

MOSAIC OF KNOWLEDGE: INTERDISCIPLINARY APPROACHES TO GLOBAL CHALLENGES

EDITORS

Shiva Johri

Anurag Hazarika

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Editors

Shiva Johri

*Professor MBA & Dean Academics Oriental College of Management, Bhopal
Madhya Pradesh, India*

Anurag Hazarika

*Assistant Professor, Department of Commerce, Tezpur College, Assam and
Guest Faculty, School of Engineering, Tezpur University, Assam*

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PREFACE

The world today is more connected than ever, but that also means the problems we face are bigger, messier, and more tangled than ever before. Issues like climate change, global pandemics, social inequality, and rapid technological shifts don't fit neatly into one category. You can't solve them by looking at them from just one angle or sticking to one field of study. They're too complex for that.

That's the idea behind **Mosaic of Knowledge: Interdisciplinary Approaches to Global Challenges**. We believe that real solutions happen when different ways of thinking come together—like the pieces of a mosaic, each one unique, but fitting together to form a bigger, clearer picture. This book brings together voices from different areas—science, technology, social sciences, humanities, and more—all working toward a shared goal: to better understand and tackle the challenges facing the world today.

Each chapter offers something different, but they all share a common thread. They show how powerful it can be when we step outside our own bubbles, listen to other perspectives, and connect ideas that don't usually meet. Whether it's how ethics and technology intersect, how public policies can be shaped by understanding human behavior, or how cultural insights can inform environmental solutions, this book is about crossing boundaries and building bridges.

We put this collection together not just for academics or experts, but for anyone who's curious, concerned, and ready to think in new ways. Whether you're a student, a professional, or simply someone who cares about the world, our hope is that you'll find ideas here that inspire you to look at problems differently—and maybe even spark some new solutions of your own.

At its core, **Mosaic of Knowledge** is an invitation. An invitation to see complexity as a chance to collaborate. To recognize that no single person or field has all the answers. And to appreciate how much more we can achieve when we bring our knowledge together.

Editors

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EMERGING TRENDS IN CSR

¹*Diksha Sadana*, ²*Pallavi Sharma*

¹*Assistant Professor (Department of Business Management)*

Address: Khalsa College for Women, Ludhiana (Affiliated to Panjab University, Chandigarh)

²*Assistant Professor (Department of Business Management)*

Address: Khalsa College for Women, Ludhiana (Affiliated to Panjab University, Chandigarh)

ABSTRACT

Corporate Social Responsibility (CSR) in India has witnessed transformative developments in recent years, evolving into a strategic priority for businesses. Key trends include the integration of CSR with Environmental, Social, and Governance (ESG) goals, emphasizing sustainable practices to enhance long-term value creation. Collaborative efforts are gaining prominence, with companies partnering across sectors to amplify societal benefits. Employee-driven philanthropy is also on the rise, fostering engagement and aligning corporate initiatives with workforce values. As CSR aligns more closely with business strategies, it is evolving from compliance to a transformative tool for societal impact and organizational growth, marking a significant shift in India's corporate landscape.

Keywords: *CSR, Sustainability, ESG (Environmental, Social, and Governance), Inclusive Growth*

INTRODUCTION

CSR's roots trace back to the Industrial Revolution when businesses began acknowledging their impact on society. In the 20th century, CSR evolved significantly with globalization, public awareness, and the emergence of sustainability as a critical issue. Influential milestones include:

- The establishment of the **United Nations Global Compact** (2000), encouraging businesses to adopt sustainable and socially responsible policies.
- The **Triple Bottom Line** (People, Planet, Profit) framework popularized by John Elkington, emphasizing the integration of social, environmental, and financial performance.

Corporate Social Responsibility (CSR) refers to a business's commitment to operating in an ethical and sustainable manner by addressing its social, environmental, and economic impacts. It involves actions taken by companies to contribute positively to society while balancing their obligations to stakeholders, including shareholders, employees, customers, communities, and the environment.

Key Components of CSR:

1. **Environmental Responsibility:**
Companies adopt practices that minimize their environmental footprint, such as reducing emissions, conserving resources, and promoting sustainable production.
2. **Social Responsibility:**
This focuses on improving the well-being of employees, communities, and society at large. Examples include fair labor practices, community development projects, and philanthropy.

3. **Economic Responsibility:**

Operating in a financially responsible manner while ensuring positive contributions to economic growth and development.

4. **Ethical Responsibility:**

Upholding ethical standards in business practices, such as transparency, integrity, and respect for human rights.

Examples of CSR Activities:

- Sponsoring educational or health programs in local communities.
- Implementing workplace diversity and inclusion initiatives.
- Reducing carbon footprints by adopting renewable energy sources.
- Offering fair trade products to promote ethical sourcing.
- Providing disaster relief aid or contributing to global causes.

REVIEW OF LITERATURE

Before the term and concept of corporate social and environmental responsibility came into common usage in the 1990s, the terms “charity” and “philanthropy” were prevalent in business. Green (1998); Finney (2001); Chaturvedi and Nagpal (2002); Kabeer (2004); Mather (2004). Observers argue that the idea of corporate involvement in social well-being as a voluntary response to social issues and problems (Vardarajan and Menon 1988), and responsible behaviour in business, is as old as business itself. However, although the evidence of the concern of business for society goes back several centuries, formal writing on corporate social responsibility is largely a twentieth century phenomenon (Carroll 1999). Business charity or corporate philanthropy—regarded as the earliest manifestation of CSR—is no longer considered an adequate response to demands for social responsibility, given its limited rationale and scope. The term CSR, on the other hand, is usually taken to include environmental, social and human rights—based impacts and initiatives of companies (Ward and Fox 2002), and in many countries—both industrialized and developing—the concept and practices are taken seriously (Hopkins 2003).

Purpose of CSR:

CSR aligns corporate goals with societal needs, creating a positive impact while building trust, improving brand reputation, and fostering long-term sustainability. It reflects the understanding that businesses have a broader responsibility beyond profit-making. There are several compelling reasons why businesses adopt **Corporate Social Responsibility (CSR)** strategies, which not only contribute to social and environmental causes but also enhance business performance and reputation. Here are key reasons why CSR is becoming integral to corporate strategies:

1. Reputation and Brand Loyalty

- **Building Trust with Consumers:** Companies that demonstrate a commitment to CSR initiatives, such as environmental sustainability or community development, build trust and loyalty among consumers. In an era where consumers are more socially conscious, CSR efforts can differentiate a brand, helping companies attract and retain customers

2. Attracting and Retaining Talent

- **Employee Engagement and Retention:** Businesses that focus on CSR can enhance employee satisfaction and attract top talent, particularly from younger generations who prioritize ethical practices. CSR initiatives that foster a positive corporate culture, promote diversity, and contribute to social causes are linked to higher levels of employee morale and retention.

3. Enhanced Stakeholder Relationships

- **Positive Relationships with Stakeholders:** Engaging in CSR improves relationships with key stakeholders, including customers, suppliers, investors, and local communities. By addressing social and environmental issues, companies demonstrate responsibility and commitment to their broader stakeholder groups, resulting in more supportive relationships.

4. Long-Term Sustainability

- **Addressing Global Challenges:** CSR helps companies contribute to long-term sustainability by addressing issues like climate change, poverty, and inequality. Companies that adopt CSR policies can mitigate potential risks, reduce environmental impact, and ensure the long-term viability of their business in a rapidly changing world

5. Improved Financial Performance

- **Cost Savings and Efficiency:** Many CSR initiatives, such as energy efficiency programs or waste reduction, directly contribute to cost savings. Additionally, companies that focus on sustainable practices may gain a competitive edge, attracting investors who prioritize environmental, social, and governance (ESG) criteria

6. Regulatory Compliance and Risk Management

- **Meeting Legal and Regulatory Expectations:** CSR can help businesses stay ahead of regulatory changes, particularly in industries facing stringent environmental or labor laws. Proactively adopting CSR initiatives allows companies to comply with current and future regulations, reducing the risk of legal penalties and reputational damage

7. Market Expansion

- **Appealing to New Markets:** Companies can use CSR strategies to enter new markets, particularly in regions where social or environmental challenges are significant. By aligning business operations with local needs and values, companies can build goodwill and gain access to previously underserved or emerging markets

TRADITIONAL THEORIES OF CORPORATE SOCIAL RESPONSIBILITY

Traditional theories of Corporate Social Responsibility (CSR) are foundational in understanding how businesses engage with society beyond profit generation. These theories primarily focus on the ethical, social, and economic responsibilities of corporations to their stakeholders. Some of the key traditional CSR theories include:

1. The Classical or Shareholder Theory

- **Proponent:** Milton Friedman (1970)

- **Key Idea:** This theory argues that the primary responsibility of a corporation is to maximize profits for its shareholders. CSR, in this view, is only acceptable when it aligns with the goal of increasing profitability. Any action that does not directly contribute to the financial bottom line is seen as a diversion from the corporation's primary purpose

2. The Stakeholder Theory

- **Proponent:** R. Edward Freeman (1984)
- **Key Idea:** Unlike the shareholder theory, the stakeholder theory broadens the scope of corporate responsibility beyond just shareholders to include all parties affected by a company's actions—employees, customers, suppliers, local communities, and even the environment. According to Freeman, corporations should aim to create value for all these stakeholders, balancing their interests, which often go beyond mere profit

3. The Social Contract Theory

- **Proponent:** John Rawls (1971)
- **Key Idea:** This theory posits that businesses, as part of society, must adhere to an unwritten social contract with the public. They have a moral obligation to contribute positively to society and act ethically in ways that benefit the broader community. Businesses should align their strategies with social justice principles, ensuring fairness and equity in their operations.

4. The CSR Pyramid

- **Proponent:** Archie Carroll (1991)
- **Key Idea:** Carroll's pyramid of CSR categorizes a corporation's responsibilities into four levels:
 1. **Economic Responsibility:** The base level, which involves being profitable.
 2. **Legal Responsibility:** Abiding by the law.
 3. **Ethical Responsibility:** Going beyond legal obligations to do what is right.
 4. **Philanthropic Responsibility:** Voluntary actions to improve quality of life for communities.

5. The Bottom Line (TBL)

- **Proponent:** John Elkington (1994)
- **Key Idea:** The TBL theory introduces the concept of measuring corporate performance based on three pillars: **People**, **Planet**, and **Profit**. This theory emphasizes that businesses should focus on social and environmental performance, alongside financial performance, thereby promoting sustainable business practices.

CSR theories provide the foundational principles that guide modern corporate behaviour. They highlight the different perspectives on the role of businesses in society—ranging from a sole focus on profits to broader ethical, legal, and social responsibilities. The stakeholder and social contract theories have become more prominent as businesses increasingly recognize their role in sustainable development and social impact.

CSR AND INDIA

Corporate Social Responsibility (CSR) in India holds significant importance due to the country's unique socio-economic challenges, its legislative framework, and its cultural ethos of giving back to society.

India became the first country in the world to mandate CSR spending through legislation under Section 135 of the Companies Act, 2013. The key provisions include:

1. **Applicability:** CSR is mandatory for companies meeting any of the following criteria:
 - Net worth of ₹500 crore or more.
 - Annual turnover of ₹1,000 crore or more.
 - Net profit of ₹5 crore or more.
2. **CSR Expenditure:**
Companies meeting these thresholds must spend at least 2% of their average net profit (over the preceding three years) on CSR activities.
3. **CSR Committee:**
Companies must form a CSR committee of the board to:
 - Formulate and recommend CSR policies.
 - Recommend CSR project budgets.
 - Oversee the implementation of CSR activities.
4. **Reporting and Compliance**
 - Companies must include a **CSR Report** in their annual report, detailing expenditures, activities, and outcomes.
 - Unspent funds in ongoing projects may need to be transferred to a dedicated CSR fund or relevant government accounts, depending on the context.

RECENT TRENDS IN CORPORATE SOCIAL RESPONSIBILITY

Recent trends in Corporate Social Responsibility (CSR) in India highlight a shift towards more innovative, collaborative, and impact-driven practices as the country enters its second decade of mandatory CSR implementation.

1. **Catalytic CSR:** Companies are moving beyond traditional initiatives toward transformative change. This approach emphasizes high-risk, high-reward projects and collaborative efforts to amplify long-term societal benefits. Nearly 87% of CSR leaders are keen on partnerships within and outside the corporate sector to achieve systemic impact
2. **Sectoral Focus:** Healthcare and education remain dominant areas of CSR spending, accounting for nearly half of all expenditures. However, healthcare spending has grown significantly, reflecting increased awareness of health-related challenges post-pandemic
3. **Use of Technology:** Artificial Intelligence (AI) is emerging as a key enabler in CSR, helping companies improve diversity, equity, and inclusion (DEI), personalize employee-driven

philanthropy, and measure the impact of CSR programs. AI tools streamline collaboration and reporting, ensuring transparency and data-driven decision-making

4. **Integration with ESG:** CSR efforts are increasingly linked to broader Environmental, Social, and Governance (ESG) goals. Companies recognize the financial and reputational benefits of aligning CSR initiatives with sustainable practices
5. **Strengthening Ecosystems:** There is a growing focus on building a robust CSR ecosystem, including fostering specialized training, creating professional CSR roles, and integrating advanced tools for effective program execution
6. **Employee Engagement:** Businesses are leveraging CSR to engage employees through tailored volunteer programs, contributing to workforce satisfaction and building stronger connections between corporations and communities

India's CSR landscape is evolving rapidly, with a clear focus on innovation, collaboration, and measurable impact. These trends are shaping CSR as a strategic business priority rather than a regulatory obligation

CSR AS STRATEGY AND NOT CHARITY

Viewing **Corporate Social Responsibility (CSR)** as a **strategic** element rather than a **charitable** or voluntary action is a growing trend in modern business practices. This shift reflects the evolving understanding of CSR, where businesses recognize the long-term benefits of responsible operations, not just as a moral obligation but as a way to enhance competitiveness, brand reputation, and stakeholder relations.

Key Aspects of CSR as Strategy:

1. **Alignment with Business Objectives:**
Companies are increasingly integrating CSR into their core business strategies. It goes beyond philanthropy (donating money or time) to initiatives that align with a company's values, operations, and market needs. By addressing societal challenges, businesses can unlock new markets, improve efficiency, and innovate in ways that provide both social and economic value.
2. **Sustainability and Competitive Advantage:**
CSR can drive **sustainability** efforts that reduce operational costs and mitigate risks. For instance, companies focusing on environmental sustainability can reduce waste, conserve energy, and enhance supply chain efficiency. These actions lead to cost savings and positive environmental impacts, which also boost brand value, attracting consumers who prefer socially responsible business enhancing Reputation and Trust.
CSR strengthens **reputation management** by building trust with customers, employees, investors, and communities. A company known for ethical practices and positive contributions to society is more likely to retain customers and attract top talent. In a world where transparency and accountability are vital, CSR acts as a tool for reputation enhancement.
3. **Rent and Long-term Value Creation:**
CSR is not just about mitigating immediate risks but also about creating long-term value. Addressing issues like human rights, environmental impact, and labor practices can reduce risks of regulatory penalties, lawsuits, and reputational damage. By focusing on sustainable

development, businesses ensure their ability to thrive in the future while contributing positively to society.

FUTURE OF CSR IN INDIA

- Increased emphasis on **impact assessment** and transparency.
- Integration of **ESG (Environmental, Social, and Governance)** principles in business strategies.
- A growing role for public-private partnerships in achieving national development goals.

CSR in India is more than compliance; it's an opportunity for businesses to contribute meaningfully to the country's inclusive growth and sustainable development.

CONCLUSION

Rather than viewing CSR as an afterthought or a mere public relations tool, forward-thinking companies are incorporating it into their strategic objectives, recognizing that social responsibility can drive business success, improve stakeholder relations, and promote long-term sustainability. This approach enables businesses to achieve greater impact while fostering goodwill, which ultimately contributes to their bottom line. The future of **Corporate Social Responsibility (CSR)** is set to evolve into a more integrated, strategic, and data-driven approach. As global awareness of environmental, social, and governance (ESG) issues intensifies, businesses are embracing CSR not only as a moral obligation but as a pathway to long-term growth and sustainability.

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ENVIRONMENTAL DEGRADATION AND HEALTH DETERIORATION: AN ANALYSIS OF IMPACT OF AGRICULTURE DEVELOPMENT IN PUNJAB

Satvinder Kaur

Assistant Professor, Department of Economics, GSSDGS Khalsa College Patiala

ABSTRACT

Although, Punjab has made a tremendous increase in foodgrain production due to the adoption of mid 60's Agriculture Development Model but it has made a severe impact on the environment i.e., ground water depletion in all the regions except south western part, decline in soil fertility, green house emission, deteriorating quality of water and effect on species. Moreover, Punjab region is a victim of increasing cancer patients due to excessive use of chemicals in agriculture. The proper attention should be given to this problem and breakthrough is needed from wheat-paddy cycle to high values crops of pulses, oilseeds, sugarcane, sunflower, onion, cotton, basmati rice, fruits and vegetables.

INTRODUCTION

Punjab has played a vital role in transforming the country's image from a foodgrain deficit nation to a self-sufficient and stable economy. Agriculture sector continues to be an important driver, in the state economy, as according to quick estimates 70 per cent population of the state is engaged in agriculture and allied activities. The composition of state income shows that the relative share of primary sector in the GDP has come down from 32.67 (Q) per cent in 2004-05 to 24.14 per cent (Q) in 2010-11. Whereas the share of secondary sector has increased from 24.74 per cent to 30.88 per cent (Q) and tertiary sector from 42.59 per cent to 44.98 per cent (Q) for the same years respectively (Economic Survey of Punjab, 2011-12).

In 1965 India imported around 14.5 million tons of food grain, mostly from USA. This situation was called 'Ship to Mouth' condition and at one point of time, the then prime minister of India asked the countrymen to skip meal once a day. Then scientific breakthrough occurred in wheat and rice production in Mexico (Norman Borlaug and others) and India rapidly embraced the new High Yielding varieties (HYV) with Punjab in the forefront of what came to be known as "Green Revolution" or "New Agricultural Strategy". This strategy brought out a revolution in the agriculture sector and transformed traditional subsistence agriculture towards scientific and technological agriculture. The main constituents of this new strategy were high yielding varieties of improved seeds, assured irrigation, chemical fertilizers, insecticides, weedicides, pesticides, farm machinery and modern agricultural practices. By the application of this strategy, Punjab witnessed a tremendous increase in production. The total foodgrain production in Punjab has significantly increased over the last few decades, especially in the post green revolution period. 90 per cent of the interstate movement of foodgrain has been of the grains from Punjab. The production of wheat and rice during 2007-08 was 157.20 and 104.89 lakh tones respectively. During 2010-11, 45.4 per cent wheat and 25.3 per cent rice to the central pool came from Punjab. The government policies like of the announcement of procurement prices and minimum support price and proper marketing facilities played an important role for wheat and rice revolution in Punjab. Punjab genuinely takes pride in this achievement, but seldom realizes the unduly very heavy social cost the state is paying for it, in environment terms. Its

past development has been commended by the World Bank which observed that most citizens of Punjab have already achieved a level of socio-economic status that the majority of Indian citizens are unlikely to experience in their lifetimes but it finally labels Punjab as a State with “A successful past but uncertain future” (Government of Punjab, 2005-06). From the environmental point of view it is impossible to sustain the current agricultural practices, without eminent disaster that would ruin not only agriculture but the whole state. Punjab has about 4.2 million hectare of land under agriculture and only 6.0 per cent area is under forests and about two million hectare is degraded land is a serious issue. . In this backdrop, the most important objective of this paper is to be attempt detail analysis of environment degradation and health deterioration due to development of agriculture in Punjab.

RESULTS AND DISCUSSION

After examining various research reports and publications, the following results are framed:

Over intensification of agriculture over the years after green revolution has led to overall degradation of the fragile agro ecosystem of the state in terms of ground water depletion in all the regions except south western part, decline in soil fertility, green house emission, deteriorating quality of water and effect on species. A study by International Food Policy Research Institute (IFPRI) has put out the red alert on the farm sector in Punjab. The study has warned that Punjab needs to diversify from wheat and rice, urgently, otherwise the food bowl of India could well turn into a begging bowl by 2030. The state surface water resources are being fully utilized through the well organized canal irrigation system in sustaining the intensive agriculture practices after adoption of agriculture development model in Punjab. However, there has been a reduction of over 35 per cent in canal irrigated area in the state since 1990 but area irrigated by centrifugal tubewells has been increasing due to increased demand of water, reduction in canal capacity due to siltation and the easy credit facilities provided by the State Land Development Bank for tubewell installation with some subsidy, besides liberal facilities for electrification of tubewells. The total demand of water for agriculture (based on cropping pattern & practices) presently stands at 4.38 million ha meter against the total availability of 3.13 million hectare meter. Hence, the deficit of 1.25 million hectare meter is met through over-exploitation of underground water reserves through tube wells, resulting in rapid decline of water table in the entire state (Kumar, 2012). Out of 137 blocks of the state, 103 blocks are overexploited, 5 blocks are critical, 4 blocks are semi critical and only 25 blocks are in safe category. All the blocks of various districts like Amritsar (16 blocks), Jalandhar (10 blocks), Moga (5 blocks), Kapurthala (5 blocks), Sangrur (12 blocks), Fatehgarh Sahib (5 blocks), Patiala (8 out of 9 blocks) and Ludhiana (9 out of 10 blocks) have been found to be over-exploited leading to sharp depletion of the water table in these districts. It is also highlighted that non judicious pumping of ground water through tubewells and continuous decline of water table in central districts has resulted in the reverse flow of water towards Moga and Sangrur districts instead of going downwards towards south western districts.

In the past three to four decades, intensive agricultural practices have put a tremendous pressure on the soils and resulted in steady decline in its fertility (nutrient availability), both with respect to macro and micronutrients. Both rice and wheat have high nutritional requirements and the double cropping of this system has been heavily depleting the nutrient contents of soil. For example, rice – wheat sequence that yields 7 tons/hectare of rice and 5 tons/hectare of wheat removes more than 300 kg N, 30 kg P and 300 kg of Potassium per hectare from the soil. Burning of wheat and rice straw has also contributed to loss of soil fertility apart from causing air pollution. Punjab produces around 23 million tones of rice straw and 17 million tones of wheat straw, annually. This straw is rich in

Nitrogen, Phosphorus and Potassium contents. However, instead of its recycling into the soil by mulching, it is burnt in the fields. This raises the temperature of the soil in the top 3 inches to such a high degree that Carbon: Nitrogen equilibrium in soil changes rapidly. The carbon as CO₂ is lost to atmosphere, while nitrogen is converted to nitrate. This leads to a loss of about 0.824 million tones of NPK from soil. This is about 50 percent of total fertilizer consumption in the state.

The another issue of environmental degradation is not only in terms of high temperature, humidity, soil and water pollution, but more importantly in terms of the emission of green house gases i.e., carbon dioxide, methane and nitrous oxide that are emitted in to the environment from the paddy fields. It is estimated that rice crop growing in standing water over a period of 90 days produces more than 0.45 tones of methane, one hectare of rice crop over its growing period emits an equivalent of about 20 tones of carbon dioxide .

Moreover, the rampant use of pesticides and agro-chemicals to achieve the green revolution is responsible for high incidence of cancer and other diseases in Punjab. Punjab has become the cancer capital of India due to rising use of pesticides and fertilizers (Kumar, 2012). The worst affected regions are found in southwest Punjab's fertile Malwa belt, i.e., the area south of the river Sutlej i.e., the districts of Mansa, Bathinda, Moga, Faridkot, Barnala, Sangrur and some parts of Ludhiana. Muktsar and Bathinda reported the maximum of 75.1 and 75 incidence of cancer patients per one lakh population, respectively, which is more than double the state average. The main reasons for the detrimental health effects include the increase in pesticides and fertilizers required to support High Yield Variety seeds, the continued use of internationally banned chemicals, the pesticide contamination and disposal of hazardous wastes in drinking water, and the lack of education on safety precautions for handling toxins.

On the economic front high cost and diminishing economic returns from agricultural practices affecting the socio-economic condition of framers. Small and marginal farmers are not able in position to mobilize resources for a submersible pump. The loss of most reliable source of irrigation affect their livelihood, land values and causing deep concern to small and marginal farmers and create social unrest in rural Punjab. Further, the power supply to agriculture sector in the state is highly subsidised. It was totally free during the years 1997-2002. The state Government is again providing free electricity to all farmers from September, 2005. The policy of highly subsidised electrification increase state cost which delayed the payment of PSEB is the main cause of failure of PSEB in Punjab.

CONCLUSION AND POLICY IMPLICATION

The study concluded that over intensification of agriculture has led to water depletion, reduced soil fertility and micronutrient deficiency, non-judicious use of farm chemicals & problems of pesticide residue, reduced genetic diversity, soil erosion, atmospheric and water pollution and overall degradation of the rather fragile agro ecosystem of the state.

Punjab has paid a huge environment cost for adoption of mono-culture cropping system in the state. Therefore, for sustainable development of agriculture, farmers should encourage to go for diversification from rice-wheat cropping system to high value crops, i.e., pulses, oilseeds, potato, sunflower, onion, cotton, basmati rice, sugarcane and fruits and vegetables carefully earmarked for different agro-climatic sub-zones based on comparative advantage.

More importantly, presently, a massive reduction in area under wheat and paddy is neither desirable by farmers, nor approved by center and state governments. Therefore, assignment of quota for various

crops to each Punjab farmer under assured procurement and minimum support price programme will ensure a gradual and painless reduction in area under wheat and paddy.

Awareness in this concern can be amplified by different NGOs, social organisations and state's urban and local bodies through organising different workshops and seminars on such sensitive issue and encourage public participation to protect and manage state forests and other natural resources and encourage farmers to grow trees on farm sides and boundaries and optimal use of fertilizers and pesticides.

Despite lot of interest and discussion on diversification no serious efforts have been made to identify and encourage area specific activities. General type recommendations are being made for whole of the state. There is a need to identify and adopt area specific enterprises taking into account the groundwater status, soil health and other micro characteristics of different regions.

Lastly, dairying is the best choice for agricultural diversification in the state, ecological as well as economic grounds. It has vast potential for growth in employment and income and for restoring soil health. Efficient and modern system of marketing and processing is required to give boost to dairy industry in the state.

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AN IN-DEPTH INVESTIGATION INTO THE EVOLUTION OF DESTINATION BRANDING: A REVIEW OF BRANDING LITERATURE WITHIN THE TOURISM SECTOR

¹Pritha Gawande, ²Sunil Kumar Jakhoria, ³Niraj Dubey, ⁴Kiran Kumar Agrawal

¹Research scholar, Marwadi University, Rajkot, Gujarat, India

²Dean, Faculty of Management Studies, Marwadi University, Rajkot, Gujarat, India

³Professor, Faculty of Management Studies, Marwadi University, Rajkot, Gujarat, India

⁴Professor & Dean, Department of Management, Chandigarh School of Business

ABSTRACT

The tourism industry is based on promises and agencies building trust through targets. Branding has become an important tool for tourism, clearly communicating the various experiences visitors have when visiting a destination. This article provides a comprehensive review of the literature on various aspects related to the tourism industry. It provides general business information and a variety of discussions on the complexities of tourism to see the specific challenges of business goals.

