in initiating a new programme or in further development of a programme;
- When giving factual information;
- When providing a common back-ground of information as a basis for further study;

### **Result Demonstration**

#### **Meaning and definitions**

- It is the way of showing people the value/worth of a new practice
- It is a method of teaching, designed to show by example the practical application of an established facts What it is?
- Result demonstration is a demonstration conducted on the farmers field by the farmer to show the worth of an improved practice over the existing one under the close supervision of extension worker
- Here the comparison is made between the improved practice and existing or old or local practice
- This is conducted for a single practice (e.g. Improved variety) or series of related practices (Ex. SRI method of paddy cultivation).
- This method is considered as complete.

#### **Objectives / Why is it?**

- To show the worth of a new practice / technology over the existing practice
- To convince the farmers about the recommended practice / technology and for self conviction
- To educate and motivate other farmers to adopt the practice after the successful demonstration
- To establish confidence on the part of the farmer as well as extension worker.

#### **Advantages:**

- Helps to prove the worth of new practices/ technology over the existing i.e. useful in introducing a new practice.
- It motivates the farmers to go for adoption of improved practices
- It clarifies their doubts on the spot itself
- It builds up confidence among the farmers about new technologies
- Convince the hesitating farmers through the principle of “seeing is believing”
- Develops local leadership
- Provides teaching material for further use by extension worker.

#### **Field Trips/ Study Tour**

- It is also referred as study tour, educational tour etc
- Meaning: Study tour is a travel experience with a specific learning goal What is it?

- It is a method in which group of interested farmers accompanied & guided by extension workers, goes on tour to see and gain first hand knowledge of improved practice or latest technology in their natural setting
- Places to be visited – Research Stations, Demonstration Plots, Institutions, Farmers fields
- Well-planned field trip can be a valuable tool in the extension agent's educational toolbox.
- Study tours are designed to be both fun and educational.
- It is based on the principle of “seeing is believing”
- It may be for a day, a week of visit to places Why is it? / Purpose
- To Stimulate Interest, Conviction & Action in respect of New technology
- To impress the group about the Feasibility & Utility of series of related Practices / technology
- To see the accomplishments of other villages, colleges, universities, progressive farmers etc.
- To induce ‘Spirit of Healthy Competition’ by showing the accomplishments in other villages/ progressive farmers fields etc.
- To help people to recognise problems, to develop interest, generate discussion and to promote action.

#### **Advantages**

- Participants gain first- hand knowledge of improved practices
- Can serve to stimulate people to action
- Best suited to convince the “show me” type of people
- Widens the vision of farmers.
- Caters to group psychology and leadership.
- Promote better understanding between Extension Workers and participants

#### **Extension Talk:**

Extension Talk is verbal explanation / presentation / communication to a group of people for sharing a common interest to impart knowledge by activating listeners. This method focusses on the involvement of the participants in the talk. Characteristics:

- Effective for covering lot of material in short time.
- Imparts messages involving knowledge.
- Method is suitable when the learners are active.
- Emphasizes more on informality and involvement of audience.
- Transforms the people in terms of change in behaviour.

#### **Campaigns:**

It is an intensive teaching activity undertaken at an opportune time for a brief period; focusing attention in a concerted manner on a particular problem, with a view to stimulate the widest

possible interest in a community, block or other geographical area. Campaigns are launched only after a recommended practice has been found acceptable to the people as a result of other extension methods like method or result demonstrations etc.

The duration of a campaign may be for a single day on a theme like “water for life”, for a few weeks as in Rat control or family planning, for a few months as in Vanamahotsava (tree planting) and for a few years as in “Grow More Food Campaign”. A campaign may be held by involving a small number of people in a few villages, or by involving an entire community or the entire nation over the whole country as in “Pulse Polio” campaign. Campaign on certain themes (say, environment, disease control etc) may be organized over the whole world. Campaign around a theme may be organized only once, or may be repeated year after year, till the goal is satisfactorily reached.

**Purpose or Objective:**

To encourage emotional participation of a large number of people and to foster a favourable psychological climate for quick and large scale adoption of an improved practice.

**Advantages:**

- Specially suited to stimulate mass scale adoption of an improved practice in the shortest time possible. Eg: Rat control, organizing Vanamahotsava.
- Facilitates exploitation of group psychology for introducing new practices.
- Successful campaigns create conducive atmosphere for popularizing other methods.
- Builds up community confidence.
- This method is of special advantage in the case of certain practice which are effective only when the entire community adopts them.

**KisanMelas:**

Kisanmela is an organized educational activity for involving and educating farmers by bringing together the farmers, scientists, extension workers, input agencies, developmental departments and non-governmental agencies on agriculture or allied aspects at a Research Station or an agriculturally important educational center, where the farmers can see, interact and gain first hand knowledge about the latest technologies and developments in agriculture and allied aspects. It integrates several educational activities specifically directed to the farmers of a region, state or country.

**Objectives:**

1. To provide an opportunity for the farmers to practically witness the new production technologies demonstrated on the Agricultural Research Station and also to inform them about the on-going research in different aspects.
2. To enable the farmers to discuss with the University Scientists about the problems relating to agriculture and allied aspects directly.

3. To provide an opportunity for the farmers to directly come in contact with input manufacturers, dealer in agricultural machinery and implements to help the farmers know about the latest agricultural inputs, machinery, equipment etc. available in the market.
4. To help scientists to get feed back on recommended technologies as well as to sensitize them about the farmer's current problems on agriculture and allied aspects.
5. To develop a habit among farmers to visit Research Stations frequently to learn about latest technologies.
6. To convince the participants about the applicability of the practice in their own situation
7. To motivate them to adopt the practice by showing its performance and profitability under field conditions.
8. To remove doubts, superstitions and unfavourable attitude about the new practices.
9. To reinforce previous learning about the practice.

### **Farmer Education and Training Programs:**

#### **Farmer Field School (FFS):**

Farmers Field School (FFS) is a participatory training method which was introduced and established first in Central Java, Indonesia in 1989, under the assistance of Food and Agriculture Organisation (FAO) of the United Nations. The term "Farmer Field Schools" came from the Indonesian expression "Sekolah Lapangan" meaning just field school.

**Meaning of FFS:** The Farmer Field School is a form of adult education, which evolved from the concept that farmers learn optimally from field observation and experimentation. In regular sessions from planting till harvest, groups of neighboring farmers observe and discuss dynamics of the crop's ecosystem.

Simple experimentation helps farmers improve their understanding of functional relationships (e.g. pests-natural enemy population dynamics and crop damage-yield relationships). In this learning process, farmers develop the expertise that enables them to make their own crop management decisions. Special group activities encourage learning from peers, and strengthen communication skills and group building.

FFS is a place where farmers undergo a field oriented, discovery based training that enable them to become field experts and be able to grow a healthy crop.

FFS is an effective extension tool, which can be used for empowering the farming community, developing self-confidence, increase in social and human capital and promote better living through awareness of Health Environmental concerns (issues on sustainable agriculture).

#### **Concept of FFS**

- FFS consists of group of people with a common interests who get together on a regular basis to study the "how and why" of a particular topic. The topic covered can vary considerably from IPM, organic agriculture, animal husbandry, and soil husbandry to

income generating activities such as handicrafts.

- FFS is participatory extension methodology recognizes the need to involve farmers in technology development and transfer, in which farmers are central in the process of technology development.
- FFS emphasizes building on the farmers' ability to experiment and draw conclusions and it empowers farmers to improve their socio-economic conditions.
- FFS is basically "school without walls"
- FFS however, is particularly adapted to field's study, where specific hands on management skills and conceptual understanding are required.
- It operates with the principle of non-formal education (learner centred educational process) and most of the session and contents are based on the adult learning principle.
- It seeks to empower people to solve their problems actively by fostering participation, interaction, dialogue, joint decision-making, self confidence and self determination.
- Farmers learn by carrying out various activities through constant observation of the technology performance in the field.
- The lessons learnt in FFS can be applied directly in fields as curriculum follows the natural cycle of the crop/technology selected.
- The basic concept of Farmers Field School is-

"If I hear it, I forget it.

If I see it, I remember it.

If I do it, I own it for life".

### **Objectives of FFS**

- To empower farmers on decision-making.
- To educate farmers with science based learning.
- To make farmers the experts and evaluators instead of passive acceptors of technology
- To facilitate confidence building with field interaction and discovery based learning
- To encourage experimentation with skill orientation
- To facilitate farmers to grow healthy crop

### **Radio Rural Forum:**

It is a combination of mass medium and inter-personal communication and is more effective in reaching people with new ideas and persuades them to adopt innovations than mass media alone. Such combinations are known as media forums, where small organized groups of individuals meet regularly to receive a mass media programme and discuss its contents.

Media forums developed originally in Canada among farm families and later spread to India, Nigeria, Ghana, Costa Rica and Brazil. In India, an experiment called Radio Rural Forums was sponsored by jointly by the Ministry of Information and Broadcasting and the UNESCO in 1956. The forum members listened to bi-weekly broadcasts and related subject, held post-broadcast

discussions and forwarded their queries to be answered by the original broadcaster or the expert. The forum has a chairperson, a convener, and is comprised of 12-20 members. The convener, who acts as secretary, keeps record of attendance and writes the report in the prescribed form seeking answers to queries and follow-up action proposed to be taken on the message. The results of these forums were found greater especially in developing countries.

The reasons for the media having greater effects on individuals when they are members of media forums are as follows-

- Interest in attendance and participation is encouraged by group pressure and social expectations.
- Attitude change is readily achieved when individuals are in groups.
- Group decisions are more likely to be accepted by the individual if one participates in making decisions, as usually occurs in media forums.
- High credibility of the medium (in the case the All India Radio) may account for some of the success of media forums.

#### **Farm School on AIR:**

Farm School on the air is a method of providing systematic education on farming to the farmers through the process of distance learning. The following are the steps involved in the broadcast of Farm School on AIR.

- Planning of a comprehensive syllabus through selection of topics by a subject committee.
- Selection of the trainer to prepare the lessons, usually 15-20, on the selected topic.
- Registration of names by the trainee listeners with the radio station.
- Broadcast of lessons by the trainer on pre-announced fixed days, once every week, with provisio

- n for repeat broadcasts.
- Lecture-cum-discussion and question-answer format is used. Training session in the studio is participated by the trainer, an extension agent and a few farmers.
- Broadcast of the summary and relevant questions with answers from the trainer at the end of each lesson.
- Trainee listeners mail answer sheets containing answers to the questions on each lesson.
- Trainer evaluates the answer sheets and allot the marks.
- Announcement of results over radio and issue of certificates of participation by the radio station to the trainee farmers.

**Training Centers/Institutions for farmers:**

1. District Agril. Training Centers (DATCs)
2. KrishiVignanKendras (KVKs)
3. State Agricultural Universities (SAUs)
4. ICAR Institutes

**KrishiVigyan Kendra (Kvk) (Agricultural Science Centre):** The first KVK was established in 1974 at Pondicherry under Tamil Nadu Agricultural University. The KrishiVigyan Kendra (KVK), according to Prasad, Choudhary and Nayar (1987), is designed to impart need-based and skill-oriented vocational training to the practicing farmers, in-service field level extension workers, and to those who wish to go in for selfemployment. The first KVK was established in 1974 at Pondicherry under Tamil Nadu Agricultural University. The priority for establishing KVKs is given to hilly areas, drought prone areas, forest areas, coastal areas, flood prone areas, forest areas, coastal areas, flood prone areas, and areas dominated with tribal farmers, weaker sections, small farmers and landless labourers. The objective is to gradually cover the entire country with one KVK in each district, priority being given to the backward areas.

**The basic concepts of a KVK are-**

1. The center will impart learning through work-experience and, hence, will be concerned with technical literacy, the acquisition of which does not necessarily require as a precondition the ability to read and write.
2. The center will impart training only to those extension agents who are already employed or to practicing farmers and fishermen. In other words, these centers will cater to the needs of those who are already employed, or those who wish to be self-employed.
3. There will be no uniform syllabus for a KVK. The syllabus and programme of each center will be tailored according to the felt needs, natural resources and the potentials for agricultural growth in that particular area.

**The three fundamental principles of KVK are:**

- Agricultural production as the prime goal.

- Work-experience as the main method of imparting training and
- Priority to weaker sections of the society.

The main idea is to influence the productivity to achieve social justice for the most needy and deserving weaker sections of the society like the tribal farmers, small and marginal farmers, agricultural labourers, drought and flood affected farmers, and so on. Need-based training courses are designed for different types of clientele. Courses are based on the information received through family and village survey. No certificate or diploma is awarded irrespective of the duration of the courses. After the training, follow-up extension programmes are organized for converting the acquired skills of the trainees into practice. While designing the courses, the concept of farming system is taken into account to make the enterprises commercially viable.

**Mandate:**

The mandate of a KVK is unique for it and is determined on the basis of the most important needs of the clientele, their resources and constraints, and nature of the ecosystem. The success of a KVK is judged by the extent to which it fulfills obligations specified in the mandate.

1. On-farm testing on farmers fields of proven technologies in agriculture and allied fields.
2. Organising Vocational Trainings in agriculture and allied areas
3. Conducting frontline demonstrations on major cereal, oilseeds, pulses and other important crops
4. Organising in service training programmes to field / local extension functionaries in emerging advances in agriculture and allied areas.

The KVKs are fully funded by the Indian Council of Agricultural Research (ICAR). Initially, one KVK for each district was thought of and now two KVKs are also established in certain districts being the largest ones. Though KVKs are sponsored by ICAR they are working under different administrative controls viz., SAUs, NGOs and ICAR.

**District Agricultural Advisory and Transfer of Technology Centers (DAATTCs):**

Believing in the concept that every research scientist should also be an extension worker in serving farmers, the University works in active association and close co-operation with farmers through frequent farmer-scientist interactions joint and diagnostic field visits enabled University scientists to earn good will confidence and credibility of farmers. In order to reinforce and strengthen this mode of approach to solve many problems and complicated issues of farmers with ease, the University reorganized its extension activities by establishing the "District Agricultural Advisory and Transfer of Technology Centers" at all the 22 district head quarters in the state, barring Hyderabad urban district during 1998. Presently each DAATT Centre has 3 scientists 110 having specialized in crop production, Crop protection, transfer of technology and Veterinary. It is ultimately proposed to station eight scientists and each center.

**Objectives:**

- To assess and refine technologies generated by research scientists and evaluate their suitability for different farming situations.
- To assess the potential of the district by developing a comprehensive database to utilize district resources and prepare action plans in cooperation with line departments.
- To conduct field diagnostic visits, identify field-level problems, and provide appropriate scientific solutions.
- To organize Kisan Melas in coordination with line departments.
- To extend scientific expertise to line departments in conducting training programmes for officials, farmers, and input agencies.
- To establish effective linkages with research institutes and other district-level units.
- To assist in the implementation of the RAWE programme, internship programme, and RHWE programme for Agriculture, Veterinary, and Home Science students, respectively.
- To establish and maintain a useful Information Centre for farmers and stakeholders.
- To supply need-based scientific and popular information on enterprises to line departments for printing, multiplication, and distribution to farmers.
- To coordinate with All India Radio, television, and print media for the dissemination of relevant agricultural information within the district.
- To implement any other extension programmes undertaken by the University from time to time, in coordination with line departments.

The center is under the overall technical and administrative control of Associate Director of Research of the zone concerned who is in turn responsible to Director of Extension on extension activities of each district center in his jurisdiction. The District Agricultural Advisory and Transfer of Technology Centre (DAATTC) works mainly on Farmer-Extension-Research interaction mode

The DAATTC though independent works in coordination and cooperation with the line departments to avoid any duplication of functions. Areas of functioning of the center are decided by the District Coordination Committee which decides joint seasonal action plans of the center well in advance of the kharif and rabi seasons

**Training To Farmers:** There is a regular farmer training programme in all agricultural universities. There are training centers for young farmers. In some states, they also arrange short courses for the farmers. The training includes crop raising, animal feeding and management, plant protection. For such training the following points should be considered. 106 1. Time of holding the training: It should be at the convenience of the farmers i.e., when they are comparatively free from such of the agricultural operations. This will differ according to the seasons and climate. In case A.P., March to May for Kharif crop and August to September for rabi crop is ideal time for conducting training courses in Agriculture. 2. Duration of course: For

farmers who are engaged in farming, a one week course is sufficient for special topics such as use of irrigation facilities and water management, operation of implements and plant protection etc, it may be of two or three days duration. 3. Venue of course: Besides physical facilities, the appropriate environment under which the course is to be conducted i.e, where the farmers can see the actual crop, method demonstrations, operations with some machines and implements or some treatments such as fertilizer application, venue has to be given due considerations. 4. Production cum demonstration camps and discussion groups of the farmers: These should be arranged in the villages because the farmers cannot afford to remain away from their farms and homes. These should be organized before each main crop. The duration should be 1-2 days only, and the trainees or participants should be from the same village or groups of nearby villages, so that the farmers can walk back to their home the same evening. This will provide technical knowledge to the farmers right in their villages, and the topics can be related to their local problems.

**Farmers Training Centre (FTC):** Farmers Training Centres are the training centres of Department of Agriculture working in all the districts of Andhra Pradesh concentrating on capacity building of the farmers. FTCs have been established to improve the efficiency of farmers who have crucial role to play in accelerating by providing necessary knowledge and skills. Training programmes cover practicing farmers, farm women and young farmers. In A.P. Farmers training programme was started in 1968. First FTC was established in 1969 at Gopannapalem in West Godavari district. The main objective is to popularize latest technology among the cultivators by organizing short term training courses at village level, specially to small and marginal farmers, farm women and convenors of Charchamandals (Discussion Group).

**Objectives:**

1. To conduct training programmes for farmers for speedy diffusion of knowledge regarding modern agricultural techniques.
2. To develop efficient farm leadership
3. To inculcate among farmers the habit of seeking timely guidance from agricultural extension personnel and other experts

Types of Trainings conducted by FTC: The FTC conducts two types of trainings. They are 1) Non-Institutional and 2) Institutional. The details are given below:.

**I. Non-Institutional Trainings:**

1. Production cum Demonstration training Camps: The training camps are organized in each village extension worker circle to give training on H.Y.V's to farmers before the crop season with the objective to give a brief but complete demonstration of various techniques of growing the particular crop. Training is carried out by experienced field staff.

2. Farmers Discussion groups: Discussion groups consist of farmers and farmwomen. The discussion group serves as a forum for exchange of views and field problems faced by them. ii. Institutional Training: i. Short Term Courses for Farmers: These courses are developed to acquaint farmers with modern scientific technique of farming. These courses are conducted at the mandal headquarter or in the villages. Stipend is also paid to meet the incidental charges to each farmer for attending the training programmes. These are usually for 1 or 2 days only. 2. Short Term Courses for farmwomen: Training content includes the storage of agricultural produce, HYV grains, and methods of cooking, nutritional principles. Stipend is also paid.
3. National Demonstrations: National demonstrations are conducted in each district with emphasis on multiple cropping including HYVs of improved food crops in their region. The objective is to provide an opportunity to the farmer in the neighbourhood to see for themselves the methods and results of new agricultural practices recommended. The Subject Matter Specialist looks after the proper conduct of these demonstrations.
4. Study /Conducted Tours: To make the farmers training more effective through visual education and exchange of experiences, the conducted tours are organized. The place of visit may be research stations, agricultural university, experimental farms, private farms of progressive farmers.
5. Training courses for Conveners of CharchaMandals: a. Specialized training for 3 days b. Correspondence courses or radio broadcasts on agriculture technology c. Annual prizes for best run charchamandals FTC also conducts training programme for Water Users Associations (WUAs) FTC was actively involved in conducting Agricultural Market Committee Level training programmes to farmer

### **Challenges in Farmer Education and Training**

- i. **Limited Access to Education:** Geographic constraints, lack of resources, and inadequate infrastructure can limit farmers' access to formal education and training programmes.
- ii. **Traditional Mindset:** Overcoming resistance to change and convincing farmers to adopt new technologies and practices.
- iii. **Gender Disparities:** Addressing gender inequalities in access to education and training opportunities for female farmers.
- iv. **Lack of Coordination:** Inadequate collaboration between governmental agencies, NGOs, and private sector entities involved in farmer education.
- v. **Technological Barriers:** Bridging the digital divide to ensure that farmers, especially in remote areas, can benefit from technology-driven education and training.

**References:**

1. Kumar, P., & Mina, U. (2016). *Life sciences: Fundamentals and practice* (Part I). Academic publisher.
2. Manisha, M. (n.d.). *Types of polysaccharides (3 types)*. Biology Discussion. <https://www.biologydiscussion.com/carbohydrates/polysaccharides/types-of-polysaccharides-3-types/44929>
3. *Heteropolysaccharides*. (n.d.). *Encyclopaedia Britannica*. <https://www.britannica.com/science/carbohydrate/Heteropolysaccharides>
4. *Orders of protein structure*. (n.d.). Khan Academy. <https://www.khanacademy.org/science/biology/macromolecules/proteins-and-amino-acids/a/orders-of-protein-structure>
5. *Protein*. (n.d.). Wikipedia. <https://en.wikipedia.org/wiki/Protein>
6. *Classification of proteins based on structure and function*. (n.d.). Easy Biology Class. <https://www.easybiologyclass.com/classification-of-proteins-based-on-structure-and-function/>
7. *Hormones*. (n.d.). Lumen Learning. <https://courses.lumenlearning.com/suny-ap2/chapter/hormones/>
8. *Protein toxins*. (n.d.). Creative Biolabs. <https://www.creative-biolabs.com/adc/protein-toxins.htm>

## **HICKS REVISION OF DEMAND THEORY**

**Girish Mahajan**

Department of Agricultural Economics,  
Krishi Vigyan Kendra-Bara-Hamirpur (H.P.)

Corresponding author E-mail: [lovely\\_nickname@rediffmail.com](mailto:lovely_nickname@rediffmail.com)

Prof. J. R. Hicks brought out a book in 1956 in which he revised his demand theory which he presented in his earlier book *Value and Capital*. Now the question arises at the very outset is what prompted Prof. Hicks to undertake the revision of his earlier demand theory? Hicks revised theory of demand was mainly because of the reasons that:

1. Emergence of Samuelson's "Revealed Preference Hypothesis".
2. Use of econometrics or mathematics in economics.
3. The appearance of mathematical theories of strong and weak ordering.
4. Discovery of more closely reasoned derivation of demand from few simple propositions and logic.

Prof. Hicks was deeply influenced by the revealed preference hypothesis and the logic of strong ordering used by Samuelson's and his followers (Arrows, Little and Houthakkar) to derive theory of demand. It may, however, be pointed out that, though Hicks Revision of Demand Theory was greatly influenced by the works of Samuelson and his followers, he was never sceptical about the revealed preference approach.

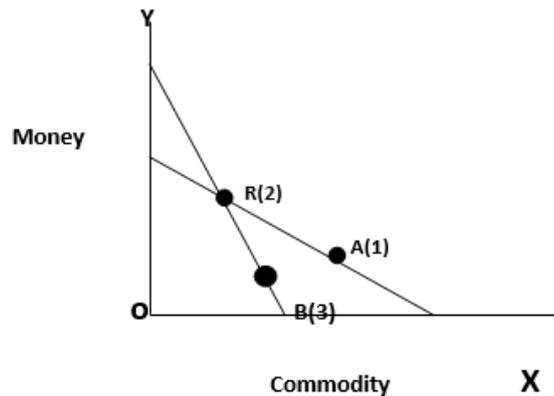
Prof. Hicks in his "revision of demand theory" emphasises econometric approach to the theory of demand. He holds that the demand theory which is useful for econometric purposes is definitely superior to the one which does not serve such purpose. Prof. Hicks in his "revision of demand theory" once again reject the concept of cardinal utility and the hypothesis of independent utility. He continues to believe that utility is ordinal.

Prof. Hicks pointed out the various disadvantages of indifference curve. (i) The geometrical method of indifference curve is fully effective and useful for representing only quite simple cases especially those in which the choice concerns quantities of two commodities only. (ii) The second disadvantage of the geometrical method of indifference curve, according to Prof. Hicks, is that "it forces us at the start to make assumption of continuity, a property in which the geometrical field does have but in which the economic in general does not have." He, therefore, gives up the assumption of continuity in his revision of demand theory.

**Theory:** let us assume a consumer who by definition is influenced by the current prices and income alone and then proceed to show how such consumer is expected to behave. Hicks assume preference hypothesis as a principle which governs the behaviour of consumer under such situation.

“The assumption of behaviour according to scale of preferences is known as preference hypothesis.” That mean ranking of preferences remains the same. This implies that consumer in a given market situation chooses the most preferred combination and he will choose different combinations in different market situation. But, his choices in different market situation will be consistent with each other.

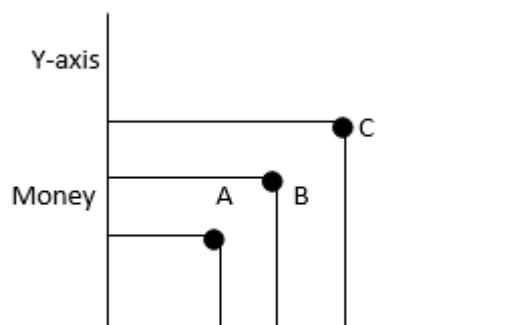
**Strong vs. Weak Ordering:** A set of items is strongly ordered if each item has a place of its own in the order and numbers and to each number there is one and only one item which would corresponds.



A weak ordering consists of a division into groups in which the sequence of groups is strongly order but in which there is no ordering within the groups. Weak ordering implies that a consumer chooses a portion and rejects other open to him. Then, the rejected portion need not be inferior to the portion actually chosen but may be indifferent to it. Thus, there is no definite revealed preference and it is a matter of chance that a particular combination is chosen.