Keywords: Destination Branding, Branding, Brand Experience, Measurement, Tourism Destination

INTRODUCTION

The role of the brand is the seller's promise to the buyer, embodying the implicit promise (Armstrong and Kotler, 2014; Day, 2011). Delivering on these promises is critical to building strong customer relationships (Schallehn, Burmann, and Riley, 2014). A brand is more than a name or logo; It represents how customers perceive and emotionally connect with the product and gives meaning to the product. Business therefore includes internal and external identity and culture analysis (Mearns, 2007, p. 56). It helps buyers identify products, make them good and consistent, and useful for specific companies. Additionally, the product facilitates decision-making and reduces consumer risk. Aaker (1991) believes that the role of the brand is to provide an indication of the origin of the product and to be an important tool in the consumer decision-making process, protecting consumers and producers from competitors offering the same product.

For sellers, a strong brand increases the financial value of the company. Trademarks provide legal protection for certain products, facilitate market segmentation, and tell the story around the product (Armstrong and Kotler, 2014). It also helps with products inventory management, inventory management and accounting. Build customer trust by creating a good product, which creates demand and security for the product, allowing companies to charge high prices. Loyal customers are willing to pay a higher price, often 20 to 25 percent, for products they like, resulting in better revenue and profits. This beneficial effect benefits business owners in the long run (Keller and Kotler, 2012).

However, in the 20th century, the company became important to business, especially with the establishment of the company. Today's business world focuses on creating different brands. To achieve this, we use innovative market research tools to identify and develop new sources of product differentiation. Companies use products, brands, packaging, distribution and other strategies to create

unique organizations. The main purpose of these marketing organizations is to change the consumer's thoughts about the product from product to product, thus reducing the cost of the purchasing decision (Aaker, 1991).

Branding has evolved into an independent business discipline that creates a unique identity for the organization, enabling it to compete effectively in the market. It should focus on developing and maintaining the company's resources and skills to create a good position. Aaker (1991, 2013, 2014) defines assets as something that a company can do better than its competitors, and expertise as something that a company can do better than its competitors. Therefore, the brand name can be considered an asset. Therefore, when the company focuses on strengthening its resources and capabilities, it is important to work on the points of differentiation that Mearns (2007) stated as the basis of the discipline mode.

2. BRAND EQUITY

Many definitions of brand equity can be found in the business literature, demonstrating the complexity of the concept and its many aspects investigated by different researchers (Cobb -Walgren, Ruble, & Donthu, 1995; Gartner, 1989; Gertner, 2011). . The abstract nature of brand value makes it difficult to establish a general definition (Christodoulides and de Chernatony, 2010; Martin and Brown, 1990). One of the earliest definitions, proposed by experts consulted by the Marketing Institute in 1988, defines product integrity as a combination of organization and behavior that enables branded products to generate more sales and better profits than unbranded products (Leuthesser, 2004). 1988).

A similar view was later made by Aaker (1991), who defined brand equity as the assets and liabilities associated with names, brands and symbols that can improve or reduce the price provided by the product or service. for the company and its customers. Keller (1993) proposed another general concept regarding brand equity as the difference between brand recognition and customer response to the brand. Keller calls this concept "customer-based loyalty" and emphasizes that it occurs when customers are aware of the product and have strong relationships, strengths, and interests that specifically resonate with their memories. Teller (2003) offers a similar definition, focusing on the advantages of stock markets.

This means that brand awareness has a positive impact on the customer's response to the product or service. Proving that both products and products have their own added value (Jourdan, 2002). Lasalle et al. (1995) explained the meaning of brand value from the consumers' perspective and identified five important issues when determining brand value. These decisions are based on the following: (a) brand value is based on what consumers think, (b) it represents the global value associated with the brand, (c) its value is derived from the type name rather than the body of the brand. medicine. , (d) It is about competition rather than reality, and (e) such equity is beneficial to financial performance.

Lasalle et al. (1995) distinguishes product balance from dimensions such as information, approval, image and organization, feedback, and from thought to behavior. They classify five dimensions:

1. Quality: Consumers judge the brand's simple, long-lasting physical performance and quality workmanship.
2. Social Image: A customer considers the brand's respect for his or her social group; This benefits especially in categories such as designer clothing and fragrances due to the reputation of the association with the owner or brand name.

3. Price/Value: The relationship between the price of a product and the product value occurs when consumers perceive a positive relationship between the product and the price.
4. Trustworthiness: The consumer's trust in a company and its communications and the belief that the company looks after the customers' interests.
5. Orientation/Connection: It stimulates the consumer's desire for the brand, leading to positive emotions, identification with the brand, and feelings towards the brand.

Brucks and Zeithaml (1991) and Dacin and Smith (1994) also examined the dimensions of their research and emphasized the importance of perception of the type of justice. Dimensions of perceptual quality in early models. Lasalle et al. (1995). "good production" (p. 13). Lassalle et al. (1995) narrowed this down to relationships. These terms express consumers' perception of the respect that their social group has for the brand. This dimension adds value due to the reputation of the association with the individual or brand name. For some products, such as designer clothing and perfumes, this dimension plays an important role in marketing (Lassar et al., 1995).

Brand value emerges when consumers compare a product with its value and create a positive balance. This indicator reflects the consumer's perception of the costs and benefits of owning the product. (1995) defined it as "the customer's trust in the company and its communication and whether the company's performance is in line with customer satisfaction" (p. 13).

This dimension is important if consumers trust the brand. Conversely, there is no doubt that the price of this index is lower, potentially lowering the stock market. action. This loyalty translates into a sense of identity/loyalty to the brand. Lasalle et al. (1995) defined it as the relative strength of consumers' positive emotions towards a brand, and as a result, consumers become familiar with the brand and develop emotions towards it.

2.1 THEORETICAL APPROACHES TO MODEL BRAND EQUITY

Many research methods have been used to examine the concept of brand equity. Academic research generally uses three main methods to analyze or think about business ethics: psychology-based, economics-based, and cultural research.

APPROACHES INFORMED BY PSYCHOLOGY

The main approach is based on theory. When studying the effects of emotions on the emotional brain, researchers often use the association model to create thoughts and feelings. This approach is recommended for the general diagnosis it offers. In this context, the target is considered as one of the memories associated with different organizations in different dimensions.

Previous research shows that consumers view products as categories that become associated with certain attributes over time. These associations are based on some of the product-related behaviors that represent the various members of the brand (Keller, 2002, p. 6). This view of learning was suggested by Aaker (1991). As mentioned earlier, Aaker (1991) defines brand equity as the sum of assets and liabilities associated with brands, trademarks and symbols. These assets or liabilities may increase or decrease the value of goods or services provided to the company and/or its customers. Aaker's (1991) model identifies four categories of product equity: product knowledge, endorsement, market share, and trust. However, in his latest study, Aaker (2016) maintains the same definition of brand equity but emphasizes three key factors: brand awareness, brand awareness and product trust, market share and customer loyalty.

Another view, rooted in psychology, comes from Keller (1993, 1998). Keller looks at brand equity from the customer's perspective and calls this customer-centric business (CBBE). According to Keller's model, a brand has a positive impact on customer loyalty when customers respond more positively to the product and marketing strategy when the brand is known than when the name is not. Customer-customer relationships occur when customers are highly knowledgeable and aware of the brand and have a strong, meaningful and unique brand association in their memories (Keller, 2002, p. 7).

In Keller's model, brand awareness plays an important role as a key component of brand equity, theorized as brand nodes in memory. Another perspective from psychology is called consumer working capital (CBBE). In this model, brand loyalty is viewed from the customer's perspective. Keller argued that a business demonstrates good customer brand equity if customers respond more positively to the product and marketing strategies and the brand is recognized again as the brand is rejected. This brand relationship occurs when consumers have knowledge and familiarity with the brand and have a strong, positive and unique association in their memory (Keller, 2002, p. 7).

In Keller's model, brand awareness plays an important role as a leader for brand equity, which is a marketing strategy of memory. The relational memory model was developed by psychologists. This memory structure consists of a network of nodes and connections. While nodes store information and content, links represent the strength of connections between information and content. In the context of brand recognition, brand nodes in memory will be linked to various entities associated with a particular name. For example, when consumers think of Apple computers, they may think of "creative" and "customer-friendly" (Keller, 2008). Similarly, other brands may be associated with certain characteristics, such as Volvo "safety" and Mercedes-Benz "tragedy" (Keller, 2008). Impact refers to the consumer's awareness of the brand's potential. Brand image reflects the perception organized in the consumer's memory about the brand. These marketing organizations are interconnected information systems that are linked to brand names and contain the content of products for customers (Keller, 1993). The process is sequential, each building on the goals achieved by the previous one.

The first stage is the goal of creating a good product by focusing on knowledge of the market. The second is to create the content of the product; There are two aspects to this: performance (related to the obvious product) and image (related to the incompetence of the product). The third stage is called reaction and includes decision (the user's opinion and evaluation of the brand) and emotion (the customer's emotional response to the brand). The aim of this stage is to create a positive impact on the brand. Finally, the fourth and final stage is resonance, which aims to build trust and quality (Keller, 2008).

APPROACHES INFORMED BY ECONOMICS

This approach is based on brand research combining traditional and theoretical approaches. The identity of a place derives from the culture of that place, and each type of place needs to be considered to understand the culture that defines that place (Evans, 2003). Some researchers focus on exploring the cultural significance of products and brands. Products that represent culture are evident in artifacts. Throughout history, objects such as swords and vessels have been decorated to prove their authenticity. A brand is a reflection of a company's desire to respond to a culture (Schroeder, 2009).

Scholars such as Keller (2002) have conducted in-depth research on topics such as community brands, customer relationships, and the impact of culture on customer retention. However, examining these

three different methods can provide a deeper understanding and better understanding of the product and product balance (Keller, 2002, p. 9).

APPROACHES INFORMED BY CULTURAL STUDIES

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2.2 MEASURING BRAND EQUITY

Many efforts have been made to develop product equity measures with researchers using different theories (Jenkins, 1999). Consumer-based brand equity (CBBE) is evaluated through direct and indirect methods. The direct method directly measures CBBE by focusing on consumer preferences or utility (Christodoulides & de Chernatony, 2010). This approach aims to measure CBBE by examining how the type of marketing experience affects consumer responses to various aspects of the marketing mix. In contrast, bias measures the potential of brand equity by identifying and tracking consumer awareness of the brand, including emotions, beliefs, images, and thought attitudes (Keller, 2002).

separately. In these experiments, one group of consumers responded to a mix of products attributed to a particular brand, while another group of consumers responded to the same theme but due to ignorance or lies. By comparing responses, an estimate of product specificity beyond product knowledge can be obtained (Keller, 1993). A well-known method developed by Park & Srinivasan (1994) uses a survey method to measure customer equity based on a multivariate preference model. The process involves capturing each person's full name preferences and various preferences based on a rating scale. An individual brand equity measure is obtained by taking a rating scale and subtracting multiple personality traits from the total brand (Park and Srinivasan, 1994, p. 14). 272). The model also divides product equity into products based on attributes and non-attributes.

Behavior-based products express the impact of marketing strategies on consumer needs, while non-behavioral products include marketing organizations that are not directly related to the product (Park and Srinivasan, 1994). (2008) developed a new method to estimate, monitor, and manage the integrity of various species. They use customer survey data and financial metrics to develop models. The model has two main components: assets calculated from the discount financial analysis and relevant assets obtained from the selection model.

Researchers have identified a number of drivers of brand image, including reputation, brand differentiation, brand fit, market share, trust, brand identity, brand respect and reputation. All of these factors can be evaluated through customer surveys. However, Christodoulides and de Chernatony (2010) point out the shortcomings of this approach; because this approach can only create a complete

forecast of the stock market because the relative importance of the products is evaluated separately. Additionally, it is difficult to compare products fairly with competitors because competitive financial metrics are often not available.

Brand equity is measured by value variables such as size or premium (Christodoulides & de Chernatony, 2010). A general approach in this category is that proposed by Vázquez, Del Ró, and Iglesias (2002). It focuses on the benefits customers will receive from the brand after purchase, including the measurement tools, functionality and brand usage they need. By defining four dimensions, the scale developed by Vázquez et al. (2002) helps evaluate the company's product capital resources and compare the product's strengths and weaknesses with those of competitors. It considers both the benefit associated with the product and the benefit brand associated with the product, as well as the benefit associated with the trade name and the electronic equipment associated with the trade name. Vázquez et al.'s (2002) scale has been replicated in different cultural contexts. Their findings show that cultural factors influence consumer ratings, meaning international brands need to adapt to different cultures and adapt to differences in consumers' product preferences.

These findings are consistent with the theory that although there are partial inconsistencies across cultures in consumers' evaluations of brands, it is not enough to adjust retail in a similar way (Koçak et al., 2007, p. 169). Yoo and Donthu (2001) developed an alternative, non-biased method to generate self-assessment of brand loyalty. Their research tested Aaker's (1991) and Keller's (1993) concept of brand equity. Measuring the integrity of the products they create consists of ten factors representing three dimensions: brand trust, endorsement, and business knowledge/engagement. One of the advantages of its scale is that it can operate on a wide range of products without the need for additional modifications.

Additionally, the device is easy to manage, its cost is low, and it is easy for people to manage the equipment. Yoo and Donthu (2001) adopted a positive approach to growth to ensure cultural validity. Their research completed a multi-level validation process. The only weak point identified by Christoulides and de Chernatony (2010) is the merging of the two dimensions of brand awareness and corporate identity into a single dimension. However, Christoulides et al. (2010) argue that among biases, Yoo and Donthu's (2001) study stands out with the best and worst. Researchers have failed to combine the effectiveness of various methods in measuring brand equity. Despite extensive research, there is still no clear "correct" way to measure international trade equality.

2.3 DESTINATION BRANDING

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Destination branding is the set of marketing activities that (1) support the creation of a name, symbol, logo, word mark, or other graphic that readily identifies and differentiates a destination; that (2) consistently convey the expectation of a memorable travel experience that is uniquely associated with the destination; that (3) serve to consolidate and reinforce the emotional connection between the visitor and the destination; and that (4) reduce consumer search costs and perceived risk. Collectively, these activities serve to create a destination image that positively influences consumer destination choice. (p. 337). The marketing plan is a marketing plan that (1) supports the creation of a name, symbol, logo, word, or other image that is easily identifiable and distinguishable from the target; expectations of the place; (3) Reinforce and strengthen the sense of connection between tourists and destinations; (4) Reduce customer search costs and perceived risk. In general, these activities help build the brand image and have a positive impact on the customer's choice of destination. (p. 337)

To clearly understand how the target market compares to the product or service, it is important to know that the specific product that serves it is different. The target market includes marketing products that include a variety of places and venues representing a variety of public and private service companies (Hankinson, 2009). Such multi-use products require the cooperation of public and private organizations (Warnaby, Bennison, Davies, & Hughes, 2002). The main goal is less important.

Various departments occupy the same address, and each creates a unique feature of the services provided. This efficiency allows marketers to have less control over the product and offer a different experience to foreign tourists (Gartner, 2014). In addition, cargo companies cannot return products that customers are not satisfied with, such as physical products. This puts the brand at greater risk because there are many factors that cause the brand to change consciously or organically (Gartner, 2014). It is difficult for tourists to decide. Tourists purchase many goods and services, often with uncertainty and significant costs. Unlike traditional products, tourists cannot test the site before purchasing and therefore must do extensive research to minimize risk. Place image will become important in the site selection process (Cai, 2002). Provide management solutions and guide future research. Some experts try to use the main ideas for tourists, but places have special features that products and services do not have. To create a brand that understands the information content, just creating a logo and slogan is not enough, and the decision-making process of the target audience is also important (Khanna, 2011).

In the context of national branding, the goal is to create a clear, emotional concept that resonates with different goals at different times. The emotional characteristics of the spoken word and visual content reflect the national spirit and shared values, regardless of the time of change (Gilmore, 2002). The external environment such as culture, resources and economy influence this spirit. The name of the country should include politics, culture, business and sports (Olimpia, 2008). A good business position is important for positioning a country in the global market and requires an understanding of the country's strengths and weaknesses as well as environmental forces (Kotler and Gertner, 2011). Areas of differentiation Issues such as infrastructure and trade will be more difficult as many countries are doing well in these areas. On the contrary, "soft goods" such as the environment, friendliness of local people, culture and recreational activities are increasingly valued by tourists and men's businesses (Morgan et al., 2011).

3. FURTHER DISCUSSIONS: CHALLENGES IN DESTINATION BRANDING

Build a brand that presents several challenges for business organizations. One of the main problems arises from the involvement of different stakeholders in the production process, resulting in limited control and often poor quality (Morgan et al., 2002). In addition to the challenges discussed previously, leaders need to address two more issues: politics and scarcity (Pride, 2001; as cited in Morgan et al., 2002).

It is becoming increasingly political as local and national governments, environmental groups, businesses and unions try to reconcile local interests with those at home. Balancing advocacy and public relations with local, regional, and national policies becomes a major challenge (Morgan et al., 2002). This process is further complicated by the misunderstanding of national branding by experts and government officials (Olins and Hildreth, 2011). Government officials may be interested in building a country for internal cooperation and economic and political development, but they have no understanding of how to do this.

limitation of business objectives and effective competition in the market. To be competitive, venues need to use their budgets (Morgan et al., 2002). DMOs have been particularly affected by the reduction in public funding resulting from the financial crisis, causing them to re-evaluate their experience, resources and management processes to maximize their potential (Fyall, 2011). It is very important for the brand to establish a good reputation in the minds of all stakeholders and their businesses. The goal of success should be fair and meaningful, and should be the expansion of what exists rather than a production (Gilmore, 2002). The country's business should be based on the truth in the middle of the truth and the ground, do not joke, do not lie. Authenticity is another important challenge in brand identity (Hornskov, 2014). The goal of success should be fair and meaningful, and should be the expansion of what exists rather than a production (Gilmore, 2002). The work of the land must be based on truth and the accuracy of the source of the place to avoid fraud or deception. important aspects of this process (Blain et al., 2005 ; Ritchie and Ritchie, 1998).

Bryan et al. (2005) noted that marketing organizations (DMOs) may not measure guests' perception or the success of the business because they do not know what to measure and how to do it. They emphasized that further research is needed to investigate the reasons for DMOs' reluctance to implement this measure.

The level shows the performance of products in the market. It is important that communication strategies are regularly monitored and evaluated, and business leaders should be open and willing to adjust strategies based on performance measurement. It's a difficult task. A very useful strategy for

measuring performance is the stock market, which has become a valuable asset. If the company's goal is to be profitable in the long term, maintaining and improving product equity will be important.

4. CONCLUDING REMARKS

In recent years, brands have realized the importance of creating a consistent brand and integrating the brand's thinking into the development process. Marketers need to develop an in-depth understanding of customers' perceptions, their willingness to pay, and their reactions to price changes (Rajasekar and Nalina, 2008; Nella and Christou, 2016). Understanding these factors helps marketers develop pricing strategies that help create and enhance brand value for products and services. Perceived value can be a variable that meets the criteria for creating customer value, provides tangible results, and is difficult to implement (Watkins, Hassanien, & Dale, 2006).

Collaboration between the various business services that make up the product is important. According to Hankinson (2009), a product is a combination of buildings, places and locations. Therefore, it is important that all these organizations are involved in the development of pricing strategies and other strategic considerations.

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INDIA'S ROLE IN THE EMERGING WORLD ORDER

Kauser Firdos Jafaree

Assistant Professor (Political Science), IIMT University, Meerut

ABSTRACT

India's influence extends beyond its economic gains, and its quest of inclusive and collective development may establish it as a model for other nations. India's socio-economic upliftment projects are so effective and large-scale that they may be copied overseas to provide the remedies the rest of the developing world needs. India has undoubtedly made its mark on the global scene. India's enormous population, quickly growing economy, and nuclear weapons have all drawn attention from around the world in the past three decades and significantly improved the country's reputation. India can be classified as a medium power with a rising power mentality, which is reflected in its rising ambition, expanding economy, solidified democracy, and growing military and material capabilities. India has persevered and looked for ways to gain financial and military might that would help it go closer to its objective of being a "leading power."

Keywords: Foreign Policy, Financial Negotiation, Subcontinent, Look East to Act East Policy, Marine Security

INTRODUCTION

The world has been fascinated by two recent international forums, the BRICS Summit in South Africa and the G20 Summit that ended recently in India, because of their ambition to position themselves as genuine representatives of the Global South, or developing nations. India's socio-economic upliftment projects are so effective and large-scale that they may be copied overseas to provide the remedies the rest of the developing world needs. India's style of governance, which demands that all countries change together, gives the globe hope and optimism for a brighter future. As seen by the recent G20 meeting in New Delhi, India has a special position in the world that can be used to unite people and bring enemies together. As time goes on, India's inclusive ideology—which possesses a great deal of soft power—will benefit the nation on the international scene.

India has undoubtedly made its mark on the global scene. India's enormous population, quickly growing economy, and nuclear weapons have all drawn attention from around the world in the past three decades and significantly improved the country's reputation. An examination of India's weak foreign policy reveals that those in charge of foreign policy avoided discussing the nation's potential for growth. India's foreign policy lacked long-term objectives and grand strategic thinking, which hindered it from clearly articulating its positions in international affairs.

INDIA: A GROWING COUNTRY

India is neither a power that cannot be ignored and hence meets the broadest definition of middle power, even if it is neither a major nor a great power. India is therefore a growing power, ascending up the global power hierarchy as a middle power. Furthermore, there is debate concerning India's standing as a regional force. When considering its size, geography, population, GDP, and armed forces in comparison to its neighbors, India can be considered a regional power in South Asia. India

has persevered and looked for ways to gain financial and military might that would help it go closer to its objective of being a "leading power."

Emerging nations like India now have more room to participate actively in international affairs thanks to the decline of Western dominance. With global interdependence, proactive shared leadership of global governance, and the creation of a favorable regional environment in South Asia and the Asia-Pacific, a multipolar world shaped by geopolitics is increasingly giving India more options to pursue its national interests and leadership aspirations.

INDIA'S FOREIGN POLICY DURING THE NARENDRA MODI GOVERNMENT

P.M Modi aims to build a new framework of pragmatic internationalism, strengthen ties with the Diasporas, try to end Delhi's defensiveness on the international scene, give India's positions on trade and climate change more flexibility, and create a new vocabulary for Indian foreign policy.

FINANCIAL NEGOTIATION

P.M Modi's aggressive international marketing of India as a top investment destination has two main goals: to boost his foreign investment for infrastructure development and to launch his signature initiatives made in India, Digital India, Skill India, and Startup India. Indeed, in trade talks, the P.M Modi administration has consistently demonstrated its incompetence and narrow-mindedness. India is rapidly losing hope of taking advantage of the present US-China trade spat to its benefit because it has been unable to secure trade agreements with the EU, Asia, or even the USA, let alone any bilateral investment deals.

If India participates, China might become its new export destination. Comparably, increasing India's appeal to foreign investors will encourage FDI inflows and further bolster the country's economic growth by resolving their top worries regarding contract enforcement, tax uncertainty, and investment protection treaties. Prudent economic management ought to be given more weight in India.

EFFECTIVE FOREIGN POLICY

A primary focus of the P.M Modi administration's foreign policy has been obtaining cutting-edge nuclear, military, and dual-use technologies. P.M Modi was able to get the bilateral Logistical Exchange Memorandum Agreement (LEMOA) inked in 2016. In order to enable India to make the best use of its current US-origin platform and to facilitate access to advanced defense systems, he went on to sign the Communications Compatibility and Security Agreement (COMCASA) in 2018.

Narendra Modi has established outstanding relations with most European states in addition to striving for strong relations with the USA. The P.M Modi administration has worked to further enhance their collaboration in terms of their relations with Russia. The reason behind Narendra Modi's persistent need on Russia for defense is that the Soviet Union has consistently backed India's economic growth and security ever since the country's independence. Indo-Russian relations have seen significant upheavals since the dissolution of the Soviet Union. In addition, there exists a mostly unexplored yet highly promising market for export promotion. China is increasingly considered as being more necessary for Russia than the other way around.

CHINA'S POLICY AGAINST INDIA

India will be severely impacted by the Sino-Pakistan relationship, Chinese nuclear and missile technology transfer to Pakistan, the growth of the Gwadar Port, and the China-Pakistan Economic Corridor (CPEC). China is threatening India's territorial integrity by proposing a drastic redrawing of

demographic and geographic boundaries through its economic corridor with Pakistan. Furthermore, proposals by China to reroute a portion of the Brahmaputra, a river that flows through Tibet and to the east and north, pose a substantial longer-term threat. India would be powerless to stop this development, which would have a major downstream impact on the country's northeast.

China is interested in Doklam because it would give its dagger-like Chumbi valley, which juts between Sikkim and Bhutan, more strategic depth. China's newfound economic and diplomatic might is demonstrated by the establishment of the BRICS New Development Bank and the Asian Infrastructure Investment Bank. Understanding Chinese strength and the significance of the Indo-Pacific strategy is a difficulty. Finding opportunities to foster interdependence instead of the lopsided relationship that exists now is the opportunity.

As a way to make ASEAN more inclusive, position it at the centre of Asia-Pacific, and maintain pressure on China, India should also think about inviting the incumbent ASEAN chair to observe at quad sessions. Following the economic downturn in China and the trade spats by US President Donald Trump, India would be wise to seize this chance to rebalance its relations, particularly with its northern neighbour on the bilateral trade imbalance.

LATEST ACTIVITIES OF NEARBY COUNTRIES

P.M Modi's initiative of inviting all South Asian Association for Regional Cooperation (SAARC) heads of government to his swearing-in ceremony was a new step in Indian diplomacy and aimed at strengthening ties with the neighborhood, especially given the present government's clearly stated priority of improving relations with the neighbours. Indian businesses will manufacture goods and sell electricity in cross-border special economic zones, generating jobs and assisting in the reduction of Bangladesh's trade deficit.

The effort for increased levels of connection, including grids, transportation, and electricity, by Bangladesh, Bhutan, India, and Nepal (BBIN), has resulted in a new psychological dynamic. By funding infrastructure projects in Bhutan, finalizing a border accord with Bangladesh, and tackling the issue of mistrust between India and Nepal, the Narendra Modi administration got its South Asian diplomacy off to a good start.

Despite Modi's "neighborhood first" strategy, Indo-Pak ties declined under his administration, necessitating multiple postponements of the intended Foreign Secretary's meeting. India has become a significant partner and investor in Afghanistan with the fall of the Taliban in recent years. The Taliban has committed to stop terrorism, but this is only a verbal commitment; in contrast, the US has made a real compromise. The Taliban's control of Kabul will serve as a springboard for Pakistan to become even more extremist and to unleash Jihadis in Kashmir.