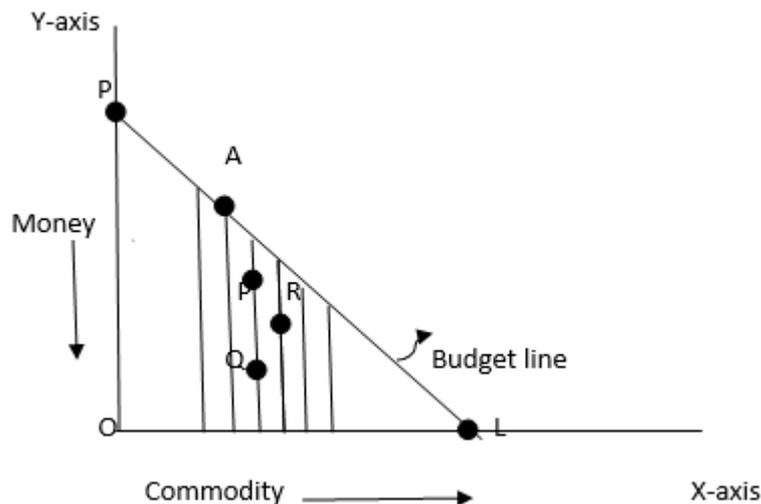
It should be noted that indifference curves imply weak ordering in as many as all the points on a given indifference curve are equally desirable and hence, occupy same place in order. On the other hand revealed preference approach imply strong ordering, since it assumes that the choices of a combination reveals consumer preference for it over all other alternate combination open to him.

**Hicks Criticism of Strong Ordering:** According to him, if both the axes in the diagram are discrete (as both money on x-axis and commodity on y-axis are discrete) then the choices on the corner of the square thus form, strong ordering will holds in this case because there is definite ordering.



But, in actual practice, money which is measured on Y-axis is not discrete but it is finally divisible. Here, logic of strong ordering will fail.

Here, in the diagram below, the effective alternatives will no longer be represented by squares but they will be in the form of parallel lines or strips. All points on a particular strip will be effective alternatives but, such alternative cannot be strongly ordered unless the entire strip is preferred over other. This means that the consumer would always prefer an additional unit of X whatever he had to pay for it. But, it is not possible. Thus, effective alternatives appearing on the strips cannot be strongly ordered.

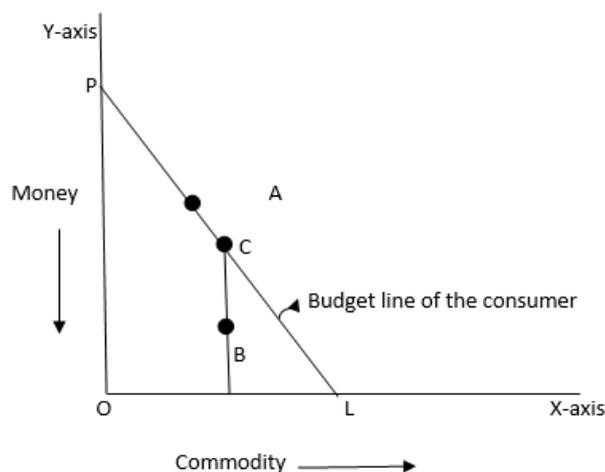


Suppose there are two alternatives P and Q on a given strip which are such that P is preferred to R on another strip, while R is preferred to Q. Given that, we can always find a point between P and Q which is indifferent to R. It is thus evident that when various alternatives appear on a series of strip there can be a relation of indifference between some of them.

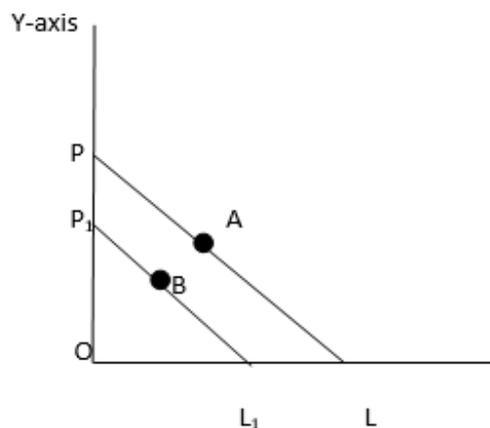
**The Logic of Weak Ordering:** The weak ordering hypothesis recognises the relation of indifference, while the strong ordering hypothesis does not. According to Hicks the point selected is not preferred to all other points but, in some of the cases, it may be indifferent. He has introduced another hypothesis which is the consumer will prefer a large amount of money to a small amount of money provided that the amount of good at X at his disposal remains the same.

Let A chosen under weak ordering implies A is preferred to B or A and B are indifferent. Now, consider point C which lies on a strip where B lies and touches the budget line PL. On the additional hypothesis basis C is preferred to B. Thus, if A and B are indifferent then C is preferred to A. But, C was available when A was chosen. This means that C cannot be preferred to A. Thus, it follows that the possibility that A and B are indifferent must be ruled-out, thus, it can be concluded that chosen combination A is preferred to any combination such as B which lies within the triangle. But, point A may be indifferent to all those point which lies on the budget line PL.

Weak ordering approach to be useful for demand theory requires additional assumptions to be made, namely, (i) Consumer prefers large amount of money to a smaller amount of money and (ii) Preference order is transitive.



**Direct Consistency Test:** Samuelson use this test under strong ordering whereas, Hicks use this test both under strong and weak ordering. The Direct Consistency Test is nothing else but the economic expression of the two term consistency conditions of the theory of logic of ordering.



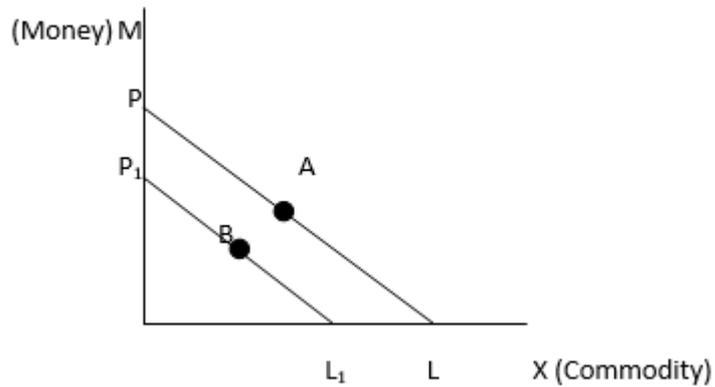
Since, the consumer is assumed to be acting according to the unchanged scale of preference in both situations, the preference shown by him in two situations must be consistent with each other. The consumer behaviour will be inconsistent if he reveals his preference for combination A over combination B in A situation, while in B situation he prefers combination B over A, when both combination A & B are available in both situations. But, under weak ordering the possibility of indifference has also to be taken into account.

Hicks have named the assumption of consistency as Direct Consistency Test. Let 'A' is chosen i.e. A is preferred to all points within the triangle but may be indifferent on the line PL. Let  $P_1L_1$  is another price income situation and let 'B' is chosen on this line. The same condition will exist as in case when we had PL as price line.

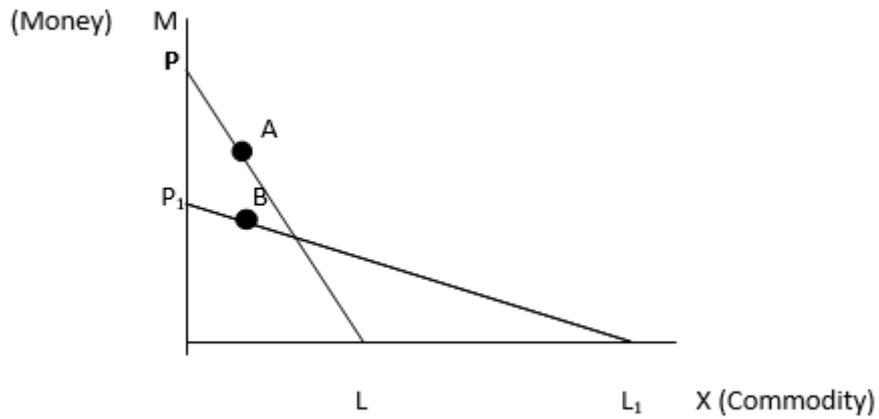
If both 'A' and 'B' are available in both situations, then the consumer will be inconsistent if he chooses 'A' in the first situation and 'B' in the second situation.

**Possible Cases of Consistency/ Inconsistency:**

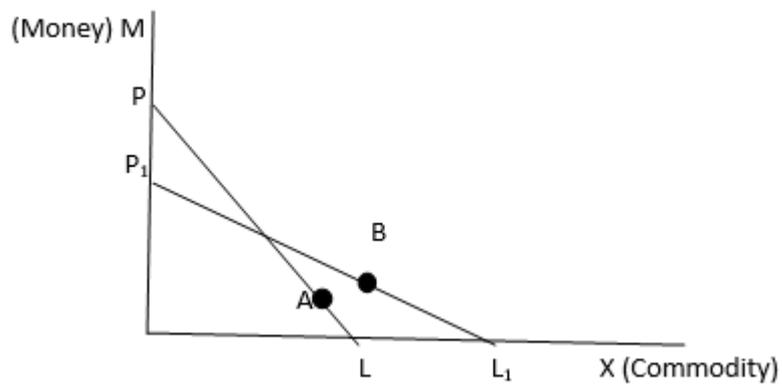
1. Consistent as when 'B' is selected at  $P_1L_1$ , then 'A' is not available.



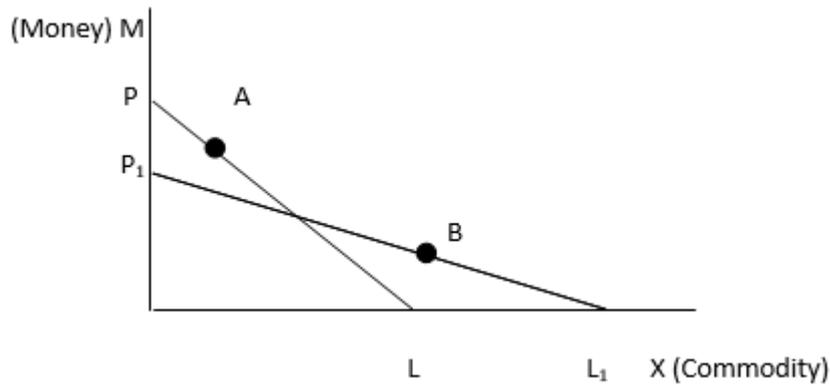
- 2 (i) Consistent as 'A' is not available in  $p_1l_1$  situation. Both the points lie on the left side of the cross.



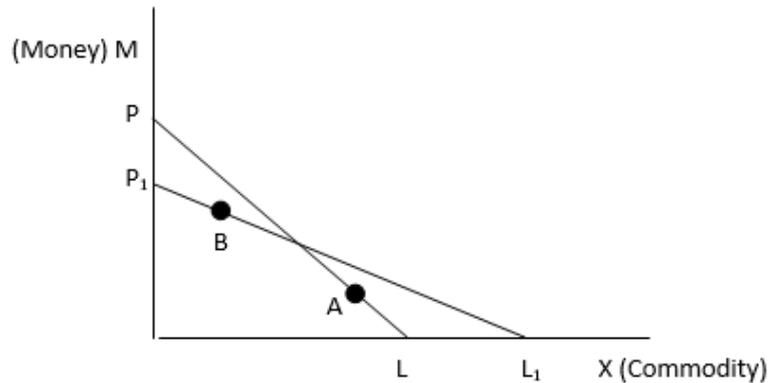
- 2 (ii) both points lie to the right of the cross. Consistent as B is not available in 'PL' situation.



2 (iii) Points 'A' and 'B' lie outside the cross. Consistent as 'B' is not available under PL situation and 'A' is not available under  $P_1L_1$  situation

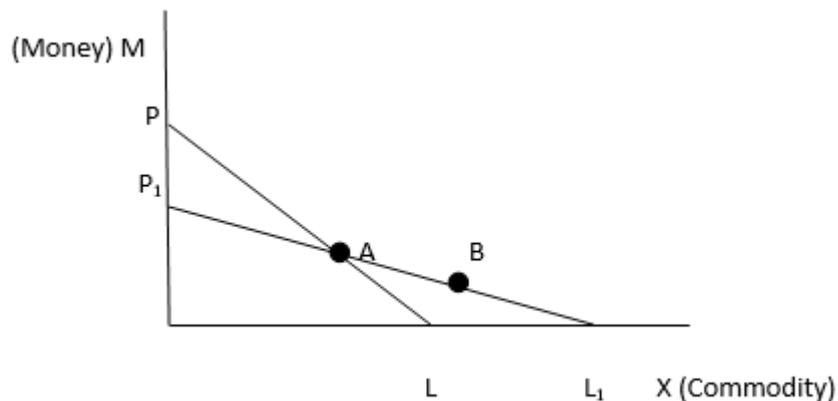


2 (iv) Both 'A' and 'B' are inside the cross, 'A' to the right and 'B' to the left. **Inconsistent** as 'A' is not taken as 'B' is within the triangle. But, in  $P_1L_1$  situation 'B' is selected when 'A' is also available.



**3. Special Cases of Consistency:** When one of the two choices positions lie at the cross, while the other chosen position may lies outside or inside the cross. Thus, two situation can be studied under these circumstance:

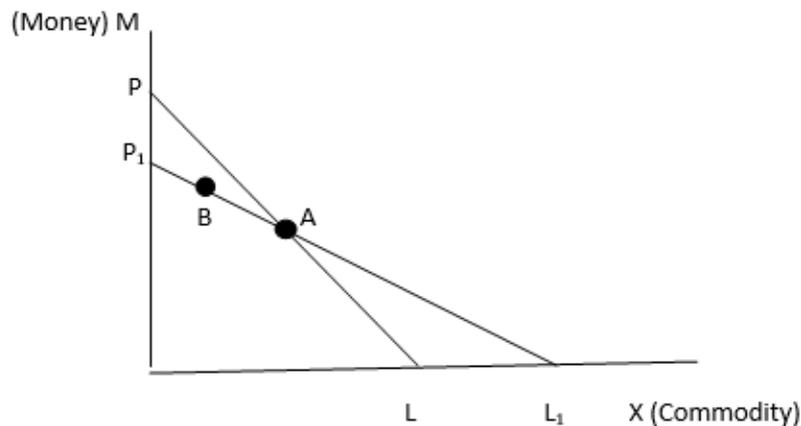
(i) 'A' on the cross and 'B' outside the cross. Consistent as 'B' is not available in 'PL' situation. Under  $P_1L_1$  situation, 'B' is chosen and under weak ordering hypothesis 'B' is either preferred or indifferent. Thus consistent.



'A' on the cross and 'B' within the cross. Inconsistent as 'A' is chosen when 'B' is within the triangle. But, in p111 situation, 'B' is chosen when 'A' is also available.

Thus, there will be inconsistency when

- (a) Both position 'A' and 'B' lie within the cross.
- (b) One position lies at the cross and the other within the cross.



If we take only one commodity (X) and money, then the results of consistency will be same under both weak and strong ordering hypothesis. But, if we generalize the analysis i.e. we allow the change in price of more than one commodity then, the results will be quite different.

**Derivation of law of Demand through Weak Ordering Approach:** The derivation of the Law of Demand via weak ordering (Hicks' revised theory) involves assuming consumers rank choices into groups (indifference classes) and then using methods like Compensating Variation or Cost Difference to separate price changes into substitution and income effects, proving that a fall in price generally leads to more demand, especially when combined with the direct consistency test, which assumes rationality and transitivity, ultimately showing demand curves slope downward.

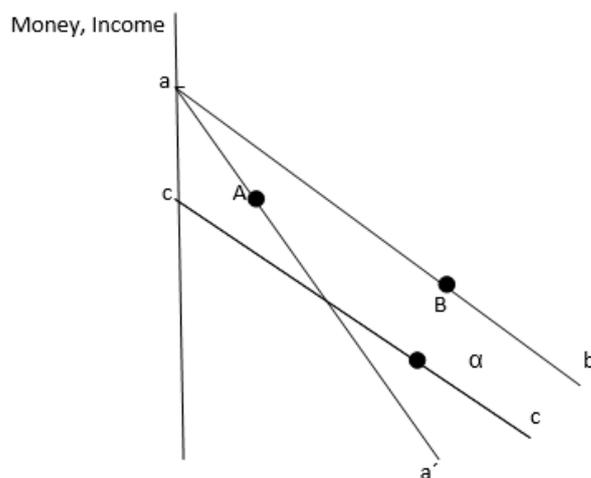
Hicks first derived the theory of demand for a single commodity i.e price of single commodity changes. Here, also Prof. Hicks divided the price effect into two (i) Income effect- which is based upon empirical evidence and (ii) Substitution effect-which is based upon consistency theory.

The substitution effect can be separated by means of two methods:

- (a) Compensating Variation Method
- (b) Method of Cost-Difference.

**(a) Deriving Law of Demand by Compensating Variation Method:**

In the diagram below XX' is not shown. If XX' is shown which means that consumer is spending extremely large proportion of income on that commodity. But, we do not show it. This mean XX' is somewhere at a very distant place and thus proportion of income spent on the commodity is quite small. Here, only upper part of the diagram is shown which is required for further analysis.



Let  $aa'$  is the price line, and 'A' is chosen by the consumer. Let price falls and the new price line is  $ab$ . From consistency theory, any point on 'ab' say 'B' must be preferred over 'A' because 'A' lies within the triangle 'aOb'. This point 'B' may lie right to 'A' or left to 'A' or above to 'A'. Under all conditions, the consumer is consistent.

Now the problem is where this position 'B' will lie. We can see that if the real income is reduced, then from the consistency theory we can conclude that the quantity demanded for 'X' must rise or remain constant but it cannot fall. This is because of substitution effect. Rest change in quantity demanded is income effect. Thus, in order to show the substitution effect on demand of a commodity we have to construct an intermediate position and making suitable reduction in income along with a fall in price of X.

Income is reduced so much that the intermediation position  $\alpha$ , chosen at a new lower price but with lower income is indifferent to the position 'A' / i.e the substitution effect measures the effect of changes in relative prices, with real income constant; the income effect measures the effect of changes in real income.

Consistency theory tells us that in what direction, the substitution effect works. The price line 'cc' will be parallel of 'ab' The point ' $\alpha$ ' and 'A' are indifferent. Thus, this is possible when we have:

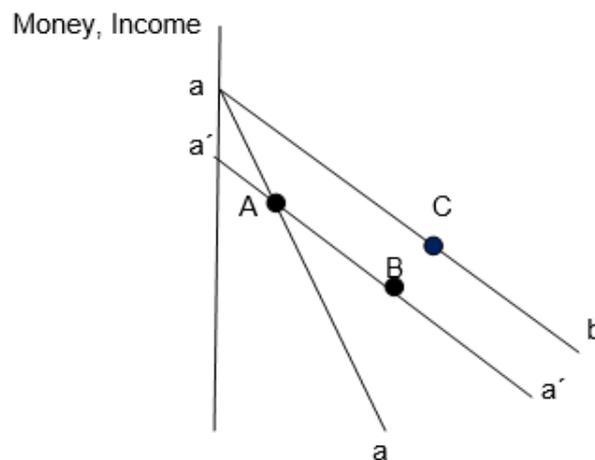
- (i) Both position 'A' & ' $\alpha$ ' lies outside the cross.
- (ii) From position 'A' & ' $\alpha$ ' one lies at the cross and other outside the cross.
- (iii) Both position 'A' and ' $\alpha$ ' lie at the cross.

All these conditions are possible only if the consumption of 'X' increases or remains the same. Thus, movement from 'A' to ' $\alpha$ ' represent the substitution effect.

Now, let the reduced income is rest roved to the consumer. Whether quantity demanded will increase, can't be measured with any theoretical analysis. But, from the empirical evidence we know that in case of most of goods, the consumption of good increases with the rise in income Thus, when the real income is rest roved to the consumer, he will buy more of good 'X' then at

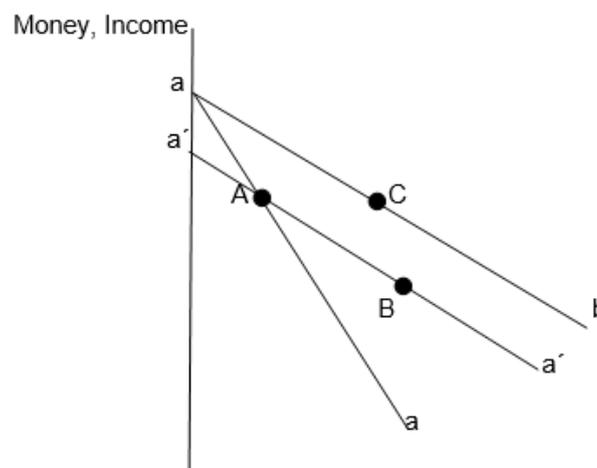
position 'α' and point 'B' will lie to the right of 'α' or the movement of 'α' to 'B' represents the income effect.

**Deriving Law of Demand by Cost-Difference Method:** Under this method, the fall in price of good 'X' is accompanied by reduction in income of the consumer by such an amount which will Money, Income leave the consumer just able to purchase the original combination 'A'. Thus, 'aa'' is draw parallel to 'ab', such that it passes through the point 'A'. Under consistency rule, 'B' must fall either to the right of 'A' or on a point 'A'. It cannot be left to 'A'. The movement from 'A' to 'B' represents substitution effect. Now, if income is again given to consumer, then on line 'ab', point 'C' will lie on the right of 'B'. The movement from 'B' to 'C' is the income effect.



This method is better than compensating variation method in the sense that it can be read off at once from the data of the situation under discussion.

**Giffen's Goods and Law of Demand:** Substitution effect always tends to increase the consumption of good. For inferior goods, income effect is negative. But, income effect of the change in price of a good is generally quite small as a very small proportion of his income is spent on a single commodity. Thus, the net result of the fall in price of an inferior good will then is the rise of its consumption of the commodity 'X'. Good of which less will be purchased with an increase in income and no change in price is called giffen's paradox.



As shown 'A' is the original consumption. 'aa'' is parallel to 'ab' (which is the fall in price of X). Point 'B' is independent to 'A' and lies to the right of 'A'. Movement from 'B' to 'C' is the income effect which is negative but substitution effect is more than income effect. Hence net price effect (movement from A to C) is positive

If the proportion of income spent on inferior goods are sufficiently large, then we may have fall in quantity demanded because of fall in price. Here, substitution effect is quite small (movement from A to B) as compared to income effect (movement from B to C). Thus, net price effect is negative. The choice of occurrence of such type of commodity is very rare in practical field.

### **Appraisal of Hicks Theory:**

Hick's theory is based upon weak logical ordering which goes deeper into the foundation of demand theory. By ignoring the concept of indifference curve, he corrected the drawback of continuity and maximizing behavior on the part of the consumer. Instead of maximizing satisfaction, consumer is assumed to be consistent in behavior. Further, this analysis can be easily applied to 'n' commodities on the basis of preference hypothesis and logic of ordering.

By introducing the concept of weak ordering, Hicks has been asked to retain the merits of indifference curve analysis as weak ordering recognizes the possibility of indifference in consumer's scale of preferences.

Negative income elasticity of demand or positive price elasticity of demand in case of Giffen's good has also been explained by Hicks theory which Samuelson's revealed preference Theory was unable to explain.

Complementary goods and substitute goods could be easily explained by breaking price effect into income and substitution effects. Thus, under present circumstances Hicks 'Revision of Demand Theory' is the only reliable theory of demand.

### **References:**

1. Henderson, J. M., & Quandt, R. E. (1958). *Microeconomic theory: A mathematical approach*. McGraw-Hill Book Company.
2. Hicks, J. R. (1956). *A revision of demand theory*. Clarendon Press.
3. Koutsoyiannis, A. (1975). *Modern microeconomics*. Macmillan Press.

## **LIFE-SPAN NUTRITION: DIETARY REQUIREMENTS AND HEALTH CONSEQUENCES FROM INFANCY TO AGEING**

**Ruchi Chaudhary\*<sup>1</sup>, Trapti Pandey<sup>1</sup> and Shiv Pratap Singh<sup>2</sup>**

<sup>1</sup>Department of Home Science,

<sup>2</sup>Department of Botany,

School of Sciences, IFTM University, Moradabad, 244102 India

\*Corresponding author E-mail: [ruchichahal1987@gmail.com](mailto:ruchichahal1987@gmail.com)

### **Abstract:**

Life-span nutrition highlights the importance of suitable and balanced dietary intake at every stage of human development, from infancy to old age, to promote optimal growth, health, and longevity. Nutritional requirements vary across life stages due to physiological growth, hormonal changes, metabolic demands, and ageing processes. Early-life nutrition, particularly during infancy and childhood, plays a critical role in physical growth, brain development, immune maturation, and metabolic programming, influencing health outcomes in adulthood. Adolescence represents a period of increased nutritional vulnerability due to rapid growth and heightened micronutrient requirements, while adulthood nutrition focuses largely on disease prevention and maintenance of metabolic health. Pregnancy and lactation impose additional nutritional demands with intergenerational consequences for maternal and child health. Ageing is associated with physiological changes that alter nutrient needs, increasing the risk of malnutrition, sarcopenia, osteoporosis, and micronutrient deficiencies. This chapter adopts a life-course perspective to review stage-specific dietary requirements and their implications for health and disease prevention. Emphasis is placed on the role of balanced diets, micronutrient adequacy, and preventive nutrition in reducing the burden of non-communicable diseases and promoting healthy ageing. Understanding life-span nutrition is essential for nutritionists, health professionals, educators, and policymakers to design effective dietary strategies and public health interventions that support lifelong well-being.

**Keywords:** Life-Span Nutrition, Dietary Requirements, Human Development, Healthy Ageing, Public Health Nutrition.

### **1. Introduction:**

Nutrition is a fundamental determinant of human growth, development, health, and longevity. It influences growth trajectories, metabolic function, immune competence, cognitive outcomes, and susceptibility to disease across the entire human life span. The concept of life-span nutrition recognises that nutritional requirements are not static; rather, they evolve dynamically from infancy through adulthood into older age in response to physiological growth, hormonal changes, metabolic demands, lifestyle factors, environmental exposures, and socio-cultural contexts.