BRINGING THE SUBCONTINENT UNITED

Despite having all the makings of a multilateral organization, SAARC is still mainly ineffective and dysfunctional. In addition to advocating for greater South Asian integration for peace and prosperity, Narendra Modi has made bold statements regarding trade and connectivity for the region. India ought to promote sub-regional cooperation. India can take action to promote integration with Bangladesh, Bhutan, and Nepal in the east. It can establish stronger ties with Sri Lanka and the Maldives in the south. Establishing transregional cooperation and institutions is another tactic.

Three significant observer states- China, Japan, and the United States- actively work to strengthen transregional cooperation between the SAARC and its surrounding areas, including East and Central

Asia. Transregional cooperation will result from the establishment of transregional institutions, such as the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), which links the eastern subcontinent with portions of Southeast Asia, or from joining the Chinese Silk Road initiatives, which aim to link various sub continental regions with different regions of China. Moreover, implementing a constructive unilateralism policy will enable P.M Modi to accelerate the subcontinent's long-overdue regional integration.

LOOK EAST TO ACT EAST POLICY

In the post-Cold War world, economic and strategic concerns are centered on the Asia-Pacific area. This makes Narendra Modi's rebranding of the "Look East" strategy into the "Act East" policy more of a rebranding than a fundamentally new policy. Increasing its presence in East Asia is a goal of the P.M Modi administration. Narendra Modi's East Asia strategy is to handle China's increasing assertiveness in the region in addition to enhancing friendship and cooperation with the states of East and South-East Asia. It will not only give India greater regional influence but also spur domestic economic growth. India has concentrated its efforts on deepening its connections with Vietnam and Japan, the two nations most apprehensive about China's ambition.

India's policy towards East Asia underwent a major strategic shift following Modi's visit to Japan. Memorandums of Cooperation and defense exchanges, particularly those pertaining to the "regulation of bilateral maritime exercise" and Japan's ongoing involvement in the India-Japan special strategic and global partnership, formed the foundation of the defense and security collaboration. In the meanwhile, there may be major geopolitical and strategic ramifications to increased bilateral collaboration in civil nuclear energy and defense.

The ASEAN-India Summit and the East Asia Summit were held in Myanmar, where Narendra Modi made his first stop. What P.M Modi referred to as a "natural partnership" has been reignited with Canberra. A new era in regional diplomacy is heralded by Australia and India's civilian nuclear agreement. Australia offers India enormous economic potential and plenty of space to strengthen relations in sectors including energy, mining, services, and education. Furthermore, Australia and India might serve as the pivotal points of the new strategic platform that will guarantee stability and freedom of passage in the Asia-Pacific, in addition to the USA and Japan.

INTERACTION WITH CENTRAL ASIA

India has the chance to collaborate with Russia and the Central Asian Republics through the Shanghai Cooperation Organization (SCO) in order to advance its own strategic objectives in the area. India and Central Asia share historical and cultural ties, but their relationship has not developed to its full potential. India may therefore make great use of its soft power in this situation. Actually, Sufism in Babur's native land may play a significant role in India's outreach to Central Asia, much as Narendra Modi's Buddhist diplomacy in East Asia. In addition, advancing common Sufi principles will be a potent signal of solidarity against the rising tide of Islamic radicalism in the area.

BREAKING DOWN OF WEST ASIAN POLICY

Narendra Modi has attempted to improve upon the policies of his predecessors in addition to carrying on their legacy. With a focus on infrastructure and energy development, P.M Modi's tour to the United Arab Emirates (UAE) and Saudi Arabia aims to increase investment and credit. The tighter ties that Pakistan has with the Gulf nations and India has with Israel are balanced by this. There is no way to downplay the geopolitical importance of Narendra Modi's visit; in order to combat the spread of

extremism across West and South Asia, India and the UAE must immediately strengthen their strategic alliance and intensify their counterterrorism cooperation.

The development of India's major logistical project, the Chabahar port, which is a critical step in the country's strategic interest in Central Asia and beyond, depends on Iran's assistance. Through its passage through Pakistan, Chabahar facilitates overland trade between Afghanistan and India. Pakistan's strategic hegemony over Afghanistan is weakened in this way by Chabahar. Given that Chabahar is only 80 km from China's Gwadar Port Project in Pakistan, the Chabahar plus International North-South Transport Corridor (INSTC) could be India's response to China's highly praised OBOR transnational connectivity programme. With respect to the two-state solution with regard to Palestine, P.M Modi's visit to Israel in July 2017 signaled a pragmatic shift in Indian foreign policy, resulting in an increase in bilateral ties and a strategic partnership with Tel Aviv.

AFRICA'S ROLE IN MARINE SECURITY

India has also started to look outside of its traditional spheres of interest. Building long-term relationships with Africa, a developing continent rich in natural resources like gas and oil, has been actively pursued. As the nation attempts to catch up to China, Modi's Africa tour of Southern and East Africa was intended to fortify diplomatic and commercial connections and establish a greater footprint in the continent. India has not always been successful in projecting itself as a maritime security provider in the wider region, even though it has historically had excellent cultural and commercial links with the East African countries of Kenya, Tanzania, Mozambique, and South Africa. Given that the economic interests and geographical locations of all regional players intersect in the Indian Ocean region, India currently has a unique opportunity in this regard.

THE DIFFICULTY OF RECASTING MULTILATERALISM

India joined the Shanghai Cooperation Organization (SCO), which was first established by China, Russia, and the states of Central Asia. It has joined a new development bank supported by the BRICS grouping and the Asian Infrastructure Investment Bank, which is based in Shanghai and is championed by China. It has also actively participated in other ASEAN-centered groupings, the East Asia Summit, BIMSTEC, and other neighborhood regional bodies. It must demonstrate its ability to influence official meetings' agendas, including those of the WTO, BRICS, and climate change conferences.

FRIENDLY RELATIONSHIP WITH INTERNATIONAL LEVEL

India has been using soft power all over the world. India has depended on resources connected to its constitution, politics, economy, culture, and technology (Malone, 2011, pp. 35–39). India has been making great efforts lately to showcase the diaspora's soft power, as seen in Narendra Modi's recent trips to Australia and the USA. India must, meanwhile, create new tools to capitalize on its generally recognized soft power advantages and transform them into "smart power."

CONCLUSION

P.M Modi's approach to foreign policy seeks to "create a web of interlocking strategic partnerships" by pursuing tight ties with Asian democracies. It is reminiscent of soft nationalism, market-oriented economics, and new Asianism, but under Narendra Modi, India's foreign policy does not represent a significant shift from that of the previous administrations. In most cases, the adjustments have involved rebranding or repackaging. The scope of India's development partnership is still a means of securing backing for India's international aspirations, such as obtaining a seat on the United Nations

Security Council (UNSC). India aspires to be a major force in the region and the world, but it is unable to effectively express these goals.

India needs to be more conscientious and practical in its dealings with China and Pakistan in the neighborhood. The aforementioned choice on India's foreign policy implies that while India lacks supremacy or the ability to sway the policies of its neighbours, it does have regional weight and influence due to its size, area, people, military, and steady economic growth. India is a confined power since it is confined inside South Asia by physical and geopolitical limitation. Even with continuous rapid growth and increased missile and naval reach, India will have a very tough time overcoming these limitations. Its military might and economic power must significantly increase if it is to be taken seriously on a global scale.

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USING STRUCTURAL EQUATION MODELLING TO UNDERSTAND THE ADOPTION OF HIGH-DENSITY APPLE PLANTATION TECHNOLOGIES IN INDIA: AN INTEGRATED MODEL

¹Javid Majeed Pandith, ²Hilal Hamid Mir, ³Md Obaidul Ola

¹Research Scholar, Department of Management Studies, Jamia Millia Islamia, New Delhi, India

²Research Scholar, Department of Management Studies, Jamia Millia Islamia, New Delhi, India

³Research Scholar, Department of Management Studies, Jamia Millia Islamia, New Delhi, India

ABSTRACT

India and other emerging nations have dedicated significant research and development resources to enhancing agricultural productivity and output. As the global population grows and commodity prices increase, providing fair food access globally requires enhancing food production efficiency. Apples are highly valued agricultural products. Among the most important fruit crops in Jammu and Kashmir, it has the largest growing area, the highest productivity, and the highest domestic consumption. This Study seeks to discover to which extent high-density apple plantation is adopted among the apple growers. A hybrid model of PNTC and TAM was adopted. SEM were used for analysis of the collected data. The study establishes that need characteristics and technology characteristics can be considered as important factors for perceived need technology characteristics of farmers adopting HDAP technologies along with extended technology acceptance model, all variables except perceived risk influence farmers intention to adopt HDAP technologies in Kashmir. This paper identifies key factors that enable farmers not only to adapt the technology, but also to sustain agriculture. It is also recommended that factors like cost, subsidy, bank credit can be added as new factors in future works.

Keywords: TAM, PNTC, Farmers Intention, HDAP

INTRODUCTION

Research and development initiatives have focused on improving agricultural productivity and production in developing nations, including India (Bishwajit, 2014; Tadele, 2017). Increasing production and productivity can be achieved by improving existing production practices or adopting higher-yielding technology (Birhanu & Jensen, 2023). As the global population grows and commodity prices increase, providing fair food access globally requires enhancing food production efficiency (Grote et al., 2021; Misselhorn et al., 2012). Over the past few decades, farmers have increased chemical inputs such as insecticides and fertilisers, which have had adverse effects on the environment and the agricultural sector (Li et al., 2020; Lu et al., 2015).

Apples are highly valued agricultural products (Adhikari & Thapa, 2023; Wani et al., 2021). It amounts to the highest production area, the highest productivity, and the highest domestic consumption (Ahmad et al., 2021; Kishore, 2023; Wani et al., 2021). High-density planting is an agricultural or horticultural practice where a greater number of plants are grown in a given unit of space as compared

to traditional or standard planting methods (Hassan et al., 2020; Kishore, 2023). Advances in precision agriculture technology have significantly reduced risk and enhanced managerial decision-making in the agricultural industry (Hanson et al., 2022).

High-density planting has certain advantages, such as being highly precocious and reaching full production quickly, leading to a small payback period compared to conventional orchards. The orchard starts producing fruit in the second year, it takes until the fourth year to reach full production (Ladaniya et al., 2020; Wani et al., 2021). The potential benefits of high-density plantations, particularly in terms of maximizing yield, producing high-quality fruits, and gaining a price advantage in the market (Hassan et al., 2020; Kishore, 2023; Wani et al., 2021). However, the area under fruit crops has increased by 6978 Ha i.e. from 334719 Ha in the year 2020-21 to 341697 Ha in 2021-22 thereby recording a growth of 2.08 per cent (J&K GOVT., 2022). The overall fruit production has increased by 3.95 LMTs during 2021-22 i.e. from 20.36 LMTs in the year 2020-21 to 24.31 LMTs recording a growth of 19.39 Percent. An area of 6090.91 Ha has been covered under HDP in the financial year 21-22 registering a growth of 591% over the previous year (J&K GOVT., 2022). In southern districts of Jammu and Kashmir,

people are choosing to cut down their apple and almond trees as the demand for high-density apple plantations has increased

Fig 1: Shows HDAP Plantation orchad in South Kashmir



The research paper aims to propose a theoretical model and to explore the factors that influence the perception of Indian farmers in the union territory of Jammu & Kashmir toward adopting high-density apple plantation (HDAP) technologies. In the first instance, the key elements that support and hinder the adoption of HDAP in the Indian context will be examined, these factors can, in the long run, also be applied to other emerging agricultural economies.

2. THEORETICAL BACKGROUND AND HYPOTHESES

2.1. PERCEIVED NEED FOR TECHNOLOGICAL CHARACTERISTICS (PNTC)

Enhanced production and productivity can indeed be achieved through two primary approaches: improving the efficiency of existing production practices and adopting higher-yielding technologies. Task-Technology Fit theories generally focus on how well a technology fits or aligns with a specific task or set of tasks within an organization (Goodhue & Thompson, 1995). The Task-Technology Fit (TTF) model, is a theoretical framework used in information systems research to understand the relationship between task characteristics, technology characteristics, and their combined effect on task performance or outcomes (Lin & Huang, 2008; Zhou et al., 2010). Tasks are broadly defined as the actions carried out in turning inputs into outputs to satisfy information needs (Goodhue & Thompson, 1995). The term "technology" encompasses a broad spectrum of components and systems, and it goes beyond just hardware and software. The perceived need technology characteristics (PNTC) is not solely determined by the technology itself; it's a complex interplay of the technology's perceived capabilities, the task requirements, and the users' competence (Birhanu & Jensen, 2023).

Contrary to many information technologies, such as mobile banking, which are free for the end user, expenses must be taken into account when evaluating agricultural technology adoption (Zhou et al., 2010). Thus, in order to ascertain farmers' perceptions of cost risk, is incorporated into the TAM. To evaluate the match between a farmer's (perceived) requirements and HDAP technologies and ascertain their relevance in forecasting HDAP adoption, perceived need for technology characteristics, or PNTC, was presented as an alternative to the TTF model.

The effective utilization of technology is closely tied to the alignment between the features of the technology and the specific requirements of the task at hand (Goodhue & Thompson, 1995). Aligning technology with user requirements enhances the likelihood of successful adoption, while a mismatch can lead to reluctance and decreased intention to adopt (Lin & Huang, 2008; Zhou et al., 2010). Previous studies have found the influence of task and technology characteristics on PNTC (Li et al., 2020). The two key factors need characteristics and technology characteristics influence PNTC in the context of information systems (Li et al., 2020). PNTC is crucial for promoting user adoption. In contrast, a poor task, in turn, can lead to a decrease in users' adoption intention. Thus, as per the discussion we propose the following hypotheses:

H1: Need Characteristics have a positive impact on perceived need technology characteristics

H2: Technology characteristics have a positive impact on perceived need technology characteristics

H3: perceived need technology characteristics have positive impact on intention to adopt HDAP technology

2.2. TECHNOLOGY ADOPTION MODEL

A theoretical framework called the Technology Acceptance Model (TAM) aims to comprehend the variables that affect new technology acceptance and adoption. Since (Davis, 1989) initially proposed it, TAM has been widely used and developed in a number of research studies. According to Davis, the TAM model's notions of PU and PEOU are essential since they not only directly affect intention but also attitude and indirectly affect intention through attitude (Lee et al., 2003; Tarhini et al., 2015).

2.2.1. PERCEIVED USEFULNESS (PU)

Perceived usefulness is the subjective assessment of a person's view that using a certain technology would enhance their productivity, effectiveness, or job performance in general (Davis, 1989). The relationship between perceived ease of use and purchase intentions is effectively mediated by perceived utility (Noor Ardiansah et al., 2020). The agricultural community is more inclined to accept

and value technologies that increase production and efficiency in order to increase economic returns (Suvedi et al., 2017). Farmers are more inclined to have a positive attitude towards a new agricultural technology if they think it will result in significant advantages like higher yields, cost savings, or enhanced efficiency. This upbeat outlook aids in the development of the purpose to use the technology.

H4: Perceived usefulness has a positive impact on intention to adopt HDAP technology

2.2.2. PERCEIVED EASE OF USE (PEOU)

PEOU is a term used to describe a user's level of comfort using a certain piece of technology or system (Davis, 1989; Tarhini et al., 2015). The perceived ease of use (PEOU) component is a key concept in the Technology Acceptance Model (TAM), which is widely used in the field of information systems and technology research (Changchit et al., 2020).. The existing studies suggest that ease of use is indeed a critical attribute for the success of e-business applications, including Internet commerce (e-commerce), internet banking (I-banking), and mobile commerce (m-commerce) (Changchit et al., 2020; Mehrad & Mohammadi, 2017). Farmers are more likely to use technology if they believe it to be intuitive and user-friendly since this enhances their opinion of its usability. Hence from the above discussion, we put the hypothesis:

H5: Perceived ease of use have a positive impact on intention to adopt HDAP technology

2.2.3. PERCEIVED RISK (PR)

Perceived risk is, in fact, a key topic in the study of consumer behaviour and innovation uptake. The term "perceived risk" describes a consumer's subjective belief or impression of the uncertainty and possible unfavourable consequences connected to a certain purchase or choice (Featherman & Pavlou, 2003; Noor Ardiansah et al., 2020). Precision agriculture methods may not be widely adopted in agriculture due to farmers' attitudes towards the industry and their perceptions of risk (Tozer, 2009). There are always risks associated with agriculture because of the weather, the state of the market, and other variables. Farmers could be risk-averse and hesitant to embrace new technology that might upset their customs and endanger their means of subsistence (Reichardt & Jürgens, 2009). we propose the following hypothesis:

H6: perceived risk have a positive impact on intention to adopt HDAP technology

2.2.4. PERCEIVED BENEFITS (PB)

Perceived benefits are the convictions people have about the advantages of engaging in a certain behavior (Kim & Kim, 2020; Tingchi Liu et al., 2013). Benefits that are perceived have a significant impact on people's decisions to accept new technology. These are the arbitrary advantages that people think they will get by using a specific piece of technology. Perceived benefits have been found to be the main element that increases farmers' adoption of new technologies (Pierpaoli et al., 2013). We can propose the following hypothesis as:

H7: Perceived benefits have a positive impact on intention to adopt HDAP technology

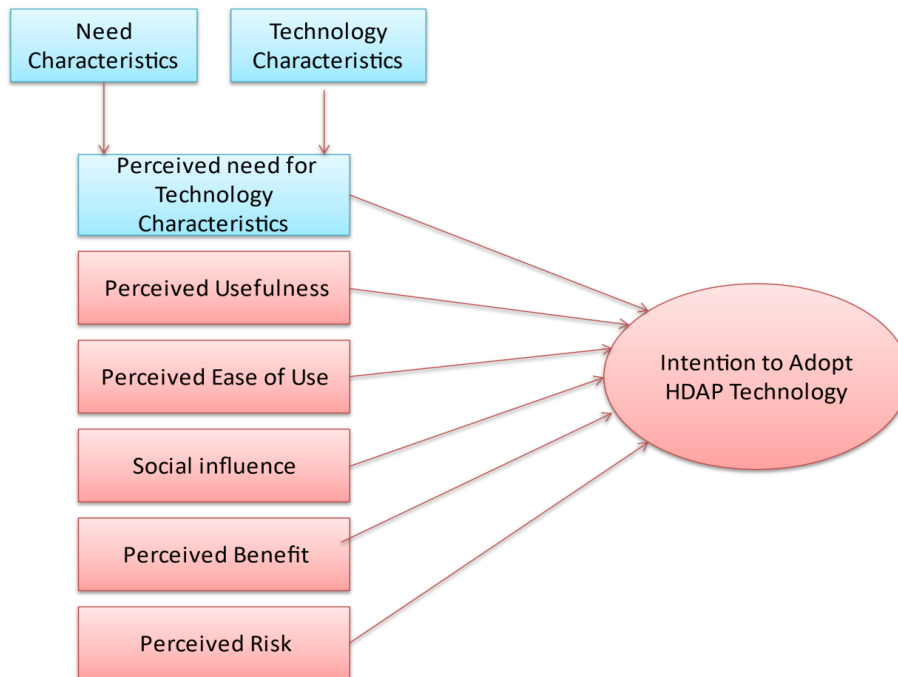
2.2.5. SOCIAL INFLUENCE (SI)

"The extent to which individuals perceive the opinions or beliefs of important people in their social circles regarding the use of a particular technology" is called as social influence. A farm's operational

development is somewhat influenced by the social environment, including friends and family (Foster & Rosenzweig, 1995). Furthermore, it has been found that a farmer's experiences with new technology now have a major impact on how they utilise them in the future (Rieple & Snijders, 2018). The discussion allows us to formulate the following hypothesis:

H8: Social Influence have a positive impact on intention to adopt HDAP technology

FIG 2: PROPOSED RESEARCH MODEL



3. RESEARCH METHODOLOGY

3.1. VARIABLE MEASUREMENT AND DATA COLLECTION

The survey questions were derived from previous studies on the adoption of new technology (Clark et al., 2018; Davis, 1989; Li et al., 2020; Zhou et al., 2010). In order to collect data, a survey questionnaire was created in English and examined by many professors from Jamia Millia Islamia University in New Delhi, India, as well as specialists in the field of agriculture. The views of the experts ensured that the survey questions could be understood from the farmers' point of view on the deployment of high-density plantation technologies. Data were collected with the help of questionnaires and interview methods. The indicators in the survey were measured using a five-point Likert scale, representing from strongly agree = "5" to strongly disagree = "1" except for demographic variables. The survey questionnaire was tested by conducting a pilot study with the help of 45 farmers belonging to five different districts of Jammu and Kashmir.

4. DATA ANALYSIS AND RESULTS

Four steps were taken in the data analysis process for this research. In the first phase, descriptive statistics were done to understand the structure of the sample. A total of 353 out of 400 responses

were received from five major apple-producing districts of Union Territory of Jammu & Kashmir (Baramulla, Budgam, Ganderbal Shopian, and Anantnag), 47 responses were discarded due to missing data points. Therefore, this research study examined 353 valid responses, 78% from male participants and 22% female participants, ensuring the results to be free from gender bias. In addition, most of the participants 38% were from the age group 45-55 years followed by 23% above 55 years 22% between 35-45 years 10% below 25-35 years and 7% below 25 years. Despite the fact that respondents of all ages participated, including the elderly, the majority of respondents belonged to the over-45 age group for the apparent reason that they were more accustomed to using technology. In this survey the income of farmers ranged from (<less than 1 lac=1%, 1lac to 3 lac =9%, 3lac to 5lac=16%, 5lac to 10 lac=40%, and above 10 lac=4%) furthermore landholding of farmers lies between 1Hectare =12%, 1-2 hectares=27%, 2-4 hectares=32 and 4-24 hectares 29%). Table 1.1 summarizes demographic variables related to the collected and analyzed sample.

TABLE 1.1: DEMOGRAPHIC PROFILE

Characteristics	Category	Frequency	Percentage
Gender	Male	274	78
	Female	79	22
	Total	353	100
Age	Below 25	23	7
	25-35	37	10
	35-45	77	22
	45-55	133	38
	Above 55	83	23
	TOTAL	353	100
District	Baramulla	115	33
	Budgam	53	15
	Shopian	81	23
	Ganderbal	25	7
	Anantnag	79	22
	Total	353	100
Income	Less than 1,00,000	5	1
	1,00,000 – 3 00,000	31	9
	3,00,000 – 5,00,000	56	16
	5 00,000 - 10, 00,000	140	40
	10, 00,000 or above	121	34
	Total	353	100
Land Holding	Marginal (up to 1 Hectare/8 Kanals)	42	12
	Small (1-2 hectare/ 8- 16 Kanals)	96	27
	Medium (2-4 hectare/ 16-24 Kanals)	109	32
	Large (4 and above/ 24 Kanals and above)	103	29
	Total	353	100

4.1. RELIABILITY AND VALIDITY ANALYSIS

The validity and reliability of the constructs were evaluated in the second round of data analysis. The statistical software programmes SPSS 21.0 and AMOS 21.0 were utilised to analyse suggestions for the assessment of reliability and validity components. All retained items were also subjected to tests for construct reliability and validity. Both composite reliability (CR) and average variance extracted (AVE) were considered as suggested by (Joseph F. Hair et al., 2010). As seen in Table 1.2, the CR

values for all constructs were noticed to be above 0.70 (Fornell & Larcker, 1981). The largest CR value was recorded for perceived ease of use while the lowest value was for perceived benefit. As for the AVE values, all constructs have an acceptable value of AVE higher than 0.50 as suggested by (Fornell & Larcker, 1981) and (Joseph F. Hair et al., 2010). The highest value of AVE was for perceived ease of use while the lowest value was found in the case of perceived benefits.

TABLE1.2: CONSTRUCT VALIDITY AND RELIABILITY.

	CR	AVE	MSV	MaxR(H)	PR	PU	PB	TC	SI	PEOU	NC	PNTC	INT
PR	0.914	0.781	0.108	0.966	0.883								
PU	0.938	0.791	0.321	0.940	0.290	0.889							
PB	0.882	0.653	0.127	0.894	0.053	0.260	0.808						
TC	0.939	0.838	0.139	0.944	0.132	0.187	0.101	0.915					
SI	0.945	0.852	0.222	0.952	0.160	0.471	0.277	0.113	0.923				
PEOU	0.947	0.856	0.301	0.961	0.329	0.445	0.237	0.219	0.375	0.925			
NC	0.930	0.817	0.085	0.938	0.070	0.122	0.026	0.152	0.138	0.083	0.904		
PNTC	0.917	0.786	0.231	0.917	0.312	0.289	0.173	0.298	0.165	0.320	0.291	0.887	
INT	0.917	0.788	0.321	0.919	0.296	0.567	0.357	0.373	0.467	0.549	0.209	0.481	0.887

Note: “CR= composite reliability; AVE = average variance extracted; MSV = maximum shared variance; MaxR(H) = maximum reliability; (*) = square root of AVE”

4.2. Measurement Model

In the third step, the measurement model, confirmatory factor analyses, were evaluated to make sure there was a suitable level of model fitness along with construct validity and reliability. Then, the main research hypotheses were tested at the second stage (structural model). As seen in Table 1.3, a number of the fit indices of the measurement model were found to be within their acceptable level (GFI: Goodness-of-Fit Index=.916; AGFI: Adjusted Goodness-of-Fit Index=.893; CFI:Comparative Fit Index=.983; CMIN/DF: Normed Chi-Square= 1.441; NFI: Normed-Fit Index=.947; and RMSEA: Root Mean Square Error of Approximation=.035). Therefore, the model have adequate level of model fitness as all fit indices (Joseph F. Hair et al., 2010; Mir, 2019; Mir et al., 2021; Tabachnick et al., 2013).

Table 1.3: Results of Measurement Model.

Fit indices	Cut off point	Model Fit (Measurement model)	Result
CMIN/DF	≤3.000	1.441	accepted

GFI	≥0.90	.916	accepted
AGFI	≥0.80	.893	accepted
NFI	≥0.90	.947	accepted
CFI	≥0.90	.983	accepted
RMSEA	≤0.08	.035	accepted

4.3. STRUCTURAL MODEL

To prevent any issues related to the common method bias, Harman's single-factor test (1976) has to be used before moving ahead with the structural model analysis. Consequently, SPSS 21 was used to retrieve nine latent constructs together with their unremoved items for Harman's single-factor test. This value is less than the recommended one (< 0.50) (Podsakoff et al., 2003). Therefore, it seems that there was no problem regarding the issue of common method bias.

To ensure that multicollinearity problem does not exist between main dependent and independent constructs, variance inflation factors (VIF) were tested and all values extracted in this respect were noticed within their recommended level (< 10) (Baabdullah et al., 2019).