Adequate nutrition at each life stage is therefore essential for maintaining metabolic homeostasis, supporting physical and cognitive development, and preventing both communicable and non-communicable diseases.

A growing body of scientific evidence supports the life-course approach to nutrition, which emphasises that nutritional exposures during critical periods of development beginning from fetal life and extending through infancy and childhood have profound and long-lasting effects on adult health and ageing outcomes. Poor nutrition during these sensitive windows may predispose individuals to chronic conditions such as obesity, diabetes, cardiovascular diseases, osteoporosis, and cognitive decline later in life, a concept central to the developmental origins of health and disease (DOHaD) paradigm (Barker, 2007; Kuruvilla *et al.*, 2018; Ren, Zhou, & Liu, 2025). Conversely, optimal early-life nutrition supports organogenesis, brain development, immune system maturation, and metabolic programming, thereby laying the foundation for lifelong health.

In recent years, the scientific community has increasingly adopted the concept of food as medicine, positioning dietary intake not merely as a source of energy and growth but as a strategic intervention for disease prevention and health promotion across all life stages. Contemporary nutritional frameworks emphasize life-stage-specific energy and macronutrient distribution, highlighting the nuanced roles of proteins, carbohydrates, fats, dietary fibre, and water in shaping long-term health outcomes (Heymsfield & Shapses, 2024). Evidence suggests that precise macronutrient balance enhances resilience against diet-related disorders, including obesity, type 2 diabetes, cardiovascular diseases, and certain cancers.

Midlife nutrition has emerged as a critical determinant of health in later years. Longitudinal cohort studies demonstrate that sustained adherence to healthy dietary patterns such as the Alternative Healthy Eating Index (AHEI), Mediterranean, DASH, and plant-rich diets during mid-adulthood is strongly associated with a reduced incidence of major chronic diseases and an increased likelihood of healthy ageing. Healthy ageing is defined not only by longevity but also by the preservation of physical function, cognitive capacity, and freedom from chronic disease (Tessier *et al.*, 2025). These findings underscore the modifiable nature of diet and its capacity to influence ageing trajectories even beyond early life.

Recent research further highlights the importance of dietary quality, particularly carbohydrate quality, in shaping long-term health outcomes. High consumption of whole grains, legumes, fruits, vegetables, and dietary fibre during midlife has been associated with improved physical and cognitive health in older age, demonstrating that carbohydrate quality, not merely quantity, plays a decisive role in promoting healthy ageing (Ardisson Korat *et al.*, 2025). Additionally, nutrition has been shown to influence cognitive and functional health span, with age-specific dietary patterns contributing to neural development, cognitive maintenance, and protection against age-related cognitive decline (Kim *et al.*, 2024).

Given the rapid global demographic shift toward ageing populations and the rising burden of non-communicable diseases, understanding the complexities of life-span nutrition has become increasingly important. A comprehensive life-course perspective is essential for informing public health strategies, clinical guidelines, and individualised dietary interventions aimed at promoting optimal health, functional independence, and quality of life across all stages of human development. Accordingly, this chapter provides a comprehensive review of nutritional requirements across the human life span, from infancy to old age, highlighting dietary recommendations, common nutritional challenges, and their associated health implications, with particular emphasis on preventive nutrition and healthy ageing.

## **2. Nutrition During Infancy (0–2 Years)**

Infancy represents the most rapid and critical phase of human growth and development, characterised by exceptionally high nutrient demands relative to body size. This period is marked by rapid tissue accretion, organ maturation, immune system development, and accelerated brain growth. Adequate nutrition during infancy is therefore essential for optimal physical growth, neurocognitive development, and long-term health outcomes. Nutritional inadequacies during this sensitive window may result in growth faltering, impaired cognitive development, increased susceptibility to infections, and elevated risk of non-communicable diseases later in life (UNICEF, 2020; Haider *et al.*, 2006).

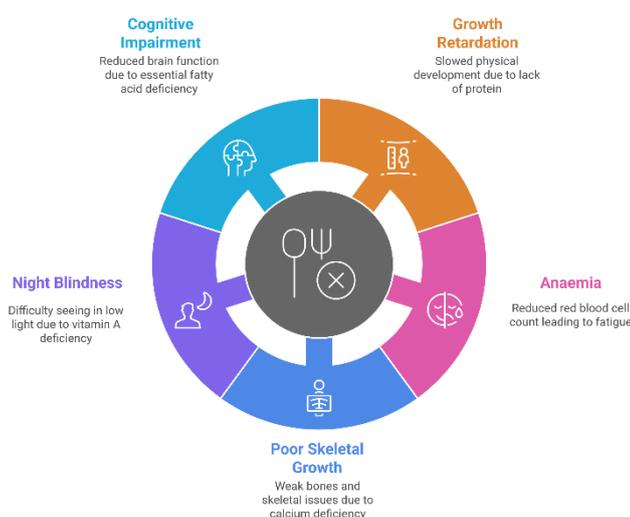
**2.1 Breastfeeding and Early Nutrition:** Breast milk is universally recognised as the gold standard of infant nutrition and is uniquely adapted to meet the physiological and developmental needs of infants. It provides an optimal balance of macronutrients, carbohydrates, proteins, and fats along with essential micronutrients, bioactive compounds, digestive enzymes, hormones, and immunological factors. These components collectively support gastrointestinal maturation, immune protection, metabolic regulation, and brain development (Victora *et al.*, 2016).

The WHO and UNICEF recommend exclusive breastfeeding for the first six months of life, followed by continued breastfeeding alongside appropriate complementary feeding up to two years of age or beyond (WHO, 2009). Exclusive breastfeeding has been consistently associated with reduced risks of gastrointestinal and respiratory infections, allergic disorders, and sudden infant death syndrome. In addition to these short-term benefits, breastfeeding confers long-term advantages, including improved cognitive performance and a reduced risk of childhood obesity, type 2 diabetes, and cardiovascular disease later in life (Victora *et al.*, 2016).

Recent studies further highlight the role of breastfeeding in shaping the infant gut microbiome. Human milk oligosaccharides and other bioactive components promote the growth of beneficial gut bacteria, particularly *Bifidobacterium* species, which are critical for immune development and metabolic programming. This early microbial colonisation is increasingly recognised as a key mediator of long-term immune tolerance and disease resistance (Granger *et al.*, 2021).

**2.2 Complementary Feeding:** After six months of age, breast milk alone becomes insufficient to meet the increasing energy and micronutrient requirements of infants, necessitating the introduction of complementary foods. Complementary feeding should be timely, nutritionally adequate, safe, and responsive, ensuring that foods are energy-dense and rich in essential nutrients (WHO, 2011).

Key nutrients of concern during this stage include iron, zinc, calcium, vitamin A, and essential fatty acids, which are vital for haemoglobin synthesis, immune function, skeletal development, vision, and brain growth. Evidence indicates that timely and diverse complementary feeding introduced at around six months supports optimal growth and reduces the risk of undernutrition, stunting, and micronutrient deficiencies (Black *et al.*, 2013; UNICEF, 2020).



**Figure 1: Nutrient deficiency outcomes**

In contrast, inappropriate complementary feeding practices such as delayed introduction, low dietary diversity, inadequate nutrient density, or poor food hygiene can lead to undernutrition, iron deficiency anaemia, impaired cognitive development, and increased susceptibility to infections. Emerging research also suggests that the quality and diversity of complementary foods influence gut microbiota development, metabolic health, and immune regulation, with potential long-term implications for disease risk (Ren *et al.*, 2024). These findings emphasise the importance of evidence-based infant feeding practices during this critical stage of development.

**Table 1: Key Nutritional Requirements During Infancy**

Nutrient	Function	Health Implications of Deficiency
Protein	Growth and tissue development	Growth retardation
Iron	Haemoglobin synthesis	Anaemia, cognitive delay
Calcium	Bone development	Poor skeletal growth
Vitamin A	Vision, immunity	Night blindness, infections
Essential fatty acids	Brain development	Cognitive impairment

### **3. Nutrition in Childhood (3–12 Years)**

Childhood is a vital developmental stage characterised by steady physical growth, increasing physical activity, maturation of organ systems, and rapid cognitive and psychosocial development. Nutritional adequacy during this period is essential to support linear growth, bone mineralisation, immune competence, and academic performance. Dietary habits established during childhood often persist into adolescence and adulthood, thereby influencing long-term health trajectories (WHO, 2009).

Balanced nutrition during childhood plays a critical role in preventing both undernutrition and the emerging burden of overnutrition and diet-related non-communicable diseases. Inadequate or imbalanced diets during this stage may result in growth retardation, micronutrient deficiencies, impaired learning capacity, and increased susceptibility to infections, whereas excessive intake of energy-dense, nutrient-poor foods increases the risk of obesity and metabolic disorders (UNICEF, 2020).

**3.1 Macronutrient Needs:** Energy requirements during childhood increase progressively with age to support growth, basal metabolism, and physical activity. Adequate energy intake is essential to prevent underweight and stunting, while excessive caloric intake can predispose children to overweight and obesity. Protein plays a crucial role in muscle development, tissue repair, enzyme synthesis, and immune function, with high-quality proteins being particularly important during periods of rapid growth (Trumbo *et al.*, 2020).

Carbohydrates serve as the primary source of energy for children and are essential for optimal brain function. Diets rich in complex carbohydrates such as whole grains, fruits, and vegetables provide sustained energy and dietary fibre, which supports gastrointestinal health. Dietary fats, particularly unsaturated fats, are essential for the absorption of fat-soluble vitamins (A, D, E, and K), cell membrane integrity, and neurological development. However, excessive intake of saturated and trans fats should be avoided due to their association with adverse cardiometabolic outcomes (FAO & WHO, 2010).

**3.2 Micronutrient Importance:** Micronutrient adequacy is particularly important during childhood due to its role in skeletal development, cognitive function, and immune defence. Calcium and vitamin D are critical for bone mineralisation and the attainment of optimal peak bone mass. Insufficient intake during childhood increases the risk of poor skeletal development and predisposes individuals to osteoporosis later in life (Golden *et al.*, 2014).

Iron is essential for haemoglobin synthesis and oxygen transport and plays a vital role in neurodevelopment and cognitive performance. Iron deficiency anaemia remains one of the most prevalent nutritional problems among school-aged children worldwide and is associated with impaired attention, learning difficulties, and reduced academic achievement (WHO, 2009).

Iodine is another key micronutrient required for thyroid hormone synthesis, which regulates growth and brain development. Iodine deficiency during childhood can lead to intellectual impairment and reduced cognitive potential (Zimmermann & Boelaert, 2015).

**3.3 Dietary Patterns and Health Risks:** In recent decades, significant shifts in dietary patterns among children have been observed globally. Increased consumption of ultra-processed foods, sugar-sweetened beverages, refined carbohydrates, and foods high in saturated fats and salt has become increasingly common. These unhealthy dietary patterns contribute to childhood obesity, dental caries, dyslipidaemia, insulin resistance, and early metabolic disturbances (Popkin *et al.*, 2020; Monteiro *et al.*, 2019).

Childhood obesity is of particular concern due to its strong association with obesity, type 2 diabetes, cardiovascular diseases, and certain cancers in adulthood. Evidence suggests that early exposure to unhealthy food environments and sedentary lifestyles amplifies these risks, underscoring the importance of early dietary interventions and nutrition education (UNICEF, 2020).

Promoting balanced dietary patterns rich in fruits, vegetables, whole grains, lean proteins, and healthy fats during childhood is essential for preventing diet-related diseases and supporting optimal growth and development. School-based nutrition programs, parental involvement, and supportive food environments play a critical role in shaping healthy eating behaviours during this formative stage of life.

#### **4. Nutrition during Adolescence**

Adolescence represents a critical transitional phase between childhood and adulthood, marked by rapid physical growth, sexual maturation, hormonal changes, and significant psychological and behavioural shifts. This period is nutritionally vulnerable because approximately 20–25% of adult height and 40–50% of adult body weight is attained during adolescence, resulting in substantially increased nutrient demands (Sawyer *et al.*, 2018; WHO, 2009).

**4.1 Increased Nutrient Requirements:** Energy and nutrient requirements rise sharply during adolescence to support accelerated growth, pubertal development, and increased physical activity. Adequate protein intake is essential for tissue synthesis, muscle development, and enzyme production. Calcium and vitamin D are particularly crucial, as nearly 90% of peak bone mass is achieved by late adolescence, making this stage decisive for lifelong skeletal health and osteoporosis prevention (Bonjour *et al.*, 1994; Weaver *et al.*, 2016).

Additionally, iron, zinc, iodine, and folate play vital roles in oxygen transport, immune function, DNA synthesis, and neurological development. Inadequate intake of these micronutrients can impair growth, delay puberty, and reduce academic and physical performance (FAO & WHO, 2019; Parajuli & Prangthip, 2024).

**4.2 Gender-Specific Nutritional Issues:** Nutritional challenges during adolescence often differ by sex due to physiological and hormonal factors. Adolescent girls are particularly vulnerable to iron deficiency anaemia, primarily due to menstrual blood loss combined with increased iron requirements during growth spurts. Iron deficiency at this stage has been associated with fatigue, impaired cognition, and reduced school performance (Pasricha *et al.*, 2021; Haider *et al.*, 2006).

In contrast, adolescent boys generally have higher energy and protein needs to support increased lean muscle mass and basal metabolic rate. Inadequate dietary intake during this period may compromise physical development and athletic performance (NCD-RisC, 2020).

**4.3 Behavioural Challenges and Long-Term Health Implications:** Adolescence is also characterised by evolving dietary behaviours that may negatively influence nutritional status. Common challenges include skipping meals (especially breakfast), excessive consumption of fast foods and sugar-sweetened beverages, restrictive dieting, and eating disorders. These behaviours contribute to micronutrient deficiencies, overweight and obesity, insulin resistance, and disordered eating patterns that can persist into adulthood (Neufeld *et al.*, 2022; Popkin *et al.*, 2020).

Emerging evidence indicates that poor dietary habits during adolescence significantly increase the risk of non-communicable diseases (NCDs) later in life, underscoring the importance of targeted nutritional education and early preventive interventions (UNICEF, 2020).

**Table 2: Nutritional Focus Areas Across Life Stages**

Life Stage	Key Nutritional Focus
Infancy	Breastfeeding, iron, essential fats
Childhood	Balanced diet, calcium, and iron
Adolescence	Energy, protein, calcium, and iron
Adulthood	Disease prevention, balanced intake
Aging	Protein, calcium, Vitamin D, B <sub>12</sub>

## 5. Nutrition in Adulthood

Adulthood is generally characterised by the stabilisation of physical growth; however, nutritional requirements remain dynamic due to variations in metabolic rate, physical activity, occupational demands, reproductive status, and ageing processes. During this stage, nutrition plays a pivotal role in maintaining physiological function, sustaining productivity, preserving mental health, and preventing the onset of non-communicable diseases (NCDs), which represent the leading causes of global morbidity and mortality (Feng *et al.*, 2025).

**5.1 Balanced Diet and Healthy Lifestyle:** A balanced and diverse diet is central to optimal health during adulthood. Dietary patterns rich in fruits, vegetables, whole grains, legumes, nuts, lean protein sources, and unsaturated fats have consistently been associated with reduced risk of cardiovascular disease, type 2 diabetes, obesity, and several cancers (Mozaffarian, 2016; Willett *et al.*, 2019).

Recent large-scale prospective cohort studies and meta-analyses have demonstrated that adherence to dietary models such as the Mediterranean diet, DASH diet, and plant-forward dietary patterns significantly lowers all-cause mortality and improves cardiometabolic health outcomes (Estruch *et al.*, 2006; Tessier *et al.*, 2025). These benefits are further enhanced when combined with regular physical activity, adequate sleep, and avoidance of tobacco and excessive alcohol consumption.

**5.2 Overnutrition, Sedentary Lifestyle, and Lifestyle Diseases:** In many regions, adulthood is increasingly marked by overnutrition and reduced physical activity, driven by urbanisation, sedentary occupations, and high availability of ultra-processed foods. Excessive caloric intake, particularly from refined carbohydrates, added sugars, and unhealthy fats, contributes to overweight, obesity, insulin resistance, and metabolic syndrome (Popkin *et al.*, 2020; WHO, 2011).

High dietary sodium intake is strongly associated with elevated blood pressure and increased risk of stroke and cardiovascular disease, while excessive consumption of saturated and trans fats promotes dyslipidaemia and atherosclerosis (He *et al.*, 2020; Mozaffarian *et al.*, 2021). These diet-related risk factors collectively contribute to the rising global burden of NCDs, emphasising the importance of preventive nutritional strategies in adulthood.

**5.3 Role of Micronutrients in Adult Health:** Although macronutrients receive significant attention, micronutrients remain essential for metabolic regulation, immune competence, cognitive function, and psychological well-being. Adequate intake of B-complex vitamins (particularly B<sub>6</sub>, B<sub>12</sub>, and folate) is critical for energy metabolism, red blood cell synthesis, and neurological health, while deficiencies have been linked to fatigue, depression, and cognitive impairment (Moravcova *et al.*, 2025).

Antioxidant micronutrients, including vitamins C and E, selenium, and zinc, help mitigate oxidative stress and inflammation, processes implicated in ageing and chronic disease development (Liguori *et al.*, 2018). Furthermore, emerging evidence suggests that optimal micronutrient status in adulthood supports healthy ageing trajectories and may reduce the risk of neurodegenerative disorders (Calder *et al.*, 2020).

## **6. Nutrition During Pregnancy and Lactation**

Pregnancy and lactation are among the most nutritionally demanding phases of the human life span. During these periods, maternal nutrition must simultaneously support the mother's physiological adaptations, fetal growth and development, and, during lactation, optimal breast milk production to meet infant nutritional needs. Nutritional inadequacies or excesses during these critical windows can have profound short- and long-term consequences for both maternal and child health, consistent with the Developmental Origins of Health and Disease (DOHaD) hypothesis (Barker, 2007; Godfrey *et al.*, 2016).

**6.1 Maternal Nutrient Requirements:** Pregnancy is characterised by increased requirements for energy, protein, and several key micronutrients due to expanded maternal tissues, increased blood volume, placental development, and rapid fetal growth. Energy needs increase progressively across trimesters, while adequate protein intake is essential for fetal tissue synthesis and maternal organ expansion (Rasmussen *et al.*, 2009; Jouanne *et al.*, 2021).

Micronutrient demands rise substantially during pregnancy. Folic acid plays a critical role in DNA synthesis and cell division, and periconceptional folic acid supplementation has been

conclusively shown to reduce the risk of neural tube defects such as spina bifida and anencephaly (Haider *et al.*, 2006). Iron requirements increase markedly to support expanded maternal erythropoiesis and fetal iron stores; iron deficiency anaemia during pregnancy remains a major global public health concern and is associated with fatigue, increased infection risk, and adverse birth outcomes (WHO, 2011).

Adequate intake of calcium and vitamin D is necessary for fetal skeletal development and maternal bone health, while iodine is essential for thyroid hormone synthesis and normal fetal brain development. Iodine deficiency during pregnancy can result in impaired neurodevelopment and reduced cognitive outcomes in offspring (Zimmermann, 2012). Additionally, omega-3 fatty acids, particularly docosahexaenoic acid (DHA), are vital for fetal brain and retinal development and are increasingly emphasised in prenatal nutrition guidelines (Koletzko *et al.*, 2007).

During lactation, nutritional requirements remain elevated to support milk synthesis and secretion. Although breast milk composition is relatively resilient, maternal deficiencies—particularly of iodine, vitamin A, vitamin B<sub>12</sub>, and omega-3 fatty acids—can adversely affect milk quality and infant nutrient intake (Allen & Dror, 2018).

**6.2 Health Implications of Maternal Nutrition:** Maternal undernutrition during pregnancy is strongly associated with adverse outcomes, including low birth weight, intrauterine growth restriction (IUGR), preterm birth, and increased infant morbidity and mortality. Evidence from epidemiological and interventional studies demonstrates that poor maternal nutrition can permanently alter fetal metabolic programming, increasing susceptibility to chronic diseases such as type 2 diabetes, cardiovascular disease, and obesity in later life (Barker, 2007; Gluckman *et al.*, 2010).

Conversely, overnutrition and excessive gestational weight gain have emerged as growing concerns, particularly in low- and middle-income countries undergoing nutritional transition. Excessive intake of energy-dense, nutrient-poor foods is associated with gestational diabetes mellitus (GDM), hypertensive disorders of pregnancy, caesarean delivery, and postpartum weight retention (Poston *et al.*, 2016; Popkin *et al.*, 2020). Importantly, offspring born to mothers with obesity or GDM have a higher risk of childhood obesity, insulin resistance, and metabolic disorders, perpetuating an intergenerational cycle of poor health.

During lactation, inadequate maternal nutrition may compromise maternal health by accelerating nutrient depletion, increasing fatigue, and reducing immune resilience. However, optimal maternal diet during breastfeeding contributes to improved infant immunity, neurodevelopment, and long-term health outcomes, reinforcing the importance of nutrition-focused maternal care beyond pregnancy (Victora *et al.*, 2016; Allen & Dror, 2018).

Overall, these findings emphasise that pregnancy and lactation represent critical windows for nutritional intervention. Ensuring adequate, balanced, and culturally appropriate maternal nutrition is essential for improving maternal well-being, promoting healthy infant development, and reducing the long-term burden of non-communicable diseases.

## **7. Nutrition in Ageing and Older Adults**

Ageing is accompanied by multiple physiological, metabolic, and psychosocial changes that significantly impact nutritional status. Common age-related alterations include reduced appetite (anorexia of ageing), impaired gastrointestinal digestion and absorption, altered taste and smell perception, hormonal changes, and decreased muscle mass. These changes increase susceptibility to malnutrition, sarcopenia, frailty, and chronic diseases, emphasising the importance of targeted nutritional strategies for older adults (Morley *et al.*, 2014).

**7.1 Protein and Muscle Health:** Adequate protein intake is critical for preserving lean body mass, preventing sarcopenia, and maintaining functional independence in older adults. Evidence indicates that older adults have higher protein requirements per kilogram of body weight compared to younger adults, due to age-related anabolic resistance (Phillips *et al.*, 2016; Bauer *et al.*, 2013).

Combining resistance exercise with sufficient high-quality protein intake has been shown to improve muscle strength, physical performance, and mobility, thereby reducing the risk of falls, fractures, and disability. Leucine-rich proteins and supplementation strategies are increasingly emphasised to enhance muscle protein synthesis in ageing populations (Deutz *et al.*, 2014; Hou *et al.*, 2019).

**7.2 Micronutrient Concerns:** Micronutrient deficiencies are highly prevalent in older adults due to reduced intake, malabsorption, and altered metabolism. Vitamin D and calcium deficiencies contribute to decreased bone mineral density and osteoporosis, increasing fracture risk. Vitamin B12 deficiency is common due to decreased gastric acid secretion and intrinsic factor production, resulting in anaemia and cognitive decline (Green *et al.*, 2017). Antioxidants, including vitamins C and E, selenium, and zinc, play an important role in mitigating oxidative stress, reducing inflammation, and supporting immune function, which are critical for healthy ageing and prevention of chronic diseases (Gombart *et al.*, 2020; Calder *et al.*, 2020). Ensuring adequate micronutrient intake, either through diet or supplementation, is therefore vital in the elderly.

**7.3 Malnutrition in Older Adults:** Malnutrition in ageing populations is often underdiagnosed and undertreated, despite its association with increased morbidity, frailty, reduced quality of life, and mortality (Shlisky *et al.*, 2017; Volkert *et al.*, 2019). Common risk factors include polypharmacy, socioeconomic constraints, cognitive decline, and physical limitations affecting food access and preparation. Implementing nutrient-dense dietary plans, fortification strategies, and community-based nutrition programs can improve nutrient intake, maintain functional status, and promote healthy ageing. Early screening for malnutrition using validated tools such as the Mini Nutritional Assessment (MNA) is recommended to identify at-risk individuals and initiate timely interventions (Kaiser *et al.*, 2009; Volkert *et al.*, 2019).

## **8. Life-Course Nutrition and Long-Term Health Outcomes**

The life-course perspective recognises that nutritional exposures at each stage of life, from preconception, infancy, childhood, adolescence, and adulthood to older age, profoundly

influence both immediate and long-term health outcomes. This framework highlights that nutrition is not only critical for growth and development but also for preventing chronic diseases and promoting healthy ageing (Barker, 2007; Godfrey *et al.*, 2016).

**8.1 Developmental Origins of Health and Disease (DOHaD):** Evidence from epidemiological studies and clinical research supports the DOHaD hypothesis, which posits that suboptimal nutrition during critical developmental windows such as fetal life, infancy, and early childhood can program long-term metabolic and cardiovascular health. For instance, maternal undernutrition, micronutrient deficiencies, or low birth weight are associated with an increased risk of type 2 diabetes, hypertension, obesity, and cardiovascular disease in adulthood (Barker, 2007; Gluckman *et al.*, 2010; Godfrey *et al.*, 2016).

Conversely, optimal early-life nutrition—including adequate breastfeeding, timely complementary feeding, and sufficient micronutrient intake—supports organ development, immune maturation, cognitive growth, and metabolic resilience, reducing susceptibility to non-communicable diseases (Victora *et al.*, 2016; Ren *et al.*, 2025).

**8.2 Nutrition in Adolescence and Adulthood:** Nutrition during adolescence and adulthood serves as a modifiable determinant of future health, capable of mitigating risks established in early life. Adherence to balanced dietary patterns, such as the Mediterranean, DASH, or plant-forward diets, has been shown to reduce cardiometabolic risk, improve cognitive function, and enhance longevity (Estruch *et al.*, 2006; Tessier *et al.*, 2025).