In the last stage, the structural model of SEM was tested to verify the conceptual model and its associated hypotheses. Similar to the measurement model, all fit indices of the structural model were observed to be within their acceptable levels as follows: GFI=0.906; AGFI=0.882; NFI=0.941; CFI=0.977; and RMSEA=0.041 (J. F. Hair et al., 2010; Tabachnick et al., 2013). The conceptual model was also able to predict a large portion of variance on farmers adoption of High density Plantation Technologies with R² value of 0.63. This, in turn, supports the predictive validity of the current study model.

HYPOTHESES TESTING

The main causal paths were tested using path coefficient analyses as seen in Table 1.4. The main factors of PNTC and TAM, namely PEOU (C.R= 5.056 $P < 0.000$), PU (C.R= 5.022, $P < 0.000$), SI (C.R= 3.363 $P < 0.000$), and PB (C.R= 3.084 $P < 0.010$), were found to have a significant impact on the farmers intention to adopt HDAP technologies . However, PR was not proved to have any statistical association with farmers intention to adopt HDAP technologies (C.R= .593 $P > 0.050$). As for the PNTC model factor, both TC (C.R= 4.998, $p < 0.000$) and NC (C.R= 4.642, $p < 0.000$) were confirmed to be significant predictors of PNTC. In addition, the causal path between PNTC and HDAP was also proved (C.R= 6.435, $p < 0.000$). Therefore, except for H7, all research hypotheses (H1, H2, H3, H4, H5, H6, and H8) were supported.

Table 1.4: Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
PNTC	<---	TC	.227	.045	4.998	***	par_21
PNTC	<---	NC	.222	.048	4.642	***	par_22
INT	<---	PB	.207	.067	3.084	.002	par_23
INT	<---	SI	.170	.050	3.363	***	par_24
INT	<---	PR	.025	.042	.593	.553	par_25
INT	<---	PU	.291	.058	5.022	***	par_26
INT	<---	PEOU	.248	.049	5.056	***	par_27
INT	<---	PNTC	.338	.053	6.435	***	par_28

Note: $P < 0.001$ ***

5. DISCUSSION

This study endeavours to determine the key factors that influence farmers' intention to adopt HDAP technologies in agricultural sectors. This study revealed a startling conclusion: perceived need for technology characteristics (PNTC) was shown to be significantly positively impacted by farmer's need characteristics (NC) and technology characteristics (TC). These results are consistent with the findings of (Li et al., 2020; Zhou et al., 2010). the advancement of high-density apple technologies, bring them closer to the requirements and goals of farmers.

Perceived ease of use and perceived usefulness, both have a beneficial influence on farmers' inclination to adopt HDAP technology. These results are similar to the previous findings of (Dong et al., 2022; McCormack et al., 2021; Narmilan, 2020). This indicates that if users find these technologies easy to use and see them as helpful, they are more likely to adopt them.

This result might be explained by the fact that farmers' intentions to use HDAP technology are positively impacted by perceived advantages. This outcome is consistent with the earlier discoveries of (Liu & Liu, 2024; Thompson et al., 2019). An important factor is how farmers view the advantages of implementing high-density apple production systems. These advantages may consist of higher yields, better crop quality, more economical use of resources (such as water and fertiliser), less labour demands, and overall higher profitability. Farmers are more likely to declare their willingness to embrace these technologies if they think doing so would lead to positive results.

This study also shows that farmers' intentions to use HDAP technology are not much impacted by perceived risk. This result is consistent with the findings of (Li et al., 2020; Vandana & Mathur, 2022). It suggests that while determining whether to embrace these technologies, farmers do not view anticipated dangers as major obstacles or concerns. In this case, perceived risk may include things like worries about the financial commitment, doubts about technological performance, the possibility of crop loss, or other things that farmers could find dangerous.

Additionally, farmers' intentions to use HDAP technology are positively impacted by social influence. This outcome is in line with other study investigations like (Han et al., 2022; Ramirez, 2013; Ren et al., 2022). A variety of strategies, including social pressure, community involvement, professional assistance, government support, financial incentives, and favourable media attention, can work together to create an environment that is more conducive to farmers adopting HDAP technology. Agriculture cannot successfully absorb new technologies unless the social dynamics inside farming communities are recognised and addressed.

Furthermore, perceived need for technology characteristics positively impacts farmers' intention to adopt HDAP technologies. The results are similar to previous research works (Adesina & Zinnah, 1993; Li et al., 2020). Specific technology characteristics can contribute to a positive attitude and intention to adopt HDAP technologies among farmers, fostering the advancement of precision agriculture practices.

6. CONCLUSION, IMPLICATIONS AND FUTURE RESEARCH DIRECTION

The HDAP has immense potential to enhance food security, environmental preservation, and agricultural productivity. Although HDAP technology is widely used in other cropping systems, it is not widely accepted in Jammu & Kashmir. HDAP adoption in Jammu and Kashmir has been studied from a socioeconomic perspective in the past. Other factors affecting technology adoption have been overlooked. This study developed and tested a hybrid model that combines the Extended Technology

Adoption Model (TAM) and the Perceived Need for Technology Characteristics (PNTC). HDAP adoption can be predicted more accurately with this model by identifying the factors that will encourage or hinder farmers from adopting it. Farmers' perceptions of their own needs and how well HDAP technology characteristics align with these also had a significant impact on their intention to adopt HDAP. Therefore, throughout the HDAP technology innovation process, providers and regulators must take into account the relationship between technological features and farmers' demands. To accomplish efficient coproduction of HDAP technologies, end users and other interested stakeholders must be contacted early enough in the invention process to ensure that HDAP technologies meet with end-user expectations. It is also recommended that factors like cost, subsidy, bank credit and extension contacts can be added as new factors in extended technology acceptance models to understand and expand the technology adoption in farming community of India.

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ENERGY FACTOR IN INDIA-IRAN RELATIONS

Promila

Assistant Professor, Department of Defence & Strategic Studies, M.D. University, Rohtak

ABSTRACT

India and Iran share a relationship that spans centuries, rooted in cultural, historical, and economic ties. However, in recent decades, one of the pivotal aspects shaping their bilateral relations has been energy cooperation, particularly in the domain of oil and gas.

India and Iran are significant players in Asia and in the world. They have vast potential to collaborate in terms of trade and energy sector. The energy resources are the most significant and effective attributes in the “strategic cooperation” among India and Iran. The large size of population of India; and its requirements for rapid growth and development. There is large quantum of demand for new energy sources. In case of energy, Iran is known for one of the most significant crude oil trade partners with India. Currently, India imports 12 percent of the total demand of crude oil; next to Saudi Arabia. The most important potentialities and the capacities for Indo- Iran relationship; lie the on trade and the energy collaboration. In this context, both countries are very significant in Asia and in the realm of emerging power in this region. Both countries have paved the way for generating a good opportunity between both countries to expand relations. Nevertheless, there is a most consequential area for expansion of their ties in the coming years. After the Cold War, India has been slowly proceeding towards sustainable relationship with Iran; in terms of commercial cooperation, energy and the development of infrastructural facilities. Iran holds a specific significance for New Delhi as it facilitates access to Afghanistan as well as Central Asian countries, where India wants to improve considerable influence.

Iran-India has explicit interests in advancing the energy and commercial ties. With the sixth-largest oil reserved and the second-largest evidently gas reserved of the World’s total reserve. Iran is apprehensive to receive its hydro-carbons out of penetrate new markets, whereas; energy-deficient country; would like to make access to resources. Nevertheless, India is likely to presence its growth in the energy sector of Iran not only has Pakistan signed on an agreement to deal with Iran but it is being triggered by China to make its presence in Iran to a large extent.

The global energy strategy of India has been double-folds: to diversify the sources of sustainable supply and growing India’s stake in facilities for foreign production. Although the crude oil is not primary energy source of India; there are 70 percent of energy of India is required are met by the petroleum and coal is still major energy resource imports. India imports over 70 percent of its domestic consumption of its oil; as justified by some of experts believe that this numerical strength ensured to grow up to 90 percent in the coming years. Tehran is major supplier of energy to New Delhi. However, the Planning Commission highlighted that “India had imported 9.61 metric tons crude oil from Iran during the 2004-2005. These accounts reveal that nearly 10 percent of the total oil imports of India making Iran; the 4th largest quantum of the crude oil import by India. The economic growth of India which has limited coal reserves which are fueling an exponential growth in dependency tendency on the imported oil. It is therefore, the supply of the energy will remain a major strategic and the economic issue in India’s involvement with Iran”.

ENERGY CO-OPERATION

The cooperation in the energy sector among India and Iran has been given the main incentives for both countries to come nearer to each other. According to the New Delhi Declaration which was held in January 2003, India and Iran had a complementary of interests in the energy sector which could develop as a strategic area of their future relationship. Iran with its abundant energy resources and India with its growing energy needs as a rapidly developing economy are natural partners. These complementarities of the interests which was recognized in the Tehran Declaration, which state that the geographical situation of Iran and its abundant energy resources along with the rapidly expanding Indian economy and energy market on the other hand, to create a unique complementarity which the sides agree to harness for mutual benefit. Thus, the cooperation in the energy sector; Indian has forged a relationship between the producer and the consumer which have promised to serve both the countries; soon and the requirements for the long term.

In the current years, India is largest consumers of crude oil and oil by products. It has felt a steady increasing energy and the gap of the demand and supply- gap; in terms of the domestic crude oil production the natural gas has failed to sustain the balance with the growing demand and limited supply. The energy relations are even more significant for India in terms of energy to secure the energy is very necessary if India is to be achieved the more status in terms of the power. Thus, the quest of India to be diversified its foreign based sources of energy supply. On the contrary, Iran is endowed with large number of the energy resources and it is therefore; very much interested in marketable surplus of the natural gas to India. Iran is having a 5 percent of crude oil of the world and 14 percent reserve of the natural gas of the World. In fact, in terms natural gas reserve, it ranks second in the world after Russia, which is projected the reserve of the 23 trillion cubic meters. It is therefore, Iran has a significant role in terms of the strategy of India for establishing and the expanding its mutual energy relationship with the Gulf States. In terms of the feasibility of the cooperation in energy and between the two countries for establishing a Joint Working Group (JWG) on the energy transport in the year 1999 with a view point to determining the mode of complementary work to take the advantageous position by both the countries.

In June, 2005, another significant development which has taken place, when Iran and India had signed a protocol of the billion dollars as a result, a deal was undertaken by Iran to supply India with 5 million tons of liquefied natural gas annually for next 25 years; which was began in the year 2009. The deal also envisaged for taking an active participation by India for the development of the Jufeyrand Yadavaran oilfields in Iran. Apart from this, Iran and India had discussed the building the underground gas pipeline via Pakistan since the early 1990s. Nevertheless, the idea has not materialized due to India's reluctance to get the pipeline via Pakistani territory, despite Pakistan's commitments about the pipeline's security. Indian interest in the project appears to have waned recently, which many attribute to the U.S. offer of civil nuclear energy to India. The U.S. is insisted the project's cancellation as one of the terms of the civil nuclear deal. Because of India's viewpoint, Pakistan and Iran have decided to proceed with the project even without India. While, New Delhi is stated that India is determined to implement the pipeline project and will make continue efforts to reach a tripartite agreement on this project. There is a perception where India is reluctant to abandon in accordance with the categories the project until the nuclear deal between India and the United States is passed by the US Congress. It is therefore, on May 22-23, 2006, India has participated in the meeting organized by Iran-Pakistan-India Joint Working Group held in Islamabad.

No doubt, the energy is key component of India-Iran negotiations. Iran, with its large resources of the hydrocarbon and India, with its steady increasing demand for energy, is having partners to pursue further the present cooperation in the energy sector with relatively concrete levels. As a report of the Energy Information Administration (EIA 2006), the crude oil reserves grown up by 5 percent from 125.8 billion barrels (bb) in 2005 to 132.5 bb in 2006 EIA (2006) and as per 2009 as reported by EIA. There is reserve of oil with 136.2 bb in Iran; whereas, the Saudi Arabia is having 266.7 bb reserve oil. Canada ranks 2nd largest with 178.1 bb crude oil reserve. Similarly, Iran holds the 2nd largest reserve of the natural gas nearly 992 trillion cubic feet (tcf), next to Russia, which made it the largest producer of the natural gas in the West Asian countries.

The largest natural gas project in Iran is the offshore oil field; located at South Pars was discovered in the year 1990. The reserve estimated within the range 350 tcf and 490 tcf. The goal for raising the production of the natural gas of Iran has set within the range from 9 tcf and 10 tcf per year by 2010; and subsequently, this target was fulfilled. It was more than double its 2006; which was 4.4 tcf marketed production (EIA 2009). However, the sanction imposed on Iran, it was rather difficult to achieve this target. In addition, Iran ranked 2nd rank in the largest copper deposits, the largest zinc deposits and the 9th and 10th largest iron ore and uranium deposits, respectively.

In the energy security matter of India is very significant for Iran is undisputable. The crude oil and petroleum products import of India have been US\$ 10-96 billion in the year 2007-08. The gasoline exports to Iran were US\$ 850 million. India ranks 3rd rank for buying the Iranian crude oil. Over 12 percent oil imports of India; imports from Iran. An agreement was signed on behalf of India with Iran to buy 5 million tons of Liquefied natural gas (LNG) per annum for the next 25 years. However, this agreement was not executed; because of ongoing dispute on the price issue. As per BBC report; India had casted its vote against Iran at the IAEA; it because of not execution of the deal of LNG. However, officials of both the countries were of the view that this deal was prone to be renegotiated in the coming period. Subsequently, the visit of Said Jalili, then the chief of national security of Iran, visited to Delhi. Prime Minister Manmohan Singh, then the P.M. of India had pointed out that the cooperation in the energy was the most significant area for expanding ties in the economic matter within Iran and India.

INDIA'S THIRST FOR ENERGY

India's imports are over 2/3rd requirements of its hydrocarbon and any further escalation would likely to have adverse effects on the security of energy. Addressing the 72 percent imports; the Planning Commission reported and warned that the country was facing the formidable challenges in meeting its needs of energy and the import dependency ratio is increasing rapidly. In this changing scenario, the policy makers of India are aware of steady growing requirements for diversifying their supply of energy resource. Iran places and plays a crucial role in the Persian Gulf States which shares nearly 10 % of the global total crude oil reserves.

In the year 2007, Iran used to share 17 percent of crude oil of imports of India ranked the 2nd largest supplier of the crude oil, next to Saudi Arabia; which used to share 23 percent. In addition; the demand for new suppliers for the energy, an urgent need for diversification of energy was felt by India. This accounts for the raising the quantum of making use of the natural gas, mainly driven by the steady growing demand in the power sector. The fertilizer and the powers; accounts about the three-quarters of the consumption of the natural gas in the country. Although the production of

natural gas has steadily increased across the period, and the demand has already been exceeded to the supply and since the year 2004, India has been natural gas importers.

Iran ranks 2nd world largest natural gas producer country; as reported by EIA with its estimate stands next to Russia which was 1, 1187 tcf of gas reserve. Iran has a vast potential of the natural gas resource for India which is yet to be tapped. Fruitful dialogs have taken place among India and Iran to construct a pipeline via Pak to supply the plentiful natural gas from Iran to Indian territory. This project is identified as the Iran-Pakistan-India (IPI) pipeline project to transport the Irani's gas through a pipe line with its length of 2,600 K. M; connecting the South Pars fields of Iran via Pakistan to India state Gujarat. Although, this project seems to be beneficial for all the concerning countries, several political and the commercial issues have delayed for duly execute the agreement. The security officials of India have questioned the importing wisdom a commodity as crucial matter of the natural gas via the Pakistani corridor. They insisted on passing the gas pipeline via Pakistan; as a result, it should be ensured for the security matter.

However, no agreement was done among India, Pakistan and Iran to fix the gas price and the tariff rate. It is because of these uncertainties which include this pipeline, during the 11th Five Year plan of India does not project any supply of gas via this route. In mid-2009s period, Pakistan had signed on a protocol with Iran to acquire the 750 million cubic feet of daily production of the natural gas via this pipeline, without participating India; under this negotiation. This development message appears to be that the country could join the deal which was aimed at not waited infinitely for New Delhi to make up their minds. The hesitation of India reached at an agreement on the dealing proposal which has little bit influenced by opposition of the United.

Subsequently, it was opposed by the Bush administration on this project issue which was due to crucial revenue matter which would have given to Iran, which was facing an adverse situation of punitive economic sanctions for ongoing nuclear programme which was too controversial to solve the problem during those days. Though even Washington was no longer opposing actively the development project on the pipeline, as a result, the negotiation of India with Iran on the issue of the pipeline which could now trigger sanctions under the Comprehensive Sanction of Iran, Accountability and Divestment Act of 2010 (CISADA) which was resulted in providing the imposition of penalties under this Act against the multi-national companies which have invested over \$20 million in one year in the Iranian energy sector.

IPI PROJECT

There is Iran-Pakistan-India gas pipeline; with its a total length of 2,775 km with estimated cost of \$7.4 billion the IPI pipeline which is expected to pave the way for transforming the face of the regional politics in South Asian countries. The Iran-Pakistan-India pipeline which is expected to complete within next 2-3 years is expected to pump the 60 million standard cubic meters of gas daily into Pakistan whilst India would receive 90 mm cmd. The pipeline starts from Assaluyeh, South Pars gas field, stretching over 1,100 km with 56-inch diameter, of the territory of Iran before entering in the territory of Pakistan and pass through either Khuzdar-Multan or run along with the coastal line connect to India. This project offers vast potential to tap all these opportunities to Pakistan, as the pipeline of gas which could fix the course for feasible oil and gas pipelines to China, particularly; since in past, China was willing to import the gas and the crude oil via Pakistan. The existed and proposed networks of pipelines are shown in the map as follows:



However, it has evidently proved that Iran is having a vast reserve crude oil with nearly 971.2 trillion cubic feet, ranks 2nd largest reserve oil/ gas in the world next to Russia. The sources of the IPI, there is 300 tons cubic feet with current capacity of production of 3.1 bcf per day in the South Pars oil field.

The planned pipeline between India (IPI) has had faced some of pressing problems by the USA on Pakistan and India for not purchasing the natural gas from Iran, which it takes a pariah state (or a member of the ‘axis of evil’). Despite the concerning to U.S. in January 2005; India signed a protocol on dealing the deal of US\$40 billion to import the Liquefied Natural Gas (LNG) from Iran. It was a twenty-five-year agreement on plans for importing the 7.5 million tons of LNG from Iran which was started in the year 2009. In June, 2005, an agreement was signed by the heads of states agreement was signed on pipe line project in June with the out lay of the sum of US\$7 billion to execute with Indo-Iron joint project; met in New Delhi. On 22-24th of May, 2006, held in Islamabad and signed on the trilateral meeting at the level of the second secretary. In this meeting; an extensive discussion was taken place on the financial, technical, and legal aspects of the project besides the matters; pertaining to project’s feasibility and the structure of the projects including the route.

As in May 2007, Indian foreign minister Mr. Mukherjee, during his visit to Iran, reiterated the Indian commitment with the project. Iran, containing the world's second largest natural gas reserves after Russia as well as ranking as OPEC's second largest oil producer with 9% of the world's total reserves, has been increasing efforts to promote its gas exports in the global market. In order to significant gain for gas trade in terms of economic benefits; the south Asian countries such as Pakistan and India have made their stand to resolve the conflicting situation. In this context, Iran-Pakistan- India pipeline (IPI) had a pioneered idea; suggested by Ali Shams Ardekani of Iran; then Dy Minister for foreign affairs and Rajender Pachauri, then Director General of Tata Energy Research Institute, New Delhi. After 4 years of various studies, in 1993, a MoU was signed by India a MoU with Iran. However, because of security related project which was shelved and only re-emerged during early period of 90s when an extensive discussion was taken place in Pakistan and Iran which was began with India.

In fact, in 1994, Pakistan extended its supporting hand for the IPI pipeline. However, the government of Banjeer Bhutto has failed to get the army supports. India had also explored the feasibility of the projects relating to deep sea, offshore and littoral sea pipelines as alternatives to pass through the territory of Pakistani. However, the technological problems; relating to deep-sea (2400 meters) pipeline were too difficult to solve with the available technology. The littoral sea option along the coast line of Pakistan, which would cross the Exclusive Economic Zone (EEZ) of Pakistan; which was turned down by Government of Nawab Sharif government due to coup by the army of Pakistani and Navi related security system. However, in year 1995, Pakistan, had signed an agreement with Iran to construction the pipeline from the South Pars gas field of Iran to Karachi; via coastal line. Pakistan with ADB and other US based multinational companies were persuaded to look at the Turkmenistan-Afghanistan-Pakistan (TAP) pipeline, USA and Pakistan army had supported India. Subsequently, India had sent an invitation to join this development project. Since that time the IPI project was not undertaken for a long-term project.

MAJOR ISSUES RELATING TO IPI PROJECT

The major security issue of the Energy, meaning and sustainable and regular energy supply at the affordable price, for whole of day and night is in one way or interlinked with several other related global level issues like a development issue, change in the climate, and most significant armed conflicting situation. The matter of security is not only the parameter which tend to affects the foreign and the economic policies of the countries but shaping the regional geopolitics scenario too. It does not make much difference matter that what sources of the alternative energy are developed in the coming period, the hydrocarbons (particularly the crude oil and natural gas) which are likely to remain reserve at large of the energy sources for the unpredictable future. The unequal distribution of demand and supply hydrocarbons in the world, along with steady growth in demand from rising economies of India, China, and Pakistan will have repercussion, not only in terms of markets for the hydrocarbon but also for the geopolitical activates in the World, particularly in the South Asian countries. India with a population over one billion is one of the rapidly increasing economies of Asia with an average growth of 8-9 percent. As a whole market venue of energy is perfectly administered and regulated by the Public Sector Utilities (PSUs) with a complex nature of web of regulatory regime. Indian economy has been facing the energy supply with sustainability of development which mostly depend upon the available source of reliable energy which is affordable, sufficient, and reliable and needing the huge investments in development of the physical and social infrastructure. The demand for energy in India is expected to grow of the demand for energy is expected to raise at

the rate of the 6 percent annual with an estimated growth from 7 to 8 percent with the GDP growth in the next decade. Coal is the largest source energy which has 51 percent share of the basket of the total primary energy; the rest is included 36 percent oil, 9 percent natural gas and 4 percent nuclear and renewable energy. India now imports 75 percent of its 960 million barrels of oil annually, by increasing the probability of India to get the volatile price rise of the crude oil in the market.

The geopolitics of energy has now; plying a vital role in determines the international relations, as developing countries are now required to ensure to sustainable energy supplies for sustainable economic growth. The volatile nature of the oil worlds market has had an effective repercussion on the developing states as steady price rising has given rise to less or competitive productivity and growth in trade deficits has been a common problem. This trend has led to high probability of risk for India and Pakistan; as a result, failed to meet their own requirements with either supplies of the domestic gas or oil or gas for the people and the industries. As a result, a traditional priority of swadeshi or 'self-reliance' for the country is no longer a practically significant objective and to regulate the states' relations which can provide the required oil and natural gas; as it seems as new India's foreign policy.

It has been observed that it is not only the countries which are rich in the hydro-carbon; gained the significance, as any of the pipelines would have to cross the immediate border of neighboring country to India with whom mutual relations have been harmonies between the two countries, and often worst. The relation between both neighboring countries Pakistan and Bangladesh is required to ameliorate the relation with peace so that India may ensure the energy uninterrupted supply across both countries. Now Pakistan is facing same problems with the conflicting situation with Afghan at its borders and its ambivalent relations with the U. S. So, the issues on energy go beyond the traditional economic and the commercial relations and has made the consistent effects on the peace negotiations, economic growth and development, and the status of the regional powers. It is therefore, it becomes an urgent need for energy also have close ties with the related issues with the globalization of all these nations as the multinational energy corporations have now become the true actors on the market of the Asian countries with the political and the economic consequences which is not capable to be wholly foreseen on this juncture.

INDIA'S ENERGY OUTLOOK

According to the RBI reports, "that every one-dollar rise in the international price per barrel of crude oil adds US\$600 million (around Rs. 28 billion) to the country's import bill, which has already grown four-fold over the last five years and has added '15 basis points to wholesale price index as a direct effect and another 15-basis point as an indirect effect in absence of any countervailing policy intervention. The coal; being as an alternative fuel is also very much challenges. Although India is having 4th largest worlds' coal reserves and the domestic supplies and lack of the demand; and nearly 10 per cent coal is imported. This source of energy is relatively cheaper vis-à-vis as cheaper gas for power generation, but the cost of investment in the development of the infrastructure is comparable to those of gas; as a source of energy. There are other pressing problematic areas such as climate change and economic viability of the extraction, hence the large estimates of total coal resources give a false sense of security. An unregulated market and steady growing domestic demand and regional demand which will eventually determine the future price of the coal and the reserve of the natural gas is 38 tcf (or 1.075 tcm, 1 Trillion Cubic Feet (tcf) = 0.0283 Trillion Cubic Meter tcm) India produces 85 million metric standard cubic meters per day or 1.08 tcf p.a. of natural gas, almost half of potential demand. It is projected that by the year 2025, demand of the natural gas is expected to go up to 400

metric standard cubic meters per day. There are two pressing issues on importing the gas and pipeline imports for India i.e., the projection of the demand or supply and the execution of price policy. There has been much of controversy on the demand or the supply which is estimated, besides the political motivational factors, arises from applying the various econometric models and the sensitively inherent prices of the market of the natural gas. However, no considerable variability in the projections from the various agencies; besides the India Hydrocarbon Vision (IHV 2025). Other projections of the corporate sector are not included due to incompatibility in comparison, which are close to IHV 2025 projections.

The projections of IHV are much higher vis-à-vis other models, because of taking in to into consideration of the gap between prevailing demand and supply aspects; whereas, the other models do not incorporate in this regard. In the 11th five-year plan (2007-12) which acknowledges that gap which was presently managed by doing the arbitrary rationing, as a result, it led to underutilize the installed capacity in the power and the s fertilizer sectors. It was presumed under the IHV projections which show an active role of the government for developing the imports and gas relating infrastructure, a vision; mentioned in the 10th five-year plan (2002-07). Nevertheless, the target of the investment which envisaged in the 10th five-year plan which had failed to meet and in 11th five-year plan the imports which were pipelined were not even the part of the supply which was targeted.

It becomes imperative for India to pursue a right strategy for the diplomacy on the gas and the crude oil; in case competing in the crude oil market. In order to find a viable short term management structure for energy; it would be allowed for India harvest viable renewable sources within the time limits. Since nuclear, hydro, and the production of the renewable energy which will take a long period to develop, whereas; India will tend to bind towards the fossil fuels to meet the steady growing demand of its energy requirements, particularly in the short-term demand of the country.