Regular physical activity combined with nutrient-dense diets during adulthood strengthens cardiovascular, skeletal, and immune health, and reduces the incidence of obesity, type 2 diabetes, and certain cancers (Willett *et al.*, 2019; Popkin *et al.*, 2020).

**8.3 Nutrition in Older Adults and Healthy Ageing:** In later life, adequate protein and micronutrient intake, along with lifestyle modifications, are key to preserving muscle mass, bone density, cognitive function, and immunity, thereby enhancing functional independence and quality of life (Morley *et al.*, 2014; Calder *et al.*, 2020). Nutritional interventions targeting older adults, such as fortified foods, community-based meal programs, and individualised dietary counselling, have been shown to reduce frailty, malnutrition, and age-related morbidity (Volkert *et al.*, 2019).

**8.4 Public Health Implications:** A life-course approach to nutrition emphasises that interventions should not be limited to a single life stage but should span preconception, pregnancy, infancy, childhood, adolescence, adulthood, and older age. Integrated public health strategies, including maternal supplementation, school feeding programs, workplace wellness initiatives, and community nutrition programs for older adults, can cumulatively reduce the burden of diet-related diseases and enhance population health outcomes (FAO & WHO, 2019; UNICEF, 2020).

Such an approach aligns with global health priorities to prevent malnutrition, promote healthy dietary behaviours, and ensure sustainable development goals related to health and well-being.

<b>S. No.</b>	<b>Life Stage</b>	<b>Key Nutrients / Focus</b>	<b>Dietary Recommendations</b>	<b>Health Implications</b>
1.	<b>Infancy (0–2 yrs)</b>	Protein, fat, DHA, iron, zinc, vitamin A, calcium	Exclusive breastfeeding for 6 months; timely complementary feeding with nutrient-dense foods	Supports rapid growth, brain development, and immune maturation; prevents micronutrient deficiencies and stunting
2.	<b>Childhood (3–12 yrs)</b>	Protein, calcium, vitamin D, iron, iodine, fibre	Balanced meals with fruits, vegetables, whole grains, lean protein; limit sugar and processed foods	Promotes skeletal growth, cognitive development, and immune function; prevents childhood obesity and early metabolic disorders
3.	<b>Adolescence (13–18 yrs)</b>	Protein, calcium, vitamin D, iron, folate, zinc	Adequate energy and nutrient intake to support puberty; gender-specific supplementation (iron for girls)	Supports growth spurts, sexual maturation, peak bone mass; prevents anaemia and nutrient deficiencies
4.	<b>Adulthood (19–50 yrs)</b>	Protein, fibre, antioxidants, B-vitamins, calcium, magnesium	Diet rich in fruits, vegetables, whole grains, lean proteins, healthy fats; maintain balanced energy intake	Maintains metabolic health, reduces risk of cardiovascular disease, diabetes, obesity, and cancer
5.	<b>Pregnancy &amp; Lactation</b>	Protein, folic acid, iron, calcium, iodine, vitamin D, DHA	Adequate maternal intake; supplementation as needed; nutrient-dense diet to support fetal growth and milk production	Prevents neural tube defects, maternal anaemia, and low birth weight; supports infant development and maternal health
6.	<b>Older Adults (≥60 yrs)</b>	Protein, vitamin D, calcium, vitamin B12, antioxidants, omega-3	High-quality protein intake (≥1.0–1.2 g/kg/day); fortified foods; nutrient-dense diet; maintain hydration	Prevents sarcopenia, osteoporosis, cognitive decline, and immune dysfunction; promotes functional independence and healthy ageing

7.	<b>Life-Course Perspective</b>	All essential macro- and micronutrients, balanced dietary patterns	Continuous adherence to healthy dietary patterns (Mediterranean, DASH, plant-forward)	Reduces chronic disease risk, supports healthy growth and development, promotes longevity and quality of life
----	--------------------------------	--	---	---

### Key Nutrients and Dietary Recommendations Across Life Stages

Life Stage	Key Nutrients / Focus	Dietary Recommendations	Health Implications
<b>Infancy</b> (0–2 yrs)	Protein, Fat, DHA, Iron, Zinc, Vitamin A, Calcium	Breastfeeding & nutrient-rich complementary foods	Supports growth & brain development
<b>Childhood</b> (3–12 yrs)	Protein, Calcium, Vitamin D, Iron, Iodine, Fiber	Balanced meals; limit sugar & junk foods	Promotes bone health & learning
<b>Adolescence</b> (13–18 yrs)	Protein, Calcium, Vitamin D, Iron, Folate, Zinc	Adequate energy; iron for girls	Supports puberty & peak bone mass
<b>Adulthood</b> (19–50 yrs)	Protein, Fiber, Antioxidants, B-Vitamins, Calcium, Magnesium	Fruits, vegetables, whole grains, healthy fats	Reduces chronic disease risk
<b>Pregnancy &amp; Lactation</b>	Protein, Folic Acid, Iron, Calcium, Iodine, DHA	Prenatal vitamins; nutrient-dense diet	Supports fetal & maternal health
<b>Older Adults</b> (≥60 yrs)	Protein, Vitamin D, Calcium, Vitamin B12, Omega-3	High-protein, fortified foods; hydration	Prevents frailty & cognitive decline
<b>Life-Course Perspective</b>	Balanced Diets (Mediterranean, DASH, Plant-Based)	Healthy eating at all stages of life	Enhances lifelong health & longevity

### Conclusion:

Nutrition across the life span critically influences growth, development, and long-term health outcomes. Adequate intake during infancy, childhood, adolescence, adulthood, pregnancy, lactation, and older age supports physiological function, cognitive development, and disease prevention. Life-course nutrition underscores that early-life dietary exposures, combined with sustained healthy dietary practices, reduce chronic disease risk, promote healthy ageing, and enhance quality of life. Integrated, stage-specific nutritional interventions are essential for population health and longevity.

### References:

- Allen, L.H., & Dror, D.K. (2018). Introduction to Current Knowledge on Micronutrients in Human Milk: Adequacy, Analysis, and Need for Research. *Advances in Nutrition*, 9, 275S–277S.
- Ardisson Korat, A. V., Duscova, E., Shea, M. K., Jacques, P. F., Sebastiani, P., Wang, M., Mahdavi, S., Eliassen, A. H., Willett, W. C., & Sun, Q. (2025). Dietary Carbohydrate Intake, Carbohydrate Quality, and Healthy Ageing in Women. *JAMA network open*, 8(5), e2511056. <https://doi.org/10.1001/jamanetworkopen.2025.11056>

3. Barker, D. J. P. (2007). The origins of the developmental origins theory. *Journal of Internal Medicine*, 261(5), 412–417. <https://doi.org/10.1111/j.1365-2796.2007.01809.x>
4. Bauer, J., Biolo, G., Cederholm, T., Cesari, M., Cruz-Jentoft, A. J., Morley, J. E., Phillips, S., Sieber, C., Stehle, P., Teta, D., Visvanathan, R., Volpi, E., & Boirie, Y. (2013). Evidence-based recommendations for optimal dietary protein intake in older people: A position paper from the prot-age study group. *Journal of the American Medical Directors Association*, 14(8), 542-559. <https://doi.org/10.1016/j.jamda.2013.05.021>
5. Black, R. E., Victora, C. G., Walker, S. P., Bhutta, Z. A., Christian, P., de Onis, M., Ezzati, M., Grantham-McGregor, S., Katz, J., Martorell, R., Uauy, R., & Maternal and Child Nutrition Study Group (2013). Maternal and child undernutrition and overweight in low-income and middle-income countries. *Lancet (London, England)*, 382(9890), 427–451. [https://doi.org/10.1016/S0140-6736\(13\)60937-X](https://doi.org/10.1016/S0140-6736(13)60937-X)
6. Bonjour, J. P., Theintz, G., Law, F., Slosman, D., & Rizzoli, R. (1994). Peak bone mass. *Osteoporosis international: a journal established as a result of cooperation between the European Foundation for Osteoporosis and the National Osteoporosis Foundation of the USA*, 4 Suppl 1, 7–13. <https://doi.org/10.1007/BF01623429>
7. Calder, P. C., Carr, A. C., Gombart, A. F., & Eggersdorfer, M. (2020). Optimal Nutritional Status for a Well-Functioning Immune System Is an Important Factor to Protect against Viral Infections. *Nutrients*, 12(4), 1181. <https://doi.org/10.3390/nu12041181>
8. Deutz, N. E., Bauer, J. M., Barazzoni, R., Biolo, G., Boirie, Y., Bosity-Westphal, A., Cederholm, T., Cruz-Jentoft, A., Krznarić, Z., Nair, K. S., Singer, P., Teta, D., Tipton, K., & Calder, P. C. (2014). Protein intake and exercise for optimal muscle function with ageing: recommendations from the ESPEN Expert Group. *Clinical nutrition (Edinburgh, Scotland)*, 33(6), 929–936. <https://doi.org/10.1016/j.clnu.2014.04.007>
9. Estruch, R., Martínez-González, M. A., Corella, D., Salas-Salvadó, J., Ruiz-Gutiérrez, V., Covas, M. I., Fiol, M., Gómez-Gracia, E., López-Sabater, M. C., Vinyoles, E., Arós, F., Conde, M., Lahoz, C., Lapetra, J., Sáez, G., Ros, E., & PREDIMED Study Investigators (2006). Effects of a Mediterranean-style diet on cardiovascular risk factors: a randomised trial. *Annals of internal medicine*, 145(1), 1–11. <https://doi.org/10.7326/0003-4819-145-1-200607040-00004>
10. FAO & WHO. (2010). Fats and fatty acids in human nutrition: Report of an expert consultation. 91, 1–166.
11. FAO & WHO. (2019). Sustainable healthy diets: Guiding principles. Food and Agriculture Organization of the United Nations.
12. Feng, Y., Sun, D., Sun, X., Guo, Q., Zhang, J., & Li, Y. (2025). Global burden of noncommunicable diseases attributable to modifiable behavioral risks among adolescents

- and young adults aged 10-24 years, 1990-2021. *BMC medicine*, 23(1), 636. <https://doi.org/10.1186/s12916-025-04463-7>
13. Gluckman, P. D., Hanson, M. A., & Buklijas, T. (2010). A conceptual framework for the developmental origins of health and disease. *Journal of developmental origins of health and disease*, 1(1), 6–18. <https://doi.org/10.1017/S2040174409990171>
  14. Godfrey, K. M., Costello, P. M., & Lillycrop, K. A. (2016). Development, Epigenetics and Metabolic Programming. *Nestle Nutrition Institute workshop series*, 85, 71–80. <https://doi.org/10.1159/000439488>
  15. Golden, N. H., Abrams, S. A., & Committee on Nutrition (2014). Optimizing bone health in children and adolescents. *Pediatrics*, 134(4), e1229–e1243. <https://doi.org/10.1542/peds.2014-2173>
  16. Gombart, A. F., Pierre, A., & Maggini, S. (2020). A Review of Micronutrients and the Immune System-Working in Harmony to Reduce the Risk of Infection. *Nutrients*, 12(1), 236. <https://doi.org/10.3390/nu12010236>
  17. Granger, C. L., Embleton, N. D., Palmer, J. M., Lamb, C. A., Berrington, J. E., & Stewart, C. J. (2021). Maternal breastmilk, infant gut microbiome and the impact on preterm infant health. *Acta Paediatrica*, 110(2), 450-457.
  18. Green, R., Allen, L. H., Bjørke-Monsen, A. L., Brito, A., Guéant, J. L., Miller, J. W., Molloy, A. M., Nexø, E., Stabler, S., Toh, B. H., Ueland, P. M., & Yajnik, C. (2017). Vitamin B12 deficiency. *Nature reviews. Disease primers*, 3, 17040. <https://doi.org/10.1038/nrdp.2017.40>
  19. Haider, R., & World Health Organization. Regional Office for South-East Asia. (2006). Adolescent nutrition: a review of the situation in selected south-east Asian countries. World Health Organization, Regional Office for South-East Asia.
  20. He, F. J., Tan, M., Ma, Y., & MacGregor, G. A. (2020). Salt Reduction to Prevent Hypertension and Cardiovascular Disease: JACC State-of-the-Art Review. *Journal of the American College of Cardiology*, 75(6), 632–647. <https://doi.org/10.1016/j.jacc.2019.11.055>
  21. Heymsfield, S. B., & Shapses, S. A. (2024). Guidance on Energy and Macronutrients across the Life Span. *The New England journal of medicine*, 390(14), 1299–1310. <https://doi.org/10.1056/NEJMra2214275>
  22. Hou, L., Lei, Y., Li, X., Huo, C., Jia, X., Yang, J., Xu, R., & Wang, X. (2019). Effect of Protein Supplementation Combined with Resistance Training on Muscle Mass, Strength and Function in the Elderly: A Systematic Review and Meta-Analysis. *The journal of nutrition, health & aging*, 23(5), 451–458. <https://doi.org/10.1007/s12603-019-1181-2>
  23. Jouanne, M., Oddoux, S., Noël, A., & Voisin-Chiret, A. S. (2021). Nutrient Requirements during Pregnancy and Lactation. *Nutrients*, 13(2), 692. <https://doi.org/10.3390/nu13020692>