FUTURE PROSPECTS

1. **Diversification of Sources:** As India seeks to reduce its dependence on any single energy supplier, including Iran, diversification remains a key strategy. This includes exploring renewable energy sources, expanding liquefied natural gas (LNG) imports, and investing in domestic energy production.
2. **Infrastructure Development:** Projects like the development of the Chabahar Port in Iran, in which India is a key stakeholder, hold promise for enhancing connectivity and facilitating smoother energy trade between the two nations. The port not only serves as a gateway to Central Asia but also supports India's broader economic and strategic interests in the region.
3. **Geopolitical Balancing:** India's policy towards Iran must navigate the complexities of regional geopolitics, including its relations with other key players such as Saudi Arabia and the United States. Balancing these interests while securing its energy needs from diverse sources remains a delicate diplomatic challenge for India.

In conclusion, while energy cooperation has been a cornerstone of India-Iran relations, the dynamics of this relationship are shaped by a complex interplay of geopolitical factors, economic interests, and international sanctions. As both countries navigate these challenges, the future of their energy partnership will continue to evolve, driven by mutual interests in energy security, economic growth, and regional stability.

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THE ANALYSIS OF FINANCIAL SPECULATION UPON COMMODITY DERIVATIVES MARKET PRODUCTS

Arun Gautam

Assistant Professor, Faculty of Management, JECRC University, Jaipur, Rajasthan, India

ABSTRACT

Commodity derivatives futures markets fulfil two key functions: price discovery and risk management. The orderly performance of these functions critically depends on the close relationship between the physical and derivative markets. The existence of the commodity market in India dates back to ancient times. These markets influence the dynamics of production and resource allocation in the primary sector, along with pricing system of this market. The turnover of the commodity derivatives market in our country has grown potentially in a short span of time. This market established a link between the present and future production and consumption cycles thereby facilitating the inter-temporal smoothing of prices.

Keywords: *Investors Perception, Derivative Instruments, Risk.*

INTRODUCTION

Two decades of low prices of primary commodities came to an end in 2002 when prices across commodity markets experienced a steep and synchronized upward trend, peaking in 2008. Commodity markets with low or no index participation either lack futures exchanges or have only thinly traded futures markets. Commodity futures markets fulfil two main welfare-enhancing functions, which are price discovery and risk management. A failure of futures markets in performing these functions does not only have ramifications for the stakeholders of the particular commodity sector, relying directly or indirectly on these functions for their businesses and livelihoods. It is the market where a wide range of products, viz., precious metals, base metals, crude oil, energy and soft commodities like palm oil, coffee etc. are traded. It is important to develop a vibrant, active and liquid commodity market. This would help investors hedge their commodity risk, take speculative positions in commodities and exploit arbitrage opportunities in the market.

STATEMENT OF THE PROBLEM

Risk management complexity is increasing substantially. In order to handle risk commodity market instrument are developed which are sophisticated and can handle the risk efficiently. Familiarity with commodity market is not adopted by many market participants. The main reason of low growth in the market is because of lack of knowledge and no link with day-to day trading, in the success of the financial commodity futures and options market in our country. Creating awareness by providing proper information is essential need of the day. Proper knowledge should be given to the investors to safeguard their investment.

OBJECTIVES OF THE STUDY

To study the various commodity derivatives market products participants and the prevalent market condition from investor's perspective.

Hypothesis of the study

There is no significant association between the demographic factors of the investors on their investment patterns.

REVIEW OF LITERATURE

Ali and Gupta in their paper analyzed the efficiency of agricultural commodity markets by assessing the relationships between futures prices and spot market prices of major agricultural commodities in India. Results show that co-integration exists significantly in futures and spot prices for all the selected agricultural commodities except for wheat and rice. This suggests that there is a long-term relationship between futures and spot prices for most of the agricultural commodities like maize, chickpea, black lentil, pepper, castor seed, soybean and sugar.

Sahoo and Kumar outline that trading in commodity derivatives on exchange platforms is an instrument to achieve price discovery, better price risk management, besides helping macro-economy with better resource allocation. Since the inception (2003) of national online trading on multi-commodity exchange platforms, the trade volumes have grown exponentially. and to increase transparency, these arguments are debatable and not much rooted in the available literature.

Ahuja has pointed out that the expansion of commodities market in India should stand as an example for the policy makers in developing countries. As per his findings, the commodities market has made massive growth in terms of “technology, transparency and the trading activity but only after the Government protection was removed from a number of commodities, and market forces were allowed to play their role”. Hence, the “pricing and price risk management should be left to the market forces” rather than the exchanges try to accomplish them through “administered price mechanisms”.

An analysis of pricing efficiency in spatial markets a study by Gupta and Mueller suggested a technique for estimating the price relationship between regional markets, which avoids the ambiguity of the correlation coefficient. The method was based on Fama’s concept of pricing efficiency and consists of tests based on Granger’s casualty. The method was applied to price series from three regional markets of slaughter hogs in West Germany.

Research Methodology

The research design applied for this study is analytical and descriptive in nature. Both primary and secondary data were used in this study. The primary data was collected from investors of derivative market in Karnataka region by adopting Convenience sampling method with a sample size of 324 respondents. The secondary data was collected in the form of reports published by derivatives market, stock market website in India, journals, magazines, periodicals and dailies.

Limitation of the study

Karnataka region is the only region where this study is concerned about. Few respondents not responded because of their busy work schedules. Market investors are the commodity derivatives on which the questionnaire is targeted. Clients with large retail are screened out as they are trading company account and hence, their opinions are not included.

DATA ANALYSIS AND INTERPRETATIONS

		Frequency	Percentage
Gender	Male	253	78.1
	Female	71	21.9

Age	22 to 30 years	46	14.2
	31 to 40 years	143	44.1
	41 to 50 years	70	21.6
	More than 51 years	65	20.1
Educational Qualification	Up to Secondary	59	18.2
	Degree	161	49.7
	Post Graduate	104	32.1
Occupation	Self employed	113	34.9
	Professional	110	34
	Govt./Private Employee	75	23.1
	Others	26	8
Monthly Family Income	Up to Rs.30K	48	14.8
	Between 31K-50K	181	55.9
	Above Rs.50K	95	29.3
Annual Investment	Less than Rs.50K	55	17
	Between Rs.51K - 1L	198	61.1
	More than Rs.1L	71	21.9

Source: Primary Data-Field Survey

According to the table, men make up the majority of respondents (78.1%), while women make up about 21.9%. The majority of respondents are male and are between the ages of 31 and 40; the second largest group is between the ages of 41 and 50; the third largest group is between the ages of more than 51; and the smallest group is between the ages of 22 and 30. The table reveals that the majority of respondents have a degree as their highest educational qualification, followed by a postgraduate degree and an up to secondary degree as the next three significant educational levels for respondents. The table also shows that the majority of respondents are self-employed, followed by a second majority of respondents who are government or private employees, a third majority of respondents who are professionals, and the least number of respondents who are others. The chart also shows that the bulk of respondents come from families with monthly incomes between 31,000 and 50,000, followed by families with monthly incomes above 50,000 and finally families with monthly incomes of up to 30,000. The data also shows that the majority of respondents invest between 51,000 and 1,00,000 annually, the second majority of the respondents belong to the Annual Investment of more than Rs 1,00,000, third majority of the respondents belong to the Annual Investment of Less than Rs 50,000

Table Showing the Mean Based rank for Investment Avenues

	Statistics		
	N		
Investment Avenues	Valid	Rank	Mean
Fixed Deposit	324	1	2.14
Mutual Fund	324	4	4.32
Equity (Share) Market	324	6	5.28
Commodity derivatives Market	324	3	3.96
Financial Derivative (Future/Option) Market	324	2	3.86
Real Estate	324	5	4.61
Market Insurance	324	7	5.74
Gold	324	8	6.08

Source: Primary Data-Field Survey

Table indicates that there are 8 investment avenues and the respondents have preferred in their order of the preference. Mean based ranking technique has been adopted to see the order of the respondents' preference. The higher the mean value the lesser is the preference and lower the mean value higher is

the preference since the avenues are ranked. The results show that Fixed deposit as first rank with lowest mean value of 2.14 followed by Financial Derivative (Future/Option) Market with mean value of 3.86, commodity market with mean value of 3.96, mutual fund with mean value of 4.32, real estate with mean value of 4.61, equity market with mean value of 5.28, market insurance with mean value of 5.74 and Gold with mean value of 6.08 as the last preference.

Table Showing the Risk Management

	Frequency	Percent (%)
Not at all	17	5.2
Little Extent	19	5.9
Some Extent	112	34.6
Moderate Extent	128	39.5
Large Extent	48	14.8
Total	324	100

Source: Primary Data-Field Survey

The table shows that the majority of respondents belong to risk management with a moderate extent, the second majority to risk management with some extent, the third majority to risk management with a large extent, the fourth majority to risk management with a little extent, and the least amount of respondents belong to risk management with no extent.

Chart Showing the Risk Management

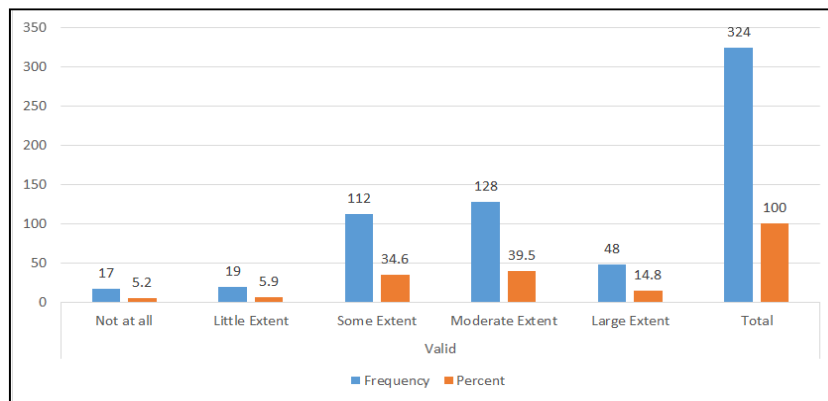


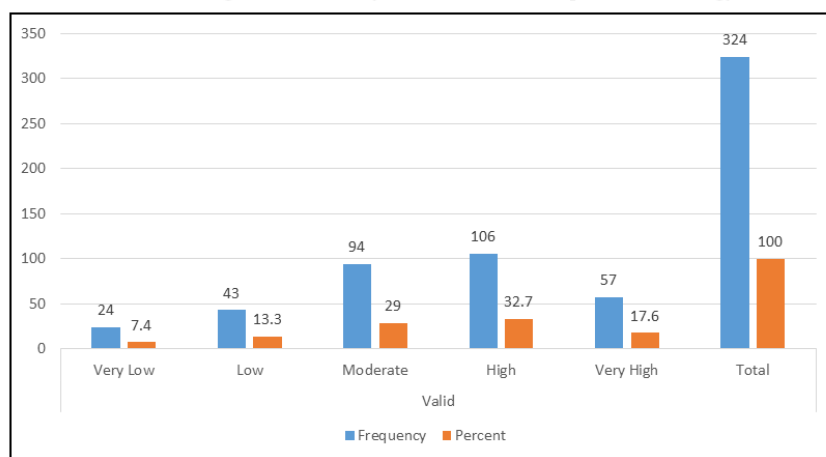
Table Showing the Commodity derivatives Market products - Energy

	Frequency	Percent (%)
Very Low	24	7.4
Low	43	13.3
Moderate	94	29
High	106	32.7
Very High	57	17.6
Total	324	100

Source: Primary Data-Field Survey

According to the table, the majority of respondents (32.7%), the second-largest majority of respondents (moderate (29%), the third-largest majority of respondents (17.6%), the fourth-largest majority of respondents (13.3%), and the smallest percentage of respondents (7.4%), belong to the energy of high (32.7%).

Chart Showing the Commodity derivatives Market products - Energy



Source: Primary Data-Field Survey

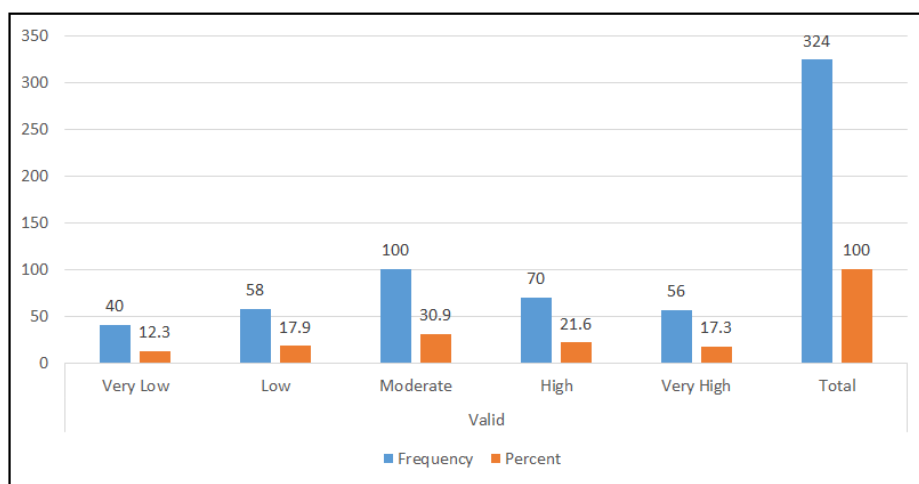
Table Showing the Commodity derivatives Market products - Metals

	Frequency	Percent (%)
Very Low	40	12.3
Low	58	17.9
Moderate	100	30.9
High	70	21.6
Very High	56	17.3
Total	324	100

Source: Primary Data-Field Survey

Table indicates that majority of the respondents belong to the Metals of Moderate (30.9%) , the second majority of the respondents belong to the Metals of High (21.6 %), third majority of the respondents belong to the Metals of Low (17.9%), Forth majority of the respondents belong to the Metals of Very High (17.3%) and the least belong to the Metals of Very Low(12.3%).

Chart Showing the Commodity Market products – Metals



Source: Primary Data-Field Survey

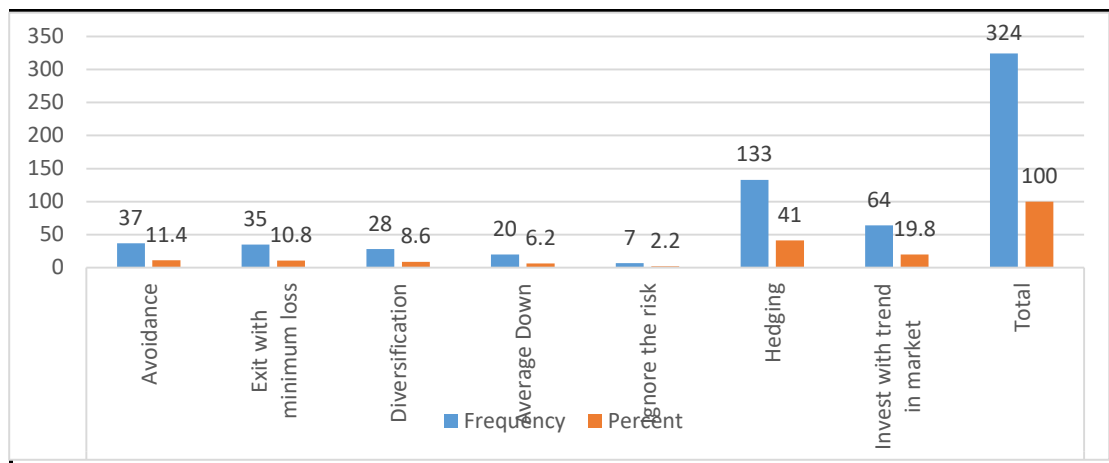
Table Showing the Technique to manage the risks in commodity derivatives market

	Frequency	Percent (%)
Avoidance	37	11.4
Exit with minimum loss	35	10.8
Diversification	28	8.6
Average Down	20	6.2
Ignore the risk	7	2.2
Hedging	133	41
Invest with trend in market	64	19.8
Total	324	100

Source: Primary Data-Field Survey

Table indicates that majority of the respondents belong to the Technique to manage the risks in commodity market of Hedging (41 % %), the second majority of the respondents belong to the Technique to manage the risks in commodity market of Invest with trend in market (19.8 %), third majority of the respondents belong to the Invest with trend in market of Avoidance (11.4%), Forth majority of the respondents belong to the Invest with trend in market of Exit with minimum loss (10.8%) and the least belong to the Exit with minimum loss of Ignore the risk (2.2%)

Chart Showing the Technique to manage the risks in commodity market



Source: Primary Data-Field Survey

Table Showing the Mean Based Rank for Factors attracting to invest in commodity derivatives market

Statistics			
Factors attracting to invest in commodity derivatives market	N		Mean
	Valid	Rank	
Low Risk	324	4	3.93
Low Investment	324	5	3.99
High Return	324	1	1.63
High Liquidity	324	2	2.24
Speculation	324	3	3.21

Source: Primary Data-Field Survey

Table indicates that there are 5 Factors attracting to invest in commodity market and the respondents have preferred in their order of the preference. Mean based ranking technique has been adopted to see the order of the respondents' preference. The higher the mean value the lesser is the preference and lower the mean value higher is the preference since the Factors are ranked. The results show that High Return as first rank with lowest mean value of 1.63 followed by High Liquidity with mean value of 2.24, Speculation with mean value of 3.21.

Table showing the method of analysis undertaken for investments in commodity derivatives market

	Frequency	Percent (%)
Fundamental analysis	67	20.7
Technical analysis	46	14.5
Fundamental and Technical analysis	104	32.1
Experts advise	56	17.3
All of the above	50	15.4
Total	324	100

Source: Primary Data-Field Survey

Table indicates that majority of the respondents belong to the Method of analysis undertaken for investments in commodity market of Fundamental and Technical analysis(32.1 %) , the second majority of the respondents belong to the Method of analysis undertaken for investments in commodity market of Fundamental analysis (20.7 %), third majority of the respondents belong to the Method of analysis undertaken for investments in commodity market of Experts advise (17.3 %), Forth majority of the respondents belong to the Method of analysis undertaken for investments in commodity market of All of the above (15.4%) and the least belong to the Method of analysis undertaken for investments in commodity market of Technical analysis (14.5%).

SUGGESTIONS

- 1 Need for a single regulator is being felt for a long time by the markets for their efficient and effective functioning. It is suggested that steps towards forming such a body by amending appropriate laws be done with an emergent mindset.
- 2 The market infrastructure is highly efficient and has the potential to absorb few more crores worth business into it, for which the role of intermediaries becomes very important. Facilitating the investors in selecting the right commodity instruments and strategizing their investment can help them to realize optimal rewards providing for aggressive and sustained growth of commodity Instruments in Indian Capital Markets.
- 3 Relevant information to be provided by government and regulatory bodies directly to the investors which can be considered and would be received by the investors as legitimate and authentic sources for their decision making.
- 4 The banks and financial institutions should take precautionary steps at the time of financing for commodity derivatives market operations. It is essential to observe the trend of commodity market in the country before sanctioning the financial assistance to the investors of the commodity market

FINDINGS

There are 8 investment avenues and the respondents have preferred in their order of the preference. Mean based ranking technique has been adopted to see the order of the respondents' preference. The

higher the mean value the lesser is the preference and lower the mean value higher is the preference since the avenues are ranked. The results show that Fixed deposit as first rank with lowest mean value of 2.14 followed by Financial Derivative (Future/Option) Market with mean value of 3.86, commodity market with mean value of 3.96, mutual fund with mean value of 4.32, real estate with mean value of 4.61, equity market with mean value of 5.28, market insurance with mean value of 5.74 and Gold with mean value of 6.08 as the last preference.

The majority of respondents belong to risk management with a moderate extent, the second majority to risk management with some extent, the third majority to risk management with a large extent, the fourth majority to risk management with a little extent, and the least amount of respondents belong to risk management with no extent.

The majority of respondents (32.7%), the second-largest majority of respondents (29%) the third-largest majority of respondents (17.6%) the fourth-largest majority of respondents (13.3%) and the smallest percentage of respondents (7.4%) all belong to the energy.

The majority of respondents (30.9%) fall under the category of "Metals of Moderate," followed by "Metals of High" (21.6%), "Metals of Low" (17.9%), "Metals of Very High" (17.3%), and "Metals of Very Low" (12.3%).

The majority of respondents (41%) use the risk management strategy of hedging in the commodity market, followed by the majority of respondents (19.8%) who use the risk management strategy of investing with market trends, and the majority of respondents (11.4%) who use the risk management strategy of avoidance in the commodity market.

CONCLUSION

More return is offered by commodity derivatives, along with equivocation of exchange and interest rate risk which includes maximum profits and minimum loss. In India investors are becoming aware of commodity trading. This becomes possible with the increase in the number of trading agents in the commodity market. The income is generated by commission agents by investing and trading for the investors. On the one hand many countries are adopting the commodity market but still there are some economies which are struggling to understand its importance, hence they require in-depth study of the same as many complexities can arise due to this lack of knowledge.

There is an absolute requirement to have the attention of the investors towards commodity market and provide the conclusions from investor's behaviour which will help the commodity market and also helps in understanding the investor's preference and unravel the factors that influence the risk tolerance level of the investors.

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ROLE OF IOT ENABLED SMART HOME AND ITS SECURITY SYSTEM

Kamaljit Kaur

*Assistant Professor in Computer Science, Punjabi University T.P.D. Malwa College
Rampura Phul, Distt. Bathinda, Punjab*

ABSTRACT

Smart home automation, a concept once relegated to the realm of science fiction, is now a reality for millions of homeowners worldwide. This revolutionary technology, driven by the Internet of Things (IoT), allows for the seamless control and management of household features, appliances, and activities. In this article, we'll delve into the significant influence of IoT on home automation, the potential risks associated with an IoT-powered smart home, and highlight six essential smart home security devices every homeowner should be aware of: Smart Locks: These locks can be controlled remotely and provide keyless entry options, enhancing home security. Security Cameras Smart Doorbells Smart Alarms, Sensors Smart Smoke, Carbon Monoxide Detectors and Network Security.

INTRODUCTION

Indeed, the comfort and convenience brought about by the Internet of Things (IoT) in our homes are undeniable. IoT technology has revolutionized the way we interact with our living spaces, making our lives more efficient, comfortable, and secure. Here are some key points to emphasize the benefits of IoT in our homes:

Automated Convenience: IoT allows for the automation of everyday tasks, such as brewing coffee in the morning or adjusting the thermostat before you arrive home. These automated routines save time and effort, making daily life more convenient.

Remote Control: With IoT devices, you can control and monitor various aspects of your home remotely using your smartphone or other devices. Whether it's adjusting the air conditioning, turning off lights, or locking doors, you have complete control from anywhere with an internet connection.

Energy Efficiency: IoT devices can optimize energy usage by intelligently managing lighting, heating, cooling, and other appliances. This not only reduces energy consumption but also leads to cost savings on utility bills.

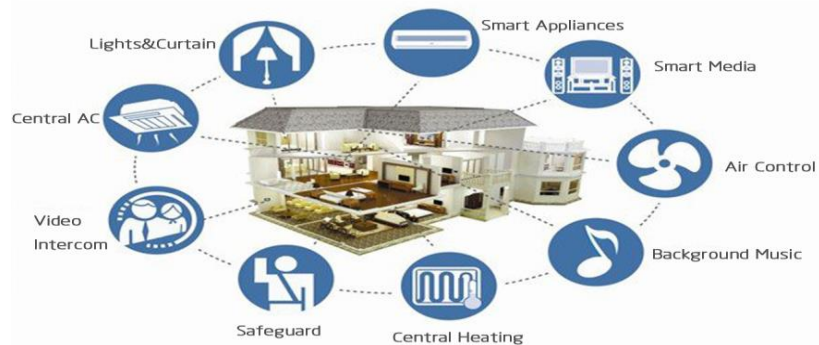
Enhanced Security: IoT-based security systems, including smart locks, cameras, and sensors, offer improved home security. Real-time alerts and remote monitoring give homeowners peace of mind and greater control over their home's safety.

Improved Quality of Life: Internet-connected gadgets enhance our daily lives by providing convenience, comfort, and security. They can also contribute to a better quality of life, especially for individuals with mobility challenges or specific needs.

Customization: IoT technology allows homeowners to customize their living spaces to their preferences. You can create personalized routines and settings tailored to your lifestyle and schedule.

Environmental Benefits: By optimizing energy usage and reducing waste, IoT contributes to a more sustainable living environment, reducing our carbon footprint.

Future Potential: IoT continues to evolve, with new devices and applications constantly emerging. This ongoing development promises even more innovative ways to improve our homes and daily routines.



OBJECTIVES

You're absolutely right; IoT devices have revolutionized home security and surveillance. Here's a closer look at how these devices enhance security and provide peace of mind for homeowners:

Surveillance and Monitoring: IoT-enabled security cameras and sensors can monitor the inside and outside of your home 24/7. These cameras can provide high-definition video feeds that you can access remotely through your smartphone or computer. This real-time monitoring allows you to keep an eye on your property and loved ones, no matter where you are.

Access Control: Smart locks and doorbells provide a high level of control over who enters your home. With features like remote locking and unlocking, you can grant access to trusted individuals and revoke access as needed. This is particularly useful for allowing package deliveries or letting in guests when you're not at home.

Visitor Identification: Smart doorbells equipped with cameras and motion sensors can identify and record visitors. They can even provide two-way audio communication, allowing you to speak to the person at your doorstep without opening the door. This helps verify the identity of visitors and can act as a deterrent to potential intruders.

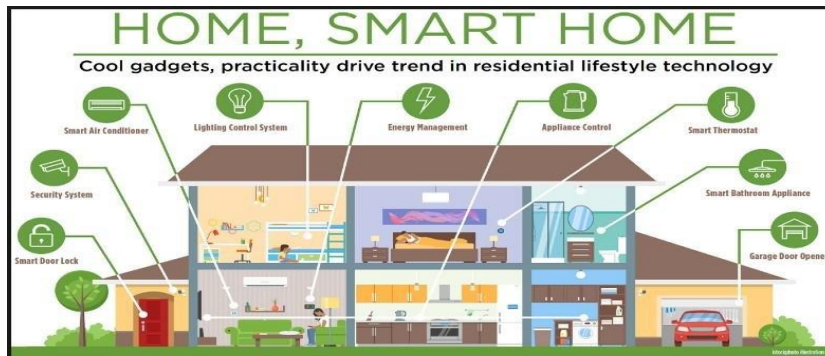
Security Alerts: IoT security systems can send instant alerts to your smartphone if they detect unusual activity, such as motion at odd hours or a breach of a security perimeter. These alerts enable you to take immediate action, whether it's contacting the authorities or checking the camera feed for confirmation.

Automation and Integration: Many IoT security devices can be integrated with other smart home systems, such as lighting and alarm systems. For example, if a security camera detects motion in your backyard, it can trigger outdoor lights to turn on, potentially deterring intruders.

Evidence Collection: In the unfortunate event of a break-in or other security incident, the recorded video footage from IoT cameras can serve as valuable evidence for law enforcement and insurance claims.