24. Kaiser, M. J., Bauer, J. M., Ramsch, C., Uter, W., Guigoz, Y., Cederholm, T., Thomas, D. R., Anthony, P., Charlton, K. E., Maggio, M., Tsai, A. C., Grathwohl, D., Vellas, B., Sieber, C. C., & MNA-International Group (2009). Validation of the Mini Nutritional Assessment short-form (MNA-SF): a practical tool for identification of nutritional status. *The journal of nutrition, health & aging*, 13(9), 782–788. <https://doi.org/10.1007/s12603-009-0214-7>
25. Kim, C., Schilder, N., Adolphus, K., Berry, A., Musillo, C., Dye, L., Cirulli, F., Korosi, A., & Thuret, S. (2024). The dynamic influence of nutrition on prolonged cognitive healthspan across the life course: A perspective review. *Neuroscience applied*, 3, 104072. <https://doi.org/10.1016/j.nsa.2024.104072>
26. Koletzko, B., Cetin, I., Brenna, J. T., ...*et al.* (2007). Dietary fat intakes for pregnant and lactating women. *The British journal of nutrition*, 98(5), 873–877. <https://doi.org/10.1017/S0007114507764747>
27. Kuruvilla, S., Sadana, R., Montesinos, E. V., Beard, J., Vasdeki, J. F., Araujo de Carvalho, I., Thomas, R. B., Drisse, M. B., Daelmans, B., Goodman, T., Koller, T., Officer, A., Vogel, J., Valentine, N., Wootton, E., Banerjee, A., Magar, V., Neira, M., Bele, J. M. O., Worning, A. M., ... Bustreo, F. (2018). A life-course approach to health: synergy with sustainable development goals. *Bulletin of the World Health Organization*, 96(1), 42–50. <https://doi.org/10.2471/BLT.17.198358>
28. Liguori, I., Russo, G., Curcio, F., Bulli, G., Aran, L., Della-Morte, D., Gargiulo, G., Testa, G., Cacciatore, F., Bonaduce, D., & Abete, P. (2018). Oxidative stress, aging, and diseases. *Clinical interventions in aging*, 13, 757–772. <https://doi.org/10.2147/CIA.S158513>
29. Monteiro, C. A., Cannon, G., Levy, R. B., Moubarac, J. C., Louzada, M. L., Rauber, F., Khandpur, N., Cediel, G., Neri, D., Martinez-Steele, E., Baraldi, L. G., & Jaime, P. C. (2019). Ultra-processed foods: what they are and how to identify them. *Public health nutrition*, 22(5), 936–941. <https://doi.org/10.1017/S1368980018003762>
30. Moravcova, M., Siatka, T., Krčmová, L. K., Matoušová, K., & Mladěnka, P. (2025). Biological properties of vitamin B12. *Nutrition Research Reviews*, 38(1), 338-370.
31. Morley, J. E., Anker, S. D., & von Haehling, S. (2014). Prevalence, incidence, and clinical impact of sarcopenia: facts, numbers, and epidemiology-update 2014. *Journal of cachexia, sarcopenia and muscle*, 5(4), 253–259. <https://doi.org/10.1007/s13539-014-0161-y>
32. Mozaffarian D. (2016). Dietary and Policy Priorities for Cardiovascular Disease, Diabetes, and Obesity: A Comprehensive Review. *Circulation*, 133(2), 187–225. <https://doi.org/10.1161/CIRCULATIONAHA.115.018585>
33. Mozaffarian, D., Fleischhacker, S., & Andrés, J. R. (2021). Prioritizing Nutrition Security in the US. *JAMA*, 325(16), 1605–1606. <https://doi.org/10.1001/jama.2021.1915>

34. NCD Risk Factor Collaboration (NCD-RisC) (2020). Height and body-mass index trajectories of school-aged children and adolescents from 1985 to 2019 in 200 countries and territories: a pooled analysis of 2181 population-based studies with 65 million participants. *Lancet (London, England)*, 396(10261), 1511–1524. [https://doi.org/10.1016/S0140-6736\(20\)31859-6](https://doi.org/10.1016/S0140-6736(20)31859-6)
35. Neufeld, L.M., Andrade, E.B., Suleiman, A.B., Barker, M., Beal, T., Blum, L.S., Demmler, K.M., Dogra, S., Hardy-Johnson, P., Lahiri, A. and Larson, N., (2022). Food choice in transition: adolescent autonomy, agency, and the food environment. *The lancet*, 399(10320), 185-197.
36. Parajuli, J., & Prangthip, P. (2025). Adolescent Nutrition and Health: a Critical Period for Nutritional Intervention to Prevent Long Term Health Consequences. *Current nutrition reports*, 14(1), 116. <https://doi.org/10.1007/s13668-025-00706-4>
37. Pasricha, S. R., Tye-Din, J., Muckenthaler, M. U., & Swinkels, D. W. (2021). Iron deficiency. *The Lancet*, 397(10270), 233-248.
38. Phillips, S. M., Chevalier, S., & Leidy, H. J. (2016). Protein “requirements” beyond the RDA: implications for optimizing health. *Applied Physiology, Nutrition, and Metabolism*, 41(5), 565-572.
39. Popkin, B. M., Barquera, S., Corvalan, C., Hofman, K. J., Monteiro, C., Ng, S. W., & Swart, R. (2020). Towards unified and impactful policies to reduce ultra-processed food consumption. *The Lancet Diabetes & Endocrinology*, 8(6), 462–473. [https://doi.org/10.1016/S2213-8587\(19\)30414-3](https://doi.org/10.1016/S2213-8587(19)30414-3)
40. Popkin, B. M., Corvalan, C., & Grummer-Strawn, L. M. (2020). Dynamics of the double burden of malnutrition. *The Lancet*, 395(10217), 65–74.
41. Poston, L., Caleyachetty, R., Cnattingius, S., Corvalán, C., Uauy, R., Herring, S., & Gillman, M. W. (2016). Preconceptional and maternal obesity: epidemiology and health consequences. *The lancet Diabetes & endocrinology*, 4(12), 1025-1036.
42. Rasmussen, K. M., Yaktine, A. L., & Institute of Medicine (US) and National Research Council (US) Committee to Reexamine IOM Pregnancy Weight Guidelines (Eds.). (2009). Weight Gain During Pregnancy: Reexamining the Guidelines. *National Academies Press (US)*. <https://doi.org/10.17226/12584>
43. Ren, H., Zhou, Y., & Liu, J. (2025). Nutrition in Early Life and Its Impact Through the Life Course. *Nutrients*, 17(4), 632. <https://doi.org/10.3390/nu17040632>
44. Sawyer, S. M., Azzopardi, P. S., Wickremarathne, D., & Patton, G. C. (2018). The age of adolescence. *The lancet child & adolescent health*, 2(3), 223-228.
45. Shlisky, J., Bloom, D.E., Beaudreault, A.R., Tucker, K.L., Keller, H.H., Freund-Levi, Y., Fielding, R.A., Cheng, F.W., Jensen, G.L., Wu, D. and Meydani, S.N. (2017). Nutritional considerations for healthy aging and reduction in age-related chronic disease. *Advances in nutrition*, 8(1), 17-26.

46. Tessier, A.J., Wang, F., Korat, A.A. *et al.* (2025) Optimal dietary patterns for healthy aging. *Nature Medicine*, 31, 1644–1652. <https://doi.org/10.1038/s41591-025-03570-5>
47. Trumbo, P., Schlicker, S., Yates, A. A., Poos, M., & Food and Nutrition Board of the Institute of Medicine, The National Academies (2002). Dietary reference intakes for energy, carbohydrate, fiber, fat, fatty acids, cholesterol, protein and amino acids. *Journal of the American Dietetic Association*, 102(11), 1621–1630. [https://doi.org/10.1016/s0002-8223\(02\)90346-9](https://doi.org/10.1016/s0002-8223(02)90346-9).
48. UNICEF. (2020). Improving young children’s diets during the complementary feeding period. *UNICEF programming guidance*, 76, 118-122.
49. Victora, C.G., Bahl, R., Barros, A.J., França, G.V., Horton, S., Krasevec, J., Murch, S., Sankar, M.J., Walker, N. and Rollins, N.C. (2016). Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. *The lancet*, 387(10017), 475-490.
50. Volkert, D., Beck, A.M., Cederholm, T., Cruz-Jentoft, A., Goisser, S., Hooper, L., Kiesswetter, E., Maggio, M., Raynaud-Simon, A., Sieber, C.C. and Sobotka, L., 2019. ESPEN guideline on clinical nutrition and hydration in geriatrics. *Clinical nutrition*, 38(1), 10-47.
51. Weaver, C.M., Gordon, C.M., Janz, K.F., Kalkwarf, H.J., Lappe, J.M., Lewis, R., O’Karma, M., Wallace, T.C. and Zemel, B. (2016). The National Osteoporosis Foundation’s position statement on peak bone mass development and lifestyle factors: a systematic review and implementation recommendations. *Osteoporosis international*, 27(4), 1281-1386.
52. WHO (2009). Infant and Young Child Feeding Model Chapter for Textbooks for Medical Students and Allied Health Professionals. <https://iris.who.int/handle/10665/4411>
53. Willett, W., Rockström, J., Loken, B., Springmann, M., Lang, T., Vermeulen, S., Garnett, T., Tilman, D., DeClerck, F., Wood, A. and Jonell, M. (2019). Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems. *The lancet*, 393(10170), 447-492.
54. World Health Organization. (2011). Prevention of iron deficiency anaemia in adolescents (No. SEA-CAH-02). *WHO Regional Office for South-East Asia*.
55. Zimmermann M. B. (2012). The effects of iodine deficiency in pregnancy and infancy. *Paediatric and perinatal epidemiology*, 26 (1), 108–117. <https://doi.org/10.1111/j.1365-3016.2012.01275.x>
56. Zimmermann, M. B., & Boelaert, K. (2015). Iodine deficiency and thyroid disorders. *The lancet. Diabetes & endocrinology*, 3(4), 286–295. [https://doi.org/10.1016/S2213-8587\(14\)70225-6](https://doi.org/10.1016/S2213-8587(14)70225-6)



## Research and Reviews in Humanities, Commerce and Management Volume II

(ISBN: 978-93-47587-50-4)

### About Editors



Mr. Sanjay Shiram Kalekar is an Assistant Professor in the Department of English at Daar-ul-Rehmat Trust's A. E. Kalsekar Degree College, Kausa-Mumbra, Thane, affiliated with the University of Mumbai. He specializes in English literature and language, literary theory and criticism, Indian writing in English, and indigenous studies. He holds a Master's degree in English Literature from Savitribai Phule Pune University, qualified NET with JRF, and is pursuing a PhD at the University of Mumbai. He serves as IQAC Coordinator and member of the Board of Studies syllabus subcommittee. He authored "Communication Skills in English," contributed several book chapters, published fifty six research papers, completed refresher courses and FDPs, serves on the EDWIN editorial board, received a top ten teachers award, and convened four international conferences.



Dr. Priyanka Bhardwaj is a dedicated educationist with a strong academic background and commitment to advancing teaching and learning practices. She completed Junior Basic Training from the Jammu and Kashmir State Board of School Education and earned a Bachelor of Arts from Kurukshetra University, Kurukshetra. She obtained her B.Ed and M.Ed from Maharshi Dayanand University, Rohtak, developing expertise in pedagogy, curriculum design, and educational methodology. She also completed an M.A. in Public Administration from Maharshi Dayanand University. She earned her Ph.D. from Rabindranath Tagore University, Raisen, Madhya Pradesh. Dr. Bhardwaj has published five research papers in reputed national and international journals and emphasizes holistic learner development, academic excellence, and continuous improvement in education nationwide initiatives.



Dr. Sapna Kasliwal is presently working as an Assistant Professor in the Department of Commerce, Government College, Rau (Indore), Madhya Pradesh. She was awarded a Ph.D. for her research on mergers in the Indian banking industry. With more than twenty years of teaching experience in Commerce and Management, she has made significant contributions to higher education and academic research. She has published over forty research papers in reputed national and international journals and presented papers at several conferences. She has developed fourteen e-content lectures hosted by the Department of Higher Education, Madhya Pradesh, served on NEP 2020 e-content committees, authored two books, and edited seven books, supporting student-centric commerce education.



Ms. Sweety Thakkar is an Assistant Professor in the Faculty of Commerce and Management at Vishwakarma University, Pune, located at Kondhwa Budruk, Maharashtra. Her specialization includes Marketing and Human Resource Management, with research interests in marketing, entrepreneurship, and HR. She has ten years and six months of academic experience and one additional year of other professional experience, totaling eleven years and six months overall. She has no industry experience and does not hold any additional administrative designation. Her scholarly contributions include one research article, one book chapter, and one authored book. She is committed to strengthening management education and applied learning for undergraduate and postgraduate students through teaching excellence initiatives.