Emergency Response: Some IoT security systems offer the option to connect to emergency services, such as police or fire departments, directly through the device or a monitoring service. This can significantly reduce response times in critical situations.

In summary, IoT devices have made it easier than ever to monitor and secure your home. They provide not only enhanced security but also the convenience of remote control and monitoring. Smart doorbells, cameras, and access control systems are essential components of modern home security, offering peace of mind for homeowners and helping to create a safer living environment.



KEY ADVANTAGES

Absolutely, we have succinctly highlighted the key benefits of IoT-enabled home security devices. These advantages make IoT a valuable addition to modern homes, offering both security and convenience. Here's a summary of these benefits:

Enhanced Device Performance: IoT enhances the capabilities of security devices like CCTV cameras, smart lights, doorbells, and fire sensors through AI integration.

Data Loss Prevention: IoT systems can help prevent data loss by providing secure storage and backup solutions for critical surveillance data.

Secure Connections: IoT ensures secure communication between devices, safeguarding data from unauthorized access.

Device Authentication and Management: IoT systems authenticate devices, allowing only trusted devices to interact with your smart home network.

Alert and Response: Real-time Monitoring: Remote monitoring offers real-time insights into your home's status, notifying you immediately about any unusual activity.

Alarm Triggers: IoT-connected devices can trigger alarms and alerts, empowering homeowners to take swift action to address potential security threats.

Environmental Changes: AI-powered IoT systems can detect changes in the environment and alert users to various situations, enhancing home safety.

Remote Communication: IoT video devices enable remote communication with visitors via smartphone, providing convenience and security.

Remote Monitoring: You can see and interact with visitors without physically opening the door, enhancing home security, especially when you're away.

These benefits collectively create a smart and secure living environment that allows homeowners to stay connected to their homes, even when they are not present physically. IoT's fusion of technology and security enhances both safety and convenience in modern homes.

Various Risks

Here highlighted some crucial concerns regarding the deployment of IoT in smart homes, particularly related to security and privacy risks. Let's further explore these concerns and the potential consequences:

Lack of Regulation: The absence of comprehensive regulations and global security standards for IoT devices poses a significant challenge. This regulatory gap raises concerns about how personal data is collected, stored, and protected by IoT devices. Without clear guidelines, there's a risk that user privacy may be compromised.

Data Collection and Privacy: IoT devices, by their nature, collect data about users and their environments. Without proper security measures in place, this data can be vulnerable to breaches or misuse. Users must take steps to secure their IoT systems to protect their personal information.

Privacy Debate: There's an ongoing debate about the extent to which IoT devices may intrude on user privacy. For example, concerns about connected appliances like refrigerators potentially monitoring both their contents and external events raise valid privacy questions that need addressing.

Manufacturers' Responsibilities: IoT manufacturers often prioritize bringing products to market quickly to capitalize on market growth. This rush can lead to inadequate attention to security and data privacy. Proper security measures, regular updates, and the availability of security patches are essential but may be lacking in some devices.

Outdated Devices: Many users may not replace older IoT devices or even think to update them regularly. These outdated devices may lack essential security features and become easy targets for hackers, potentially compromising personal data and privacy.

Cyber security Threats: IoT devices connected to the internet are continually exposed to new threats. Outdated security cameras, in particular, can be attractive targets for cybercriminals. Once compromised, these devices can be used to gain access to your network and potentially invade your privacy.

Types Smart Home Security System

IoT-based smart home security devices come in various forms, each designed to address specific security needs. Here are some common types of IoT-based smart home security devices:

Smart Cameras and Video Doorbells: Security Cameras: These devices offer real-time video surveillance with features like motion detection, night vision, and cloud storage. They can be placed both indoors and outdoors.

Video Doorbells: Video doorbells provide live video feeds of your doorstep and allow two-way communication with visitors. They often include motion detection and recording capabilities.

Smart Locks: Keyless Entry Locks: Smart locks allow homeowners to lock and unlock doors remotely using a smartphone app. They can also provide temporary access codes for guests or service providers.

Smart Sensors: Motion Sensors: Motion detectors trigger alarms or activate lights when motion is detected in specific areas of your home.

Door and Window Sensors: These sensors alert you when doors or windows are opened or tampered with, enhancing entry point security.

Smart Alarms and Sirens:

Burglar Alarms: These alarms can be triggered by various sensors and can alert you and/or a monitoring service in case of a security breach.

Sirens: Loud sirens can deter intruders and alert neighbors to potential security threats.

Smart Lighting: Security Lighting: Smart lights can be programmed to turn on and off at specific times or in response to motion, making it appear as if someone is home, enhancing security.

Smoke and Carbon Monoxide Detectors: Smart Smoke Detectors: These devices can detect smoke and send alerts to your smartphone, even when you're away from home.

Smart Carbon Monoxide Detectors: They monitor CO levels and provide alerts for potential leaks, ensuring your safety.

Smart Security Hubs and Panels: Control Panels: Centralized hubs or panels allow you to manage all your smart security devices from one place, often through a smartphone app.

Smart Security Cameras for Indoor and Outdoor Use: Indoor Cameras: These cameras provide surveillance inside your home, allowing you to monitor family members, pets, or specific areas.

Outdoor Cameras: Designed to withstand outdoor conditions, these cameras protect your property's perimeter and provide crucial footage of outdoor activities.

Smart Window Blinds and Curtains: Motorized Blinds: These can be remotely controlled to give the appearance of an occupied home when you're away.

Smart Intercom Systems: Video Intercoms: These systems offer two-way communication with visitors at your front door, providing an extra layer of security.

Flood and Leak Sensors: Water Leak Sensors: These sensors detect water leaks and alert you to prevent water damage.

Flood Sensors: Designed for basements or areas prone to flooding, these sensors can prevent significant damage by alerting you to rising water levels.

Glass Break Sensors: These sensors detect the sound of breaking glass, providing an additional layer of security, particularly for windows and glass doors.

Smart Garage Door Openers: These openers allow you to control your garage door remotely and receive notifications when it's opened or closed.

Personal Safety Devices: Personal safety wearable's or devices with panic buttons that can send alerts to your network or emergency services when activated.

These IoT-based smart home security devices can be integrated into a comprehensive home security system, offering layered protection and the flexibility to customize your security setup based on your specific needs and preferences.

CONCLUSION

The integration of IoT into home automation has unlocked incredible possibilities for convenience and security. However, it is essential to be aware of the risks and take proactive steps to secure your IoT-based smart home. By investing in top-notch security devices and following best practices for IoT security, you can enjoy the benefits of home automation while keeping your home safe and your data

private.

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THE LAST JOURNEY OF GURU TEGH BAHADUR JI (NINETH SIKH GURU)

Surinder Kaur

Assistant Professor in History, GGSCW, Sector 26, Chandigarh

There are journeys which define the future of humanity. It is these journeys which when undertaken leave lasting impressions on the way mankind would negotiate with its most difficult transition. The last journey of Sri Guru Tegh Bahadur Ji invokes an imagery of the collective will, an odyssey undertaken by the living devotee to express dissent towards all that was draconian and evil. For every human being these journeys are a heart wrenching saga where the hollowness of pride and the limits of power is put under strict scrutiny vis-à-vis the spiritual and moral dissent of Guru Tegh Bahadur. These journeys are a symbol of timelessness, rooted in civilization's defining moments. The traveller here though dead physically, is alive forever in the millions of heart who revere the traveller. Though his own heartbeat is silent, it resonates with the throbbing of the eternal 'Akal Purakh.' These journeys are an imagery of the collective effort which change the course of history. For time immemorial, millions would relive this journey as it becomes a personal pilgrimage of self-discovery. At the heart of this searing journey lies the celebration of devout faith. In every hymn, the spiritual victory of Guru Tegh Bahadur over the satanic forces would be sung as the song of life. Guru Gobind Singh writes,

***De Shiva bar mohe eh-hey subh karman te kabhun na taro
Na daro arrseo jab jaye laro nischey ka rapni jit karo
Arr Sikh ho apne he mann ko, eh laalach hou gun tau ucharo
Jab aav ki audh nidan bane att he rann me tabh joojh maro***

(Chandi Charita, Ukti Bilas, Dasam Granth)

(Dear God, grant my request so that I may never deviate from doing good deeds. That, I shall have no fear of the enemy when I go into battle with determination I will be victorious .And when the time comes, I should die fighting heroically on the field of battle). On November 11, 1675, Chandni Chowk became witness to a barbaric act as Guru Tegh Bahadur ji was executed on the orders of Aurangzeb in Delhi. It is said that there was a wave of fear and terror spread among the people of Delhi who became so timid that even the Sikhs who were present there dared not protest against this cruel act of Aurangzeb. It seemed that Delhi had become a land of many wounds. What history had witnessed was not only profound in implications for the Sikh community, but is a pioneering saga of undying faith and a tale of courage and morality .When all had seemed lost, there stood common men who with their heroic deeds, bravery and fearlessness established a legacy of reclaiming the pious against all odds. . The heroism with which the head and the body of the Guru Ji was reclaimed shows the courage and spirit of self-sacrifice Guru Ji's martyrdom inspired. The loss that seemed to tear them apart became a point of departure, a historical tale of love for the Guru, a sacrifice of his human form, so as to create a bridge that spans across all faiths and belief system.

After the confinement of Guru Tegh Bahadur, the daring and devout Sikhs of Delhi had planned to secure the body and severed head of the Guru Ji. When hatred and bigotry were ruling the roost, Bhai Gurditta, Bhai Nanu, Bhai Kalyana, Bhai Gurbaksh Singh and Bhai Jaita saw through their eyes the

heartbreaking event of martyrdoms of Bhai Sati Das, Bhai Mati Das and Bhai Dyal Das, one after the other. The ominous dark day was approaching. The martyrdom of Guru Tegh Bahadur seemed inevitable. A darkness never witnessed before was about to descend upon mankind. Amidst their unspoken grief and controlled rage they deliberated seriously about dealing with present scenario. The Qazi's *Fatwa* was an ominous portal to the future that was to be. The *fatwa* proclaimed that Guru Ji's body would be next day cut into pieces and those pieces would be hung on different gates of Delhi. Sleepless, in a state of turmoil they prepared themselves to witness the pinnacle of cruelty. Their Ninth Master would be beheaded before them, a loss which can never be retrieved, a damage to the psyche of the civilizational ethos. They would have to bear all their life a scar which would never heal. They would be witness to a damage which would be both personal and historical. They hid their grief in their bosoms so as not to be discovered by the tyrannical Mughal zealots. The whole night, they were making plans to take the body and head of Guru Ji so as to perform the last funeral rites. They performed *Ardaas* to Guru Tegh Bahadur seeking blessings from the Almighty to bear the sight of the horror which was to unfold the next day.

A wave of sorrow swept over Delhi as Guru Tegh Bahadur was being beheaded, a sea of humanity was in throes of unbearable pain, weeping and wailing the ardent followers came closer to have a last look at the body of Guru Tegh Bahadur. They yearned for that messianic face which had exuded love and piety, a mere smile of Guru Ji bathed the devotee in a sea of bliss. In an act of sublime surrender on knowing about Guru Ji's martyrdom, Bhai Gurditta sat in *Nirvana Samadhi* and discarded his mortal body. Nature too was caught in a grip of rage. A fierce storm gathered over Delhi, it seemed as if celestial bodies were venting their fury at this inhumane and cowardly act. The skyline seemed angry as darkness descended upon the doomed city. A cloud of thick dust had enveloped every corner of the Delhi. It seemed as if the sun had lost its luster and an unforgiving darkness had descended over the city. Guru Gobind Singh said, there was sadness on Earth but joy in heaven, Guru Tegh Bahadur proceeded to the abode of the True Lord, none else could perform such a remarkable feat as Guru Tegh Bahadur did.

The world was drowned in the ocean of sorrow when Guru Tegh Bahadur departed. As depicted by Guru Gobind Singh, the whole world raised an uproar of lamentation whereas the gods in heaven greeted him with shouts of victory, none else could perform such a remarkable feat as Guru Tegh Bahadur did.

Despite the efforts made by Mughal guards, the grief-stricken devotees overwhelmed with sorrow rushed forward to have a last glimpse of their beloved Guru Ji. Oral traditions record how an ardent devotee, firm in his convictions daringly came out of the crowd, and with a lightning flash retrieved the head of Sri Guru Tegh Bahadur ji and vanished before anybody could realize what had happened. As the skyline darkened and the storm was about to whiplash the city, Lakhi Shah, the royal contractor approached the site of beheading with a large group of bullocks, wagons, camels and horses. Lakhi Shah along with his sons came forward with the intention of lifting the body of Guru Ji. While the storm raged and darkness descended upon the Mughal capital, when even the guards seemed paralysed; Lakhi Shah's act of retrieving the Guru's body was a sacred act of monumental significance. The whole family of Lakhi Shah including at the head of the convoy his son, Nagahiya, was exhorting loudly to the crowd, to make way for the convoy of the royal contractor. The convoy conducted by Lakhi Shah and his eight sons, Nagahiya, Hema, Hadi, Situ, Pundara, Bakhshi, Bala and Jawahar, tore through the crowd, and ran at full speed and they brought the body to their house. To avoid any suspicion by the authorities, they placed the body reverently on a bed in the house and set fire to the whole of their house. After the fire was extinguished, they picked up the remains of the

Guru Ji , and placing them in an container buried them on the very spot where Guruji was cremated¹. Today, Gurudwara Rakab Ganj Sahib stands at the site where the other mortal remains were cremated by Bhai Lakhi Shah.

When the convoy was gone, and the storm waned, both the body, and the Guru's head were not there. Was this the miracle that the Mughal emperor had asked for? Everyone thought so. Even the suspicious and superstitious Aurangzeb thought so. Was this the miracle Guru Tegh Bahadur Ji wanted to show? The power- blinded Mughal ruler failed to realize that the miracle was not in the disappearance of the dead physical form; but the miracle existed in the very act of defiance and courage which Guru Tegh Bahadur had shown as he turned down the offer made to him of all the riches, worldly pleasures and comforts on his accepting Islam. It was the Divine Spirit in him that made him endure such atrocities to defend *Dharma* and to stand witness to truth and righteousness.

People were stunned but happy. Daroga Khwaja Abdullaa, a devout believer gave up all his worldly trappings and resigned from his post and went to Anandpur Sahib to spend the rest of his life with Guru Gobind Das Ji as one of his dearest friends and admirers.

What Bhai Jaita was about to embark upon would be a much cherished nostalgia for mankind as his journey would be a living example of highest human aspirations. Bhai Jaita, the sweeper, known as Rangretta (a man of low caste) was embarking on a monumental journey which would be venerated by humanity for ages. Bhai Jaita using the darkness and the cover of the storm, reverentially lifted up the head of Guru Tegh Bahadur Ji and covered it with a white scarf .The most daring task now before him was to hand over safely the *sheesh* (head) of Guru Tegh Bahadur to Guru Gobind Das (the tenth Sikh Guru then) and the Sikhs who would be waiting for final glimpse of Guru Tegh Bahadur in Anandpur Sahib. He began to visualize the passage for his journey with head of Guru Ji. He held tightly the head of Guru Ji in his arms and prayed to Almighty for showering His blessings and strength on him so that he could reach Anandpur Sahib safely. As there was terror of Mughals all over and he knew that Mughal army would be searching for Guru Ji's head and body, he chose not to travel on the common roads but to travel on foot through the forests² .

With the head of Guru Ji, Bhai Jaita left Delhi and travelled the whole night and finally reached Baghpat situated on the east bank of river Yamuna which was forty kilometers away from Delhi. There he met a sufi saint near the *Dargah* whose name was Sheikh Wahuddin who was a great admirer of Guru Tegh Bahadur Ji. On being asked about Guru Ji, Bhai Jaita, with some hesitation told the *sufi* saint of Guru Ji's martyrdom and his own ordeal of escaping with Guru Ji's head and going back to Anandpur Sahib. Sheikh Wahuddin made arrangement of safe stay of Bhai Jaita at the house

¹. Later on, the Mughals built a mosque at that place where Guru Ji was cremated . Around 1775, Sardar Bhagel Singh of Karorsinghia Misal , took over Delhi and he started making a general inquiry about historically important places related to the Sikh Gurus in Delhi. He came to know from an old lady of this area about the spot under banyan tree where Guru Tegh Bahadur's body was cremated .The Sikhs claimed this spot as their own, but the Muslims challenged their right and strongly opposed the dismantlement of the mosque. Then it was decided that if the container containing ashes of Guru Tegh Bahadur were found underneath the mosque, then this place would be given to the Sikhs. Otherwise, the Sikhs should abandon their claim over that place. The claim of the Sikhs was found to be truthful and the Gurdwara of Rakabganj was built there.

². Swaroop Singh Kaushish (2005), *Guru Kian Saakhian: Tales of the Sikh Gurus* , English Adaptation by Pritpal Singh Bindra ,Singh Brothers, Amritsar.

of Bhai Krishan Pal. At his house, Bhai Jaita affectionately uncovered Guru Ji's head and replaced the scarf which was covered with blood with fresh one and reverentially draped the head once again. At this place, a Gurdwara was erected in the memory of Guru Ji.

Bhai Jaita's next halt was at Taravari, where there was a big fort in the city with high boundaries. The matter of concern was that Mughal soldiers lived here inside the fort. Beside the fort, there was a pond where washermen used to wash clothes of Mughal soldiers. On the side of pond, there was dense forest through which Bhai Jaita entered the city. Bhai Jaita was so exhausted by this time that he decided to rest for a few hours in the forest so he could once again gain strength to set out in the morning. As he walked through the trees, a washerman namely Bhai Deva Ram who was returning home and was a devotee of Guru Ji saw him by chance. He was already aware of the happenings of Delhi *Darbar*, so he requested Bhai Jaita to step out from the trees. On his repeated request about the whereabouts of Guru Ji, Bhai Jaita, while holding Guru Tegh Bahadur Sahib Ji's head tightly to his chest revealed the situation to him. Bhai Deva was stunned and took him to his home as there were Mughal soldiers roaming around that place. Bhai Deva Ram served him food and let Bhai Jaita take rest and took upon himself the responsibility of safety of Guru Ji's head. Bhai Deva Ram lovingly covered Guru Sahib's head in the new scarf and whole night did *chaur seva* of Guru Ji's head. At this place, a Gurdwara was erected which was earlier known as *Sheesh Asthaan ,Paatshahi Nauvin*. Later it was renamed Manji Sahib, and devotees gather here to commemorate the Guru's martyrdom.

The next day early in the morning on November 13, Bhai Jaita started his journey and moved through the forests over rocks and thorns. By evening, he had reached Ambala. In those days, there was a river Tangri flowing nearby. Bhai Jaita crossed that river barefooted and then stopped to rest under a banyan tree, reaching Kainth Majri where he refreshed at the house of Bhai Ramdev. When Bhai Ramdev came to know about what Bhai Jaita was holding in his arms, his grief knew no bounds. Bhai Jaita showed Guru Ji's head and then lay down to rest. Bhai Ramdev placed Guru Ji's head on the bed and himself sat on the ground to pay his obeisance for the entire night. At this place is now situated Gurdwara Manji Sahib and people from far off areas come here to pay homage to Guru Tegh Bahadur. Under the banyan tree where Bhai Jaita placed the head of Guru Ji for a night and rested for a while, is now situated a Gurdwara *Sat Sangat Paatshahi Nauvin Te Dasvin*. This place was visited by Guru Gobind Singh too on his way to Nabha Sahib. He got this place cleaned and stayed here for fourteen days.

The next day, Bhai Jaita arrived at Nabha Sahib via Banur. There he hid himself in the shrubberies to break his journey for a while so as to ponder about his next secured route because that area was the hub of Muslim dominated area. Then he came across a hut of *fakir*, Dargahi Shah, who was a devotee of Guru Tegh Bahadur Ji. He took Bhai Jaita to his hut for that night. At his hut, he pleaded with Bhai Jaita, 'Oh Sikh! When you see Guru Tegh Bahadur Ji, do communicate him that this old man would like to have his darshan once before he dies'. This is for the fourth time in his journey that Bhai Jaita showed Guru Ji's head and whispered, *Faki rJi*, 'if you really want to see him, then hold his celestial head'. The *fakir* was taken by surprise and asked what had happened. Bhai Jaita told him the whole story of the martyrdom of Guru Tegh Bahadur Ji and his beloved Sikhs.

All night, Dargahi Shah stayed wide-awake and looked at Guru Ji's head. Next day early in the morning, when Bhai Jaita began to start his final journey, Dargahi Shah expressed his strong desire to him to convey to Guru Gobind Das, the tenth Sikh Guru then, that this old *fakir* would only leave his body after having his *darshan*. That desire of him was soon fulfilled by the Tenth Master who came here barefooted to pay a visit to this devoted follower of Guru Tegh Bahadur Ji. Later Gurdwara Nabha Sahib built here. On November 14, Bhai Jaita at last reached Kiratpur Sahib, situated nearby

Anandpur Sahib. From Kiratpur Sahib, he sent a message to Guru Gobind Das that he had reached Anandpur Sahib with the head of Guru Tegh Bahadur Ji .

Upon hearing the news, Guru Gobind Das Ji, Mata Nanaki, Mata Gujri and the rest of the Sikh *Sangat* arrived at Kiratpur Sahib and met Bhai Jaita who was still holding Guru Tegh Bahadur Ji's head. On seeing Gobind Das , Bhai Jaita placed the covered head before him. Guru Gobind Das Ji came forward and then hugged Bhai Jaita and said, '*Rangreta, Guru ka Beta*' meaning, '*Rangreta* is the Guru's own son. Unable to control her tears mother Nanaki bent over the sacred head of her son. Mata Gujari calmly bowed before her beloved husband's head. In utter silence, she vowed to carry out her husband's last wishes.

Guru Gobind Das Ji placed the head of his father, Guru Tegh Bahadur Ji in the palanquin and this place is now known as *Babaangargh* from where the head of Guru Ji was taken to Anandpur Sahib. A pyre of sandalwood was made and head of Guru Tegh Bahadur Ji was cremated with full reverence close to his residence at Anandpur Sahib. The devout dutifully out of their love for Guru pay *Ardaas* at Gurdwara Sheesh Ganj which was built to commemorate his martyrdom.

Truly the last journey of Sri Guru Tegh Bahadur was pilgrimage to truth. In the last journey the body and soul of Guru Ji were carried by the collective spiritually and physically .The journey symbolized an act of defiance against the edifice of brutal authority. The last journey endowed human emotion with a messianic aura never seen before and established the finest tradition of worship which is kept alive today by millions across the globe through the pilgrimage of truth.

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IS CASTE A FACTOR IN WORK ACTIVITIES?

Harpreet Singh

Assistant Professor, Department of Economics, Panjab University, Chandigarh

ABSTRACT

It is widely acknowledged that certain groups are discriminated against in markets based on their unproductive characteristics, such as race, colour, ethnicity, and so on. Caste is one such feature of Indian society that serves as the foundation for pre- and post-market discrimination against marginalised caste groups such as scheduled castes (SCs) and scheduled tribes. The current study aims to investigate caste-based labour market discrimination in rural Punjab by using unit-level data from the NSSO's 68th round on employment-unemployment status and primary data obtained in the year 2015–16. The findings point to significant disparities in the work activities of employees from various social groups in rural Punjab. The majority of scheduled castes workers, in contrast to non-scheduled castes workers, are employed in manual labour in agriculture and non-agricultural enterprises. Analyses demonstrate that SCs and non-SCs group workers engage in distinct work activities.

JEL Codes: J01, J15, J71, J81.

Keywords: *Labour market discrimination; work activities; scheduled castes; rural Punjab.*

INTRODUCTION

Market discrimination may be defined as a situation in which market participants (e.g., employers, employees, customers, borrowers, lenders, etc.) consider variables such as race, ethnicity, caste, and gender while making decisions regarding exchanges of various factors, product, and credit, etc. Labor market discrimination, for instance, arises when an individual or a group of individuals are treated differently when it comes to hiring and firing, wage payments, or working conditions despite the fact that they are equally productive or unproductive as the rest, aside from in terms of their race, ethnicity, colour, or caste, etc. (Becker, 1957; Arrow, 1973; Akerlof, 1976; McConnell, Brue, & Macpherson, 2009). Theoretical economists argue that discrimination occurs owing to enmity between majority and minority groups, nominal or real cost concerns, or the majority group's presumptions on the minority group's inefficiency (Becker, 1957; Arrow, 1971, 1973, 1998; Phelps, 1972; Akerlof, 1976). Therefore, occupational segregation and pay differences between the groups of people who are biased in favour of and against result from market discrimination.

LITERATURE REVIEW

The issue is explored in India in the context of caste-based labour market discrimination concerning access to employment, occupational segregation and mobility, wage, income and wealth differentials, etc. (Bhattacharjee, 1985; Jodhka, 2002; Thorat, 2002, 2009; Ito, 2009; Deshpande & Newman, 2012; Madheswaran & Attewell, 2012; Thorat & Attewell, 2012; Thorat & Negi, 2014, etc.). Manu-Smriti-based caste-occupation affinity was traditionally upheld in the instance of India and is still present in many low-paying occupations. Only menial, manual labor-focused, low-paying, and low-status vocations were traditionally allotted to the scheduled castes (SCs) and scheduled tribes (STs), and these occupations were maintained down the generations (Gupta, 1991; Jodhka, 2002; Thorat, Mahamallik, & Sadana, 2012). Workers from these disadvantaged groups either received lower pay

for the same task or received the same pay but were obliged to put in more hours (Becker, 1957; McConnell, Brue, & Macpherson, 2009; Deshpande, 2011). In addition, minority workers may be required to perform tasks with greater health risks and/or a higher degree of risk that majority workers are unwilling to undertake.

There is evidence of gender-based disparities in work/occupations (Das & Desai, 2003; Eswaran, Ramaswami, & Wadhwa, 2013; Mahajan & Ramaswami, 2017; Ghai, 2018; Datta, Endow, & Mehta, 2020); however, there is very little evidence of differences in work activities across caste groups for the nation as a whole and the state of Punjab in particular. Furthermore, despite the fact that rural areas have the majority of the population (Census of India, 2011), the topic has not been studied in the context of rural labour markets. Thus, there are numerous researchable questions: Do workers from different caste groups select the same kinds of jobs? If not, does caste have any impact on work-related activities? How does caste affect workers' work activities? Who works in a hazardous environment? How are employees selected?, etc. These are a few of the research questions that the literature has not yet addressed. This article makes an effort to fill in this vacuum in the literature.

OBJECTIVE AND HYPOTHESES

The objective of this study is to examine caste-based market discrimination in rural Punjab by assessing caste group disparities in work activities performed by SCs and non-SCs workers in agriculture and non-agriculture sectors. The following hypothesis is offered to test in order to achieve the goal:

H₁: There are substantial differences between the work activities of SCs and non-SCs in rural Punjab.

DATA AND METHODOLOGY

The analyses incorporate both primary and secondary data. Unit-level data from the 68th round of the National Sample Survey Organization (NSSO) was utilised for the macro analysis of discrimination in the state of Punjab. The micro-analysis was carried out based on the data collected in the three districts- Jalandhar, Bathinda, and Rupnagar- of Punjab during the year 2015–16 utilising a primary survey and a well-structured schedule. The sample size was determined using the published tables, with a 5% precision level, a 95% confidence level, and a P-value of 0.50. (Kish, 1962; Cochran, 1963; Yamane, 1967; Miaoulis & Michener, 1976; Israel, 2009). Information from the selected families was gathered using both the structured questionnaire and the open-ended questionnaire. Following a multistage random sampling process, the sampled households were chosen.

In the initial phase, all of Punjab's districts were split into three strata, with the top third having the largest proportion of rural SCs, the middle third having about the average proportion of rural SCs in the State, and the bottom third having the lowest proportion of rural SCs in the State. From each of these three groups of districts, one was chosen at random. Among these three groups of districts, Jalandhar, Bathinda, and Rupnagar were chosen as the three districts to reflect the high, moderate, and low percentage of the rural SC population, respectively. The districts chosen provide as a good representation of various socioeconomic aspects of rural Punjab in addition to the distribution of rural SCs in the state. Additionally, the three districts that were chosen are dispersed across diverse geographical areas of Punjab, reflecting the state's population's diversity in terms of both geography and culture. At the second round of sampling, all of the blocks in each selected district were enumerated in order of the proportion of rural SCs population. From each district, two random blocks were selected, one with a high and one with a low percentage of rural SCs. Thus, Talwandi Sabo and Mour from the Bathinda district, Bhogpur and Adampur from the Jalandhar district, and Morinda and

Rupnagar from the Rupnagar district were chosen for the study. Two villages were chosen at random from each selected block, one with a high proportion of the SCs population and the other with a low proportion. The twelve villages chosen for the field survey are as follows: Sangat Khurad and Fatehgarh Nouabbad from Talwandi Sabo Block; Ramnagar and Mansa Kalan from Mour Block; Ghorewahi and Jhafal Jhingran from Bhogpur Block; Sikanderpur and Lesriwala from Adampur Block; Kainour and Paprali from Morinda Block; Behrampur Zamindara and Kheri from Rupnagar Block.

The households for the survey were chosen from the chosen villages at the fourth step of sampling. In order to achieve this, comprehensive lists of every household in the chosen villages were created, together with basic information about each one, such as primary occupation, caste, land ownership, etc. Then, households in each chosen village were classified according to caste and occupation. Thus, the proportion to population sampling technique was used to select three-quarters of the sample of SCs households and one-quarter of the sample of non-SCs households. A minimum of 35 households, including 25 SCs households and 10 non-SCs households, were randomly chosen and surveyed from each of the chosen villages. Thus, 303 SCs households and 128 non-SCs households were surveyed from the selected villages. The caste-based differences in occupational activities are examined using univariate methods. Using Z statistics, the significance of differences based on caste was evaluated.

RESULTS AND DISCUSSION

In order to comprehend the differences in work activities for SCs and non-SCs workers in rural Punjab, it is preferable to analyse the employment status of workers at the outset. The necessary information is presented in Table 1.

Table 1: Distribution of workers by the caste group and status of employment in rural Punjab: 2011-12 (percentage)

Employment status	Caste group		Z _{SC-NSC}
	SCs	Non-SCs	
Self-employed	24.2	63.0	-20.523*
Regular salaried	21.0	21.9	-0.524
Casual wage labour	54.8	15.1	21.197*

Note: 1. The caste group SCs includes all the scheduled castes of Punjab State. 2. The caste group non-SCs include BC/OBC and General. 3. Z_{SC-NSC} is the computed value of the test statistics for the difference of proportion between the SCs and non-SCs. 4. *, ** and *** indicates value significant statistically at 1%, 5% and 10% levels of significance respectively.

Source: Calculated from Unit Level data, National Sample Survey Organization (NSSO) 68th Round (2011-12).

Both SCs and non-SCs employees make up about one-fifth of the workforce who work in salaried positions. Even though all of the occupation groups have statistically significant disparities in occupations, the discrepancy in occupations for self-employed and casual wage workers is substantially greater. As a result, it validates our hypothesis on the disparities in job status between SCs and non-SCs. The percentage of SC workers who are self-employed is comparably very low, at only 24.2 per cent, compared to the other caste groups' self-employment rate of 63 per cent. This may be the result of three interconnected factors: *first*, the SCs' restricted access to higher education, particularly technical and professional education, and their lack of entrepreneurial aspirations. *Secondly*, even if the SCs avail of higher education opportunities, they fail to start up any self-employment activity due to the lack of investable resources. Also, they may suffer on account of their

lack of access to various credit sources. As a result, they are unable to secure the minimum investable resources required for any project because they lack sufficient in-house finances and do not possess any valuable assets that can be used as collateral to borrow money. Last but not least, SCs may not engage in self-employment projects because they suffer not only from a lack of financial capital, but also from a lack of social capital, which is critical to the success of any initiative.

CASTE AND WORK ACTIVITIES

Rural residents are employed in both the agricultural and non-agricultural sectors in rural and urban areas. The relevant information about the farm and non-farm sector work activities, working hours, and work conditions were collected from the members during the field survey and the results are presented in Table 2 and Table 3. This section is divided into two subsections: 1. Caste and agricultural work activities; and, 2. Caste and non-agricultural work activities.

1. Caste and Agricultural Work Activities: The survey estimates suggest that more than one-half of the SCs working in the agriculture sector are performing both sowing and harvesting activities (see Table 2). The remaining respondents reported working full-time in agriculture and performing all farm-related tasks. When asked about their cultivation operations, the majority (about 80 per cent) of the SCs said they were involved in two or more of them, such as land preparation and crop sowing, sowing and irrigation, sowing and harvesting, irrigation and harvesting, and so on. In addition, information regarding SC participation in processing activities was gathered. Approximately three-fifths of SCs have reported participation in processing activities.

Information was also collected regarding caste group-wise involvement in the application of chemicals to the crops. Approximately three-fourths of the SCs acknowledged that they were hired for this purpose. On the other hand, approximately 70 per cent of the non-SCs reported that they spray the chemical on crops along with the hired local labourers. Another 17 per cent of non-SCs accepted that they apply chemicals themselves only. Most probably, it covers small and marginal farmers. When asked how the workers for the application of pesticides to the crops were selected, about one-third of the SCs responded that they perform this activity voluntarily since it is a source of income for them, and if they do not work, someone else will. Two-fifth of the non-SCs and approximately one-third of the SCs acknowledged that the task of the chemical application is given only to a particular selected worker. When questioned how the person is chosen, they stated that a worker with some experience in the chemical application is usually chosen. Since local people are employed for the task, the employer—the landowner—does not have any difficulty identifying these labourers.

When questioned about whether they received incentive pay for applying chemicals to crops, only 31.6 per cent of SCs workers had agreed to receive incentive pay, compared to 50 per cent of the workers from the non-SCs group. It suggests that SCs and non-SCs are rewarded differently for the same work. Furthermore, details about the workers' off-field activities were obtained. It is important to note that none of the non-SC workers have acknowledged engaging in non-agricultural activities. Only SCs employees—who predominately comprise of female workers—have acknowledged that they engage in off-field activities as well. Approximately three-fourths of them reported having worked in animal care and milking operations. About 17 per cent of respondents acknowledged that they perform housekeeping duties, while the remainder indicated that they engage in a variety of activities except cooking. When asked if they had been denied any work, only one respondent acknowledged being denied cleaning work inside the home. The presence of discriminatory practises in off-field activities cannot be ignored. The very presence of discrimination is realised from the fact that the non-SCs are not engaged in the off-field activities in the village. Although none of them has

confirmed it, it's likely that they are engaging in these activities in the surrounding towns. However, it requires extensive research further.

Table 2: Caste and agricultural work activities in rural Punjab: 2015-16 (percentage)

Work activities and conditions		Caste groups		Z _{SC-NSC}
		SCs	Non-SCs	
On-Farm activities				
Sowing season activities only		0 --	2 (1.7)	-1.410
Harvesting activities only		0 --	0 --	--
Both sowing and harvesting activities		52 (53.1)	3 (2.6)	9.610*
Full-time employed on the Field		46 (46.9)	110 (95.7)	-9.063*
Participate in processing activities		59 (60.2)	111 (96.5)	-6.937*
Reason if not participating in processing activities				
Only migrant workers are used for processing activities		0 --	0 --	--
Only machines are used for processing activities		37 (94.9)	3 (75.0)	--
Only male labourers are used for processing activities		2 (5.1)	1 (25.0)	--
Do not know		0 --	0 --	--
Participation in cultivation activities				
Preparation of land only		2 (2.0)	0 --	1.414
Sowing activities		5 (5.1)	0 --	2.295**
Irrigation activities only		0 --	2 (1.7)	-1.410
Harvesting activities only		1 (1.0)	6 (5.2)	-1.825***
Any two or more of the above activities		78 (79.6)	8 (7.0)	15.398*
All activities performed self by the Owner or sharecropper		12 (12.2)	99 (86.1)	-15.998*
Who applies chemicals to the crops				
Only hired worker	Local	61 (62.2)	10 (8.7)	9.625*
	Migrant	4 (4.1)	5 (4.3)	-0.073
Only the landowner		6 (6.1)	20 (17.4)	-2.638*
Both owner and the hired worker	Local	18 (18.4)	80 (69.6)	-8.817*
	Migrant	9 (9.2)	0 --	3.151*

The worker is chosen to apply chemicals to the crops				
Randomly		29 (29.5)	37 (32.2)	-0.426
Rotation wise		0 --	0 --	--
Only a particular selected worker does this		35 (35.7)	46 (40.0)	-0.646
Voluntary		34 (34.7)	32 (27.9)	1.067
Paid incentive wages to apply chemicals to the crops		31 (31.6)	57 (49.6)	-2.720*
Off-Farm activities				
Work activities				
Cleaning work	Inside home	1 (5.6)	0 --	--
	Outside home	2 (11.2)	0 --	--
Animal care		9 (50.0)	0 --	--
Milking animals		5 (27.8)	0 --	--
Cooking work		0 --	0 --	--
All except cooking		1 (5.6)	0 --	--
Denied any work	Cleaning work Inside the home	1 (5.6)	0 --	--

Note: 1. The caste group SCs includes the Majhbi/Balmiki/Bhangi/Chuhra, Ravidasiye/Ramdasiye/Chammar, and Addharmi. 2. The caste group non-SCs include castes other than SCs i.e., BC/OBC and General. 3. Z_{SC-NSC} is the computed value of the test statistics for the difference of proportion between the SCs and non-SCs. 4. *, ** and ***-indicates value significant statistically at 1%, 5% and 10% levels of significance respectively.

Source: Field Survey.

2. Caste and Non-Agricultural Work Activities: The non-agricultural labour activities that the workers are performing are presented in Table 3. 31.4 per cent of the SCs workers acknowledged that they worked as construction labour. On the other hand, only about seven per cent of the non-SCs reported the same. Approximately 22 per cent of the non-SCs reported that they are running their businesses/shops and 18 per cent were working as private vehicle drivers. The comparative percentages for SCs are 14.2 and around seven per cent. The findings show that a disproportionately higher percentage of workers from non-SC caste groups are employed as government or public servants than are workers from SC caste groups. It suggests that the affirmative action (AA) policy has little effect on raising the educational and employment level of SCs in rural Punjab's sampled areas. However, further investigation is needed to reach an affirm conclusion in this regards.

Even in the case of private contract jobs, the proportion of non-SCs workers is greater than that of SCs workers. While one and a half per cent of SCs workers have reported working as a household servant, only about five per cent of workers from the non-SCs group claimed to do so. In contrast to this, more SC workers than non-SCs are employed in low-skilled jobs including sweeping, industrial work, woodcutting, shop assistance, etc. All of these distinctions may be viewed as proxies or

indicators of the discriminatory behaviours widespread in the private sector against SCs workers. Particularly, the preference of household servants from the non-SCs group over the SCs caste group shows what Becker (1957) has defined as a ‘taste for discrimination’.

**Table 3: Caste and non-agricultural work activities in rural Punjab:
2015-16 (percentage)**

Work activities	Caste groups		Z _{SC-NSC}
	SCs	Non-SCs	
Construction worker	124 (31.4)	8 (7.2)	7.145*
Rickshaw puller	2 (0.5)	1 (0.9)	-0.415
Sweeper in the village/town nearby	10 (2.5)	0 --	3.182*
School/Anganwari worker	1 (0.3)	2 (1.8)	1.161
Factory worker	22 (5.6)	0 --	4.841*
Government/public servant	25 (6.3)	17 (15.3)	-2.480**
Running his/her own business/shop	56 (14.2)	24 (21.6)	-1.728***
Wood cutter	5 (1.3)	0 --	2.281**
Household servant	6 (1.5)	6 (5.4)	-1.748***
Working at a shop	47 (11.9)	4 (3.6)	3.452*
Driver	28 (7.1)	20 (18.0)	-2.817**
Private/contract job	24 (6.1)	16 (14.4)	-2.342**
Working at Brick Klein	24 (6.1)	6 (5.4)	0.285
Daily wager (others)	21 (5.3)	7 (6.3)	-0.390

Note: 1. Same as Table 2.

Source: Field Survey.

CONCLUSION

The current study aims to investigate the problem of caste-based employment discrimination in rural Punjab. To be more precise, it is attempted to identify whether caste influences the work activities that employees perform for payment. The data confirm the hypothesis that employees in rural Punjab who are SCs and non-SCs engage in considerably different labour activities. Approximately one-half of the SCs households are engaged in manual work in non-agricultural activities and one-fourth in manual work in cultivation. On the other hand, approximately one-fourth of the non-SCs are engaged in manual work in cultivation, other agricultural activities, and non-agricultural activities. In addition, a relatively much higher percentage of non-SCs work in occupations other than agriculture. The majority of them (SCs) work daily pay jobs, while the majority of the group of workers who are not SCs work regular monthly wage jobs. Compared to the non-SC group, a much larger portion of them (SCs) work in jobs with high life risk. Therefore, it is reasonable to conclude that work activities in

rural Punjab depend on the caste of workers. Although more research is needed, it's possible that this holds true for the rest of Punjab as well as the country.

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WOMEN LABOR FORCE PARTICIPATION AMONG THE MISING TRIBE IN ASSAM: A CASE OF GOLAGHAT DISTRICT

Bhumika Bori

Assistant Professor, Department of Economics, Rabindranath Tagore University, Hojai, Assam, India

ABSTRACT

In logistic regression model, a dichotomous variable, women participation in labor force is introduced to determine whether woman is employed or not. The ratio of employed individuals to not employed is written as $P_i = (1 - P_i)$ where P_i is the conditional probability that a particular person was employed. The operational model consists of the variables, which are supplied by the data. Various socio-economic variables are analyzed in this paper. The justification for incorporating these variables in female labor force participation decision model and their expected signs, are discussed in this paper.

Keywords: *Women Labor Force Participation, logistic regression model, socio-economic variables*

INTRODUCTION

Women's labour market decisions, as well as the sort of job they undertake, cannot be decided solely by women (**Atal, 2017**), since these decisions are heavily influenced by household decisions (**ILO, 2012**) and are influenced by a variety of variables. To meet the household's demands, members of the family divide several types of everyday activities among themselves. Individual conceptions about gender roles, child raising techniques, and attitudes about the importance of women's efforts, among other things, influence the division of labour among household members. Household members' relative bargaining power influences these, which are determined by "potential income, human capital, economic reliance, possible employment status, as well as individual household requirements and interests" (*ibid*). Despite the fact that women contribute considerably to the operation of an economy, they are one of the most underused and neglected human resources.

Despite this, women's engagement in paid job is not necessarily empowering. Increased participation by women during economic distress, as noted by **Chakraborty and Chakraborty (2009)**, may cause young girls to drop out of school to help with domestic chores and sibling care, limiting their schooling and, as a result, widening the gender gap in education and labour market opportunities. As a result of their lower levels of education, women are more likely to be employed in low-productivity, casual employment. As a result, gender segregation in the home translates to gender segregation in the workplace. Women's participation in the labour force is recognized to be influenced by a variety of factors. Non-economic factors have been proven to be more important than economic considerations in understanding women's labour market behaviour. Scholars contend that, in addition to economic characteristics such as education, experience, earnings, and incomes, because female labour force participation rates are influenced by so many diverse factors, there is a lot of variation between areas and countries. Because the level, patterns, and trends in female labour force participation vary greatly between and within nations, it would be inaccurate to make any generalizations, as **Standing (1981)** correctly points out (**Standing, 1981 cited in ibid**). As a result, female labour force participation should be examined in light of the socioeconomic and demographic features of the studied region.

With this goal in mind, the current chapter examines rural women's contributions to the tribal economy in terms of their agricultural and non-agricultural activities in the context of their family situation. The study then isolates the variables of women's work involvement in the study region using binary logistic regression analysis.

LITERATURE REVIEW

National and global literature assessment on labour force participation and labour supply has been reviewed critically. The literature contains a wide range of research related to economics. There are several researches on home economic theory in the literature. **Becker (1965) and Gronau (1977)** were pioneers in the topic, documenting how families manage their time. However, there is a large number of empirical studies in literature, particularly for developed countries. The majority of them are based on surveys conducted by **Macurdy, Heckman, and Killingworth (1986)**.

Mincer (1962) investigated the relationship between working hours and female involvement in the labour force. He noticed that the family's financial situation had no impact on the wife's desire for leisure. The likelihood of entering the work market and lifetime wealth metrics are negatively connected. The study finds that the number of children has a considerable impact on the household's female labour theory.

Shah et al. (1976) investigated the influence of a number of demographic and socioeconomic factors on labour force participation in Pakistan's provinces. The findings demonstrate that the kind of nuclear family and the child-to-woman ratio are both inversely related to labour force participation. According to the findings, there is a clear link between labour force participation and marital status. In addition, he revealed that the dependence ratio and literacy ratio have a good impact on labour force participation. In Pakistan's metropolitan regions, **Kozel and Alderman (1990)** looked at the factors that influence employment participation and labour supply decisions. To estimate the correlations, he employed OLS regression and the Tobit model. According to his findings, women's employment involvement increases when their predicted earnings, salary, and level of education grow.

Malik et al. (1994) observed the elements that impact women's engagement in economic activities. He revealed that a woman's age, education, and the number of dependents have no bearing on market time. Women's labour supply is influenced by women's wage rates and predicted male wage rates in a substantial and favourable way. Kuwaiti women's labour market participation decisions are influenced by socioeconomic variables, according to **Aly and Quisi (1996)**. According to the findings, women's income rates and education levels are positively associated to labour force participation rates. The number of children, marital status, and age are all proven to be inversely related to labour force participation rate.

Azid et al. (2001) investigated the factors that influence female participation in Pakistan's cottage industry and found that the number of children, female age, education, and poverty status all have a positive and substantial effect on female labour force participation.

Naqvi and Shahnaz (2002) investigated the influence of several demographic, socioeconomic, and human capital determinants on women's economic engagement. For the age category of 15-49 years, they used cross-sectional data from the integrated household survey (PIHS) (1998-99). The parameters were estimated using the probit and multinomial logit models. The probit estimates indicate that marital status, primary education, number of children and female head of households are inversely related with women's participation in economic activities.

Khan et al. (2005) have focused on hazardous nature of home-based work of women and children. They have investigated the contribution of women and children to the total family income and the impact of increased income on raising household nutrition, health and education. The study has concluded that household size is significantly and positively influencing the decision of household to engage in home-based work while living condition index inversely.

In Pakistan's Southern Punjab, **Chaudhry and Nosheen (2009)** looked at the elements that impact women's empowerment. The cumulative index was created by the author to account for the diverse nature of women's empowerment. The four criteria utilized by the Socio-Economic 354 women are personal autonomy, family decision-making, home economic decisions, and political autonomy. Education, media access, community socio-cultural norms, women's jobs, and the percentage of household engagement all had a substantial influence on women's empowerment, according to the research. Women's empowerment in terms of participation in family economic activities was the study's main focus.

ABOUT THE MISING TRIBE

The Misings are Assam's second-largest scheduled tribal (Plain) group. They are members of the vast Mongoloid race's Tibeto-Burman family. Assam's Dhemaji, Lakhimpur, Jorhat, Golaghat, Sonitpur, Sivasagar, Tinsukia, and Dibrugarh districts have the highest concentrations. According to the 2011 census, their population was 6,80,424, with a male population of 3,45,786 and a female population of 3,34,638. The Misings, officially included as 'Miri' in the Scheduled Tribes of India under the Constitution of India Order 1950, are a hill tribe from North-Eastern India's Himalayan region (Pegu, 1998). Ethnically, the Misings are related to the Adis, Nishis, Apatanis, and Hill Miris of Arunachal Pradesh, and are part of the Mongoloid race's North-Assam branch (Kuli, 1998). exploited (Bordoloi, 1991: 53). Weaving is also a very popular activity among the Misings. The Misings women are experts in weaving. Cooperative outlook is the salient feature of the Misings. On the occasions like the building of a house, solemnizing a marriage ceremony, observing death rites or harvesting paddies, etc., the villagers co-operate wholeheartedly in such activities. The Misings have also some village organizations to maintain social order and unity among themselves. There was a village organisation called '*Kébang*'. The head of the *Kébang* is called '*Gam*'. The post is not hereditary. Generally, a '*Kébang*' is held in connection with judicial matters to give judgment of different cases. There is an institution called '*Ya:me Mímbr*' and the boys and girls of a village are the members of this institution (Bordoloi, Thakur, Saikia, 1987:120). But, these institutions are gradually disappearing among Misings. '*Murong*' is another important socio-economic organisation among the Mising tribe, commonly called a bachelor's dormitory. The Misings prefer to live in a joint family. "The Miris (Misings) have the tradition of living joint family based on a patrilineal and patrilocal system. The eldest male member in the family becomes its head" (Doley, 1998: 91-104). After the death of a father the property is divided equally among the sons. Daughters are not entitled to share the father's property. But if a man has no son, his daughter may share the property. According to Sharma Thakur (1972) "Misings are broadly known by two sections namely-'Barogam' and 'Dahgam'. Further, these two divisions are divided into several clans namely -amongst the Barogam Doley, Kutum, Kuli, Pait, Patir, Kardong, Misong, etc., and amongst the Dohgam-Moying, Chayang, Panging, Yein, Morang, Bori, Taye, Noroh, Koman etc". The major festival of the Mising tribe is known as Ali-Ayé-Lígang. It is a spring festival of socio-cultural significance (Sharma Thakur, 1976). The festival is observed to mark sowing seeds on the first Wednesday of Fagun (Assamese) Month of every year. 'Po:rag' is also another important festival of the Misings. They also observe three Assamese Bihu namely- Bohag Bihu, Magh Bihu and Kati Bihu. The religious belief of Misings is based on the belief in

supernaturalism and animism. They are also a follower of Hinduism. While they are devout followers of 'Vaisnavism' preached by the great saint Sankardeva and his disciples, they at the same time worship spirits and different deities and sacrifice birds and animals for the appeasement of the spirits and the deities some of which are benevolent and some malevolent (Bordoloi, 1991). The census 2011 figure reveals that the highest concentration of Mising population has been found in Dhemaji district (32.3 percent) of Assam and followed by Lakhimpur (29.1 percent), Jorhat (15 percent), Golaghat (7.8 percent), Sonitpur (7.2 percent), Sivasagar (4.1 percent), Tinsukia (2.7 percent) and Dibrugarh (1.2 per cent) districts. All these districts constitute about 99.6 per cent of the total Mising population in the state.

Objective: Objective of this research is to examine the effect of socio-economic and demographic variables on the women's involvement in the labour force (employed women, age group 15-64) in Golaghat district.

Hypothesis: There is no significant effect of socio-economic and demographic variables on the changes of women's involvement in the labour force (employed women age group 15-64) in the research region.

METHODOLOGY, DATA SOURCES AND SELECTION OF VARIABLES

Data and Methodology

In order to identify the socio-economic parameters that effect women's labour force participation in economic activities, we picked two blocks in one Assam district, Gomariguri block and Bokakhat block of Golaghat districts. We picked eight villages in the Bokakhat and Gomariguri blocks of the Golaghat region, where the Mising people are concentrated. The study is based on previously unpublished data that was collected at random. A well-structured questionnaire is used to survey around 334 families in the age cohort 15-64 for the study. In addition to descriptive data, we use the Logit model to determine the major determinants of women's working status in terms of numerous qualitative and quantitative features. The purpose of the model is to evaluate the impact of the following parameters on women's participation in economic activities among the Mising tribe of Assam.

Female Participation-A Logistic Regression

Despite the fact that there is substantial study on women's work participation and its causes in various parts of the nation, there is a paucity of literature on women's work participation rates in tribal areas. Economic activity is defined as any activity that leads to the creation of goods and services and adds to the national product, according to the National Sample Survey Organization's (NSSO) 68th Round Employment and Unemployment Survey. It comprises I production of primary commodities for own consumption, (ii) own account production of fixed assets, and (iii) production of all products and services for the market (i.e. for pay or profit) including government services (GoI, 2013). In this study, women's work participation is only based on their normal primary activity status, which means that if a woman engages in any sort of activity for the majority of the 365 days before the survey, she is considered to be in the workforce. Women who labour mostly in the home and participate in economic activities under the typical subsidiary activity status (ss) are classified as being outside the workforce. Women who are unemployed are excluded from the labour force. Women who work in paid jobs as well as those who work as unpaid family labour on family farms make up the workforce (Rai and Mukherjee, 2018). Because women (and men) in rural regions engage in several jobs on a

subsidiary basis to supplement family income, women who participate in economic activities according to subsidiary activity status were not considered in the current research.

Binary Logit Regression

A generalized linear model that describes the connection between a dichotomous dependent outcome variable y and a collection of independent response variables x is known as LOGIT/Logistic Regression. The model is estimated using logistic regression, which employs a binary answer and a collection of explanatory factors. In a logistic regression model, a dichotomous variable called women's labour force participation is used to identify whether or not a woman is employed.

$$P_i = E \left(\frac{Y=1}{X_i} \right) \quad (1)$$

Here $Y = 1$ means that a particular is employed in labour force and X denotes the set of explanatory variables used. Here P_i is the conditional probability that a particular individual was employed. In context of logit model, it is

$$P_i = E \left(\frac{Y=1}{X_i} \right) = \frac{1}{1 + e^{-(\beta_0 + \beta_1 X_i)}} \quad (2)$$

Let

$$P_i = \frac{1}{1 + e^{-z_i}} \quad (3)$$

$$P_i = \frac{e^{z_i}}{1 + e^{z_i}} \quad (4)$$

If P_i gives the probability of employed person then $(1 - P_i)$ will give the probability of not employed in labour force.

$$1 - P_i = \frac{1}{1 + e^{z_i}} \quad (5)$$

The ratio of employed individuals to not employed is written as,

$$\frac{P_i}{1 - P_i} = \frac{1 + e^{z_i}}{1 + e^{-z_i}} = e^{z_i} \quad (6)$$

$P_i / (1 - P_i)$ is called the odd ratio in favour of employed individual. Taking the natural log of the odd ratio we obtain

$$L_i = \ln \left(\frac{P_i}{1 - P_i} \right) = Z \quad (7)$$

Women's labour force participation is measured using an individual inquiry regarding current employment status, which is divided into two categories: employed and unemployed. To establish the binary variable women involvement in the labour force, 1 equals yes if the woman is now employed, and 0 equals no if she is currently jobless. Following a review of various research papers on women's labour force participation, certain explanatory variables were incorporated in the study to determine the factors impacting women's labour force participation.

Dependent Variable

The binary logit model was employed to test the hypothesis. The variables are described in general terms below. Variable that is dependent: The Labor Force Participation (LFP) model is a two-way choice dummy variable model with 0=Unemployed and 1=Employed. As a result, LFP is the study's dependent variable.

Independent variables include the following

Various socioeconomic variables are examined in the following sections. The rationale for include these variables in a decision model for female labour force participation, as well as their predicted indications, are explored below. In terms of female labour force participation, it is predicted to be favourable. The model is the fundamental LFP Logit Model's specification. Where LFP stands for labour force participation, and the factors in stand for explanatory variables.

FLFPR = Dummy variable coded 1 if the Female participate in labour force (employed); else 0.

Explanatory Variables

Household characteristics

Agriculture	= (Self employed) dummy (1 if the principal earning member of the household is engaged in the agriculture and 0 otherwise).
MPCHCE	= Monthly per capita household consumption expenditure
HSIZE	= Household size (no. of members in the household).
DEPR	= Dependency ratio (no. of dependents divided by no. of earning members multiplied by 100).
EDUPEM	= Education of principal earning member (no. of years spent in formal education).
LH	= Land holding by the household in bigha.
HT	= Household type, joint family =1 & unitary = 0.
AGEPEM	= Age (years) of principal earning member of the household.
CHILDREN	= Number of children in the household aged 14 years or less
REMOTENESS	= Least or minimum possible time (in minute) required to reach the district headquarter.
FLOOD	Dummy, 1 if the household resides in a flood affected area and 0 otherwise.
DEBT	= Amount of debt of the household

Female Socio-Economic, Education and Demographic variables:

Education

EDUC I	= 1 if the women's level of education is up to Primary; else 0.
EDUC II	= 1 if the women's level of education is up to high school level; else 0.

EDUC III = 1 if the women's level of education is H.S. level; else 0.

EDUC IV = 1 if the women's level of education is up to U.G. level; else 0.

EDUC V = 1 if the women's level of education is P. G. and more; else 0.

Age Groups (15-59)

AGE 1 = 1 if the women belongs to age group (15-24) years; else 0.

AGE 2 = 1 if the women belongs to age group (25-34) years; else 0.

AGE 3 = 1 if the women belongs to age group (35-44) years; else 0.

AGE 4 = 1 if the women belongs to age group (45-54) years; else 0.

AGE 5 = 1 if the women belong to age group (55-59) years; else 0.

Marital Status

MARTS = Marital status of the Female

Marital Status

1=if employed female is married (married, widow/separated, divorced)

0=if female is unmarried

Your Closed relative educational Status:

EDUC M = 1 if female's mother is educated and '0' otherwise.

EDUC F = 1 if female's father is educated and '0' otherwise.

EDUS = 1 if spouse/ husband is educated and '0' otherwise.

Other Variables

NOCHD = Number of Children in the Family.

CHLDA = 1 if the children belong to the age group (0-2); else 0.

CHLDB = 1 if the children belong to the age group (3-6); else 0

CHLDC = 1 if the children belong to the age group (7-14); else 0.

NDEPT = Total number of dependents in the family.

HSIZE = Household Size in numbers

FHH = 1 if female from female headed household and "0" otherwise.

Flood prone = 1 if female comes flood prone area family and 0 otherwise.

Residential status = 1 if house is permanent and 0 otherwise.

Family support = 1 if your family / husband support to your profession and 0 otherwise.

Agriculture = (self employed) dummy (1if household head means principal earner is engaged in the agriculture and 0 otherwise).

Economic status = 1 economic status of female belongs to - low, high, middle (on the basis of family MPCE

HUBW = 1 if the women's husband is working; else 0.

HUBSL = 1 if husband is salaried; else 0.

PHAST = 1 if women have assets; else 0.

FAMUP = 1 if women belong to joint family; else 0.

Indebtedness =1 if your family has indebtedness; else 0.

Results and Discussions

Our study's basic analysis focuses on establishing descriptive statistics of women's working status and explanatory variables. The primary goal of the elementary analysis is to provide an overview of the variables as well as behavioural patterns. The summary statistics of the descriptive analysis are presented in Table-I.

Table I: Summary information of female labour force participation

Variables	All Employed Women (N=713)	
	Mean	Standard Deviation
Women Work Force participation rate	0.366	0.179
Household Characteristics		
Household Size	1.97	1.001
Household Income	24946.12	12600.35
Household Indebtness	0.38	.487
Occupation of head of the household	2.06	3.49
Type of household	1.09	3.93
Total number of rooms in the household	5.87	0.596
Floor type of the household	1.98	0.277
Economic status		
Low	4922.47	1003.47
Middle	5731.23	3633.91
High	6984.65	1010.28
Socio- economic, education and demographic characteristics		
EDUCM	0.86	0.345
EDUCF	2.09	0.322
EDUS	1.68	1.295

EDUC I	0.685	0.387
EDUC II	0.425	0.231
EDUC III	0.344	0.157
EDUC IV	0.781	0.452
EDUC V	0.656	0.172
AGE 1	0.724	0.314
AGE 2	0.319	0.191
AGE 3	0.102	0.098
AGE 4	0.971	0.137
AGE 5	0.402	0.119
HUBW	0.329	0.178
HUBSL	0.727	0.359
PHAST	0.917	0.518
FAMUP	0.453	0.368
Indebtness	0.264	0.014
Other characteristics		
NOCHD	1.17	0.376
CHLDA	0.98	0.418
CHLDB	0.93	0.248
CHLDC	0.87	0.332
NDEPT	2.26	1.321
FHH	2.20	0.964
Flood Prone	1.96	0.403
Residential Status	2.778	1.865
Family Support	2.981	0.921
Agriculture	2.82	0.715

Source: Computed on the basis of primary data collected during field survey.

Estimates of the Logit Model

Table II shows the results of the logistic regression, which clearly show that the coefficients of women's educational level are H.S. level, and the women are in age group 1 and II and III (15-24), (25-34),(35-44). The women are between the ages of 25 and 34, their husbands are educated, their husbands work, the women have assets, and they are part of a joint family. Indebtedness, Number of

Children in the Family, and the dependency ratio of children in the age group (7-14), if the principal earning member of the household is engaged in agriculture.

This indicates that these variables have a positive impact on women's economic participation. The dependence ratio is positive and substantial, indicating that in big households with many dependents, the likelihood of women participating in economic activities is high. Women's involvement decisions are influenced positively and significantly by their major earning member's education.

Again, the educated primary earner is concerned about their position and wants to live a better life. They also want to provide their children a better education. In light of these realities, an educated primary earner enables women to join in the labour field and increase their family's income in order to meet increasing economic issues. If the household's primary source of income is agriculture and related activities, women's engagement in economic activities is likely to be positive and considerable. They can actively participate in all agricultural and associated operations, which are usually a woman's domain. Food grain processing is solely a woman's domain. They assist their agricultural and associated partners in order to provide financial support of women in the labour force Participation of the Mising Tribe of Assam, India's North East.

Debt load has a beneficial and large influence on women's earnings participation. Women seek to engage in economic activities in order to lessen and eliminate their family's financial load. As a result, women who have a debt load in their household are more likely to participate in economic activities. The presence of land limits women's chances of participating in economic activity.

Table II: Marginal effect of socio- economic determinants of female labour force participation

Explanatory Variables	Coefficients	Wald-Statistics	Marginal Effect
Constant	1.544	0.452	-
Educational Attainment (Illiterate education reference category)			
EDUC II	0.014	0.989	0.011
EDUC III	2.549**	0.011	2.767
EDUC IV	0.043	0.835	0.008
EDUC V	-0.651	0.952	1.015
AGE Groups [Age 5 (55-59 years) reference Category]			
AGE 1	1.811**	0.019	0.418
AGE 2	3.357**	0.068	0.960
AGE 3	1.560*	0.016	1.402
AGE 4	0.061	0.213	0.685

Presence of closed relatives' education

EDUCM	0.058*	0.013	0.951
EDUCF	-0.033	0.974	0.537
EDUS	0.233*	0.022	1.737

Economic Status Variables

HUBW	2.737**	0.023	1.789
HUBSL	1.996	0.159	1.149
PHAST	2.641**	0.009	1.481
FAMUP	0.769*	0.017	0.709
Indebtness	0.494*	0.009	0.175

Other Variables

MARTS	.559	0.427	0.318
NOCHD	1.186**	0.709	0.795
CHLDA	.571	0.945	0.332
CHLDB	.097	0.957	0.056
CHLDC	1.305**	0.465	0.524
NDEPT	.020	0.798	0.354
FHH	.363	3.747	0.054
Flood Prone	.516	0.957	1.077
Residential Status	.028	0.069	1.689
Family Support	1.342*	1.911	0.542
Agriculture	2.298**	1.499	3.778
MPCHE	0.665	0.513	1.944
HSIZE	0.318	0.485	1.375
DEPR	-0.094	0.066	0.911
EDUPEM	3.165**	7.124	3.692
LH	-0.119	1.484	0.822
HT	1.287	0.972	0.322
AGEPEM	-0.029**	0.188	0.918

CHILDREN	0.209	0.163	1.232
REMOTNESS	-0.024*	0.752	0.976
FLOOD	-1.393	1.077	0.248
DEBT	0.733	3.049	2.082

Source: Computed on the basis of primary data collected during field survey.

** means significant at 1% level of significance

*means significant at 5% level of significance

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	286.065	.492	.677

This table contains the **Cox & Snell R Square** and **Nagelkerke R Square** values, which are both methods of calculating the explained variation. Therefore, the explained variation in the dependent variable based on our model ranges from 49.2% to 67.7%, depending on whether you reference the Cox & Snell R^2 or Nagelkerke R^2 methods, respectively. Nagelkerke R^2 is a modification of Cox & Snell R^2 , the latter of which cannot achieve a value of 1. For this reason, it is preferable to report the Nagelkerke R^2 value.

Hosmer and Lemeshow Test			
Step	Chi-square	df	Sig.
1	9.601	38	.045

The Hosmer-Lemeshow tests the null hypothesis that predictions made by the model fit perfectly with observed group memberships. The non-significant p-value (i.e. 0.645 > 0.05) signifies the same here.

CONCLUSION AND POLICY IMPLICATIONS

The majority of working women are involved in agriculture and related activities. However, due to the unremunerative nature of their work in agriculture and related activities, they face difficulties and challenges in obtaining a sustainable livelihood and a decent life. As a result, policies to accelerate agricultural growth are urgently needed from the government and civil society. Policies must address the barriers that women face in obtaining a better education and acquiring more skills. More funding for education would be a wise investment and a better mechanism for improving society's human capital. They will be better equipped to participate in the labour market in a more productive manner if their human capital is improved. Such a step can improve their employability in formal labour markets, which will have a positive impact on the healthy development of their children and, of course, their family. As a result, rural infrastructure must be improved, and the government must recognise the importance of creating job opportunities for educated women and controlling the state's flood situation.

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UNDERSTANDING PARTITION A RE-READING OF *TRAIN TO PAKISTAN*

Vinod Kumar

Assistant Professor in English, School of Social Sciences, Punjabi University, Patiala

ABSTRACT

Khushwant Singh's *Train to Pakistan* is a true writing about the wounds of partition, which are still fresh in the minds of its victims. The novel gives the voice to the dumb suffering of the common people. The most significant quality of the novel is "its stark realism, its absolute fidelity to the truth of life, its trenchant exposition of one of the mass moving even tragic events of contemporary Indian history, the partition." (Shahane 68). Khushwant Singh is the son of soil; His background clears it before us that he has seen every aspect of partition very closely. He feels that he is one from the sufferers. He never depicts the pain of people as the pain of other person but of himself. His suffering is bodily and psychological. The burden of partition- of cries, of pain, of rootlessness, of killings, of blood, of rape is always on his mind. It is his first writing about the suffering of the people during partition. The novel is well written or woven only because Khushwant Singh feels the pain at his heart. The paper is an attempt to re-read the novel and understand the conditions in which the partition took place.

Keywords: *Understanding, India, Partition, Suffering, Life*

Sigmund Freud states that writers are basically disturbed and they write to get relief. Khushwant Singh also admits it that he was not a creative writer. It is the pain of suffering that compelled him to write. He wrote to give voice to his inner suffering. "The partition theme", writes Singh "was born out of a sense of guilt that I had done nothing to save that lives of innocent people and behaved like a coward" ("Compulsions to Write" 24). He wants to do something to heal the wounds of the people. But he finds himself unable to save people from this tragic partition. A writer can only try to soothe them with his writings. So Khushwant Singh brings the inner pain out in his novel to relieve us as well as to himself.

The day of independence is not to celebrate for us if we study the pain of partition. It is many times painful than the happiness of independence. Human beings lost their humanity during this period and it was not less than hell on the earth. Although partition is the result of politics but Singh depicts its social reality that how does it changes human beings into devils and how does it devours the living human beings.

Singh delineates every wound very clearly in the novel. He attaches every natural happenings with the real happening in the lives of common people. The novel starts with the horrible weather in the tiny village of Punjab named Mano Majra:

The summer of 1947 was not like other Indian summers. Even the weather had a different feel in India that year. It was hotter than usual, and drier and dustier. And the summer was longer. No one could remember when the monsoon had been so late. For weeks, the parse clouds cast only shadows. There was no rain. People began to say that God was punishing them of their sins. (*Train to Pakistan* 9)

This beginning of the novel predicts the dangers of future for the Indian people. It foretells the collapse of all noble and fine ethical values in the succeeding times. People think that God is punishing them of their crimes. They are not able to understand the darkness of the weather.

Khushwant Singh understands every politics, every mystery behind every happening. While the common people in the novel think that the God is punishing them. Singh is very close to the common village people, he knows their dimensions. He spent his childhood in a village of Punjab, and Punjab was the center of suffering. It was the partition, particularly the partition of his beloved Punjab that greatly moved him. The harrowing events and turbulent days of Punjab drastically changed his vision about life. He was no longer a simple Khushwant Singh:

The beliefs that I had cherished all my life were shattered. I had believed in the innate goodness of the common man but the division of India had been accompanied by the most savage massacres known in the history of the country . . . I become . . . an angry middle-aged man, who wanted to shout his disenchantment with the world . . . I decided to try my hand at writing (*Train to Pakistan*. 33).

There are many sexual scenes in the novel those are also the result of the tension in the author's mind. He is disturbed; he tries to find relaxation through depicting such scenes.

The whole story of the novel moves around the tiny village Mano Majra and its trains. Mano Majra is India in itself. It becomes the stage of horrors of partition. Mano Majra, the locale of the novel is on the Indo-Pak border. Khushwant Singh is very thorough in his description of the village and the people of different communities living in the village. The village, in fact is one of the few "areas of peace" and is untroubled by the acts of murder and arson taking place all over the country on the eve of India's Independence from British rule. The village has an almost equal population of Sikhs and Muslims with just one Hindu family and several families of sweepers who have their loyalty of the Christian Missionaries. Sikhs as prosperous land owners whereas the Muslims are land-tillers. There have been many stories of people killing each other in a state of communal frenzy and humanity seems to have vanished into thin air. But Mano Majra is still peaceful.

All is well so far. The lambardar reports regularly. No refugees have come through the village yet. I am sure no one in Mano Majra even knows that the British have left and the country is divided into Pakistan and Hindustan. Some of them know about Gandhi but I doubt if anyone has ever heard of Jinnah (14).

In spite of different religions, different occupations, different castes, they are one. One thing unites them that is humanity. This is the inscrutable devotion of Mano Majra for the 'deo' the local deity, "a three foot slab" of standstone, which is worshipped by one and all. So there are many common things, which unite the Mano Majrans. The Muslim priest is 'Chacha' for every person and his daughter Nooran is the daughter of the village.

A gang of dacoits in the beginning of the novel distorts this harmony. This attack is not only the attack on Lala Ram Lal's family; it is the symbolic attack on the whole village, on the whole country, on the harmony of the nation:

One heavy night in August of that year, five men emerged from a *keekar* grave not far from Mano Majra, and moved silently toward the river. They were dacoits, or professional robbers, and all but one of them were armed. Two of the armed men carried spears. The others had carbines slung over their shoulders. The fifth man carried a chromium-plated electric torch. When they came to the embarkment, he flicked the torch alight. Then he grunted and snapped it off (92)

These five robbers are the evils of our society. They pollute the peaceful environment of the village by killing and looting Lala Ram Lal. The murder of Lala Ram Lal is the murder of harmony in our country. It is the same group of Malli, that loots the people after the partition of the country and that participates in the killing of innocent people. The struggle between the dacoits and Lala Ram Lal is the symbolic Struggle between our nation and the powerful British Government. Lala Ram Lal does not want to give the keys of his safe to the dacoits as we were not agreed to give the keys of our country to the Britishers. In the end dacoits killed Lala Ram Lal and the British Government killed harmony in our country by the policy of 'divide and rule'.

In the beginning of the novel Khushwant Singh has beautifully described the Punjabi code of morality in which nothing surpassed love and friendship. People are willing to sacrifice their lives for the sake of those whom they love. The arrival of a "ghost train" suddenly brings about a change in the peaceful atmosphere of the village. The train is loaded with the butchered corpses of Sikhs and Hindus. People are viewing each other with suspicion. The first chapter of the novel describes that the arrival and departure of the trains regulate the lives of Mano Majrans. The trains are deeply related to their lives. They wake, start to work and sleep according to the arrival and departure of these trains. But now:

Early in September the time schedule in Mano Majra started going wrong. Trains became less punctual than ever before and many more started to run through at night. Some days it seemed as though the alarm clock had been set for the wrong hour. On others, it was as if no one had been set for the wrong hour. . . (93).

After this disturbance in schedule one day early morning, a train from Pakistan halted at Mano Majra railway station and this train stopped the life of the village.

Further story pictures the brutal, realistic story of political hatred and of mass passions during the tragic days that preceded and followed the partition of India. It was a terrible time when all human values sank deep into the ugly passion of communal violence. The trains were halted and the unfortunate passengers were ruthlessly butchered. The novel vividly and powerfully depicts the faithful journey of one such train. In further chapters of the novel, Khushwant Singh gives a realistic and objective portrayal of human catastrophe of the partition of India ghastly and inhuman events which followed it. The novel presents a clash between the peaceful life of the village and the communal violence.

The arrival of the 'ghost train', 'the gift from Pakistan' from Pakistan is the arrival of death. Nobody from the village was allowed to go near the train. There was deathly silence all around. People were trying to know about the dark train but the authority only asked for the fuel from the villagers and forbade them to ask any question. The people were frightened from the dark reality: "The village was stilled in a deathly silence. No one asked anyone else what the odour was. They all knew. They had known it all the time. The answer was implicit in the fact that the train had come from Pakistan" (105).

Now secretly everyone knows about the reality of the train, but all were frozen with fear and don't try to share it with each other. The horrors of the death make them dumb statues. They find themselves wordless and lifeless before this naked reality. The sight of butchered corpses in the 'ghost train' leaves Hukum Chand, the Deputy Commissioner dumb with terror. Later in his youth, he had developed a healthy philosophy of life, realizing full well that the only absolute truth is death. But now a cold numbness overtakes him and all his emotions are dead: "But a trainload of dead was too much for even Hukum Chand's fatalism. He could not square a massacre with a philosophical belief in the inevitability of death. It bewildered and frightened him by its violence and its magnitude" (137).

Hukum Chand can not ignore this painful picture from his mind so he takes the help of wine. The common people are not able to come out of this shock. They have lost their sleepings; they are always worried about the situation. They have the fear of next 'ghost train':

The train had disappeared as mysteriously as it had come. The station was deserted. The soldiers' tents were soaked with water and looked depressing. There was neither smoldering fire nor smoke. In fact there was no sign of life or death. Still people watched, perhaps there would be another train with more corpses! (147)

As we have discussed there was love prevailing all around in the village before the arrival of the 'ghost train'. Hindus, Sikhs and Muslims used to live peaceful life from centuries. There was abundance of mutual faith. But now in this moving drama the forces love and union alternate with the forces of hate and division. Though the Sikhs of Mano Majra still pledge to protect their Muslim brethren the irate refugees from Pakistan pose a threat. Hence the Muslims are advised to go to the refugee camps for a few days to escape. This decision creates an atmosphere of gloom.

Imam Baksh doesn't approve the partition "What have we to do with Pakistan? We were born here. So were our ancestors. We have lived among you as brothers" (158). No common man is happy with this decision of partition.

The portrayal of partition scene in the novel is very heart rending. Against this setting of personal relations, the scene of the evacuation of Muslims from Mano Majra to Pakistan in trucks brought by Pakistani soldiers symbolizes the working of the dominant, compelling dehumanizing process. The Muslim officer declares: "I give you five minutes to get into the trucks with just as much luggage as you can carry in your hands. Those who are not in well be left behind. And this is the last time I will say it" (150).

The scene delineates the most sorrowful real story of life. The Muslims very reluctantly leave the village for a refugee camp. Nooran, who is pregnant at the time of this partition, has no future of her coming child. The situation gradually worsens with the arrival of refugees from Pakistan who have harrowing tales of woe to tell. The rumours play a major role to destroy the lives. People lose their mental balance. It comes to such a point that some people plan to stop the refugee train going to Pakistan and kill all abroad in retaliation. The bureaucrats and the politicians are unable to persuade the people to abandon their plan. It is a proclaimed "bad character" from the village, Jugga, Who thwarts their plan to save the life of his beloved at the cost of his own life.

Hukum Chand, the Deputy Commissioner gives the readers an insight into the bureaucracy of this time. He is by all means a man of the world, who has risen from the position of an ordinary foot-constable to the Deputy Commissioner. He has all the traits and weaknesses of the run of the mill bureaucrat. He wants to escape from the dull, humdrum life of the office he holds and to go to a world of physical sensation and pleasure. In assessing the awful situation of bloodshed and mass murder, he maintains characteristic poise and balance. The Sikh sub-inspector is carried away by his emotions in lashing out against the government in action.

Sometimes, Sir one can not restrain oneself. What do the gandhi-caps in Delhi know about the Punjab? What is happening on the other side in Pakistan does not matter to them. They have not lost their homes and belongings: They haven't had their mothers, wives, sisters and daughters raped and murdered in the streets (32).

Hukum Chand responds to this sentimental outburst in a typical diplomatic style, putting aside his own Views:

"We must maintain law and order" he answered after a pause. "If possible, get the Muslims to go out peacefully. Nobody really benefits by bloodshed. Bad characters will get all the loot and government will blame us for the killing . . . and God alone knows what I would have done to these Pakistanis if I were not a government servant- we must not let there be any killing or destruction of property (142).

This surely is an extremely sensible attitude on the part of an Indian bureaucrat, particularly in view of the great provocations of the nerve-wrecking period of the partition of India. It anticipates, and sets up the future events in the story of the *Train to Pakistan*. He is almost dazed for a time by violent expression of the madness of groups of men. He is physically and mentally exhausted when he learns that all the Chandannagar Muslim refugees are being taken by train to Pakistan and they fear an attack on the train, he orders immediate release of Jugga and Iqbal. He wants them to reach Mano Majra before the evening to stop the Mishapening.

His confrontation with Haseena has an exotic touch and it also brings a note of morality, though it is temporary. As a Presiding Officer of the district Hukum Chand expects to be treated as a Nawab with liquor, music and girls. He wants to enjoy a luxurious life. He prepares to enjoy his evening. He is rather baffled by the sight of two geckos getting ready for a flight on the ceiling of the rest house. We consider the fall of the geckos a bad omen, caste an inscrutable enjoyment. The geckos held on to each other by the throat "as if they were kissing" an extraordinary posture which seems a parody of Hukum Chand's amorous expectation. Haseena starts to sing and now Hukum Chand remembers his daughter humming the same song. Now the guilt drives him to resort to larger gulps of liquor. Yet he is unable to suppress his sense of scrupulousness. He feels that Haseena is a child and not beautiful to enjoy. She is perhaps younger than his own daughter. Then he dismisses the musicians, puts out the lamp and tries to forge a physical relationship with the girl. He wants to use Haseena only as an escape from the horrors of reality. He has the feelings of pity and a sense of responsibility for Haseena so he asks her to evacuate her home to leave for Pakistan.

Singh's description of the dead people, suffering and bloodshed leaves a strong visual image on the reader's mind. We all are shocked after reading this novel. The politics and the rumours create a situation of confusion. Everyone wants to kill each other. The pattern of revenge becomes a part of the people's psyche as the news of various atrocities spread, the mixing of the real incidents with the exaggerated rumours further vitiate the peace and the tranquility of the village. A young angry Sikh man comes in the village on his jeep to provoke the Sikh people of the village. He and his group present the modified example of the Gurus. Although the villagers display the same warmth and cheer in public, yet there is a streak of doubt and revenge. This doubt has crept into their minds primarily because of the reports of various incidents that keep reaching their ears through different sources. Now Muslims and Sikhs start to suspect on each other. Now "Logic was never a strong point with Sikhs, when they were roused, logic did not matter all."²³ There are some officers in the novel who fanned to the fire. On the matter of the property of Muslims Meet Singh shows sympathy that they will not take the charge of the property of their Muslim friends because it can create confusion between them. Then an officer shouts: "The only way people like you will understand anything is by being sent over to Pakistan: have your sisters and mothers raped in front of you, have your clothes taken off and be sent back with a kick and spit on your behinds" (51).

The difference in the policemen's behavior towards Jugga and Iqbal illustrates the class division of Indian society and the role of system to oil the fire. The policemen who go to arrest Iqbal are subdued by his sophisticated manner and accent whereas Jugga is addressed with the choicest of abuses and is humiliated at every possible opportunity. Authority also wants to use Iqbal and Jugga for their own purposes.

Khushwant Singh has introduced the Character of Iqbal, the urban western educated political worker on purpose. His name has its own significance with the addition of 'Singh' or 'Chand' or 'Mohammad'. He can be recognized as a Sikh, a Hindu or Muslim, that is probably why Khushwant Singh has kept the readers guessing about the religious identity of Iqbal until the climax. The religious ambivalence implied in his name is only an aspect of the basic rootlessness of Iqbal's personality. He is a political worker who has come to the village to 'enlighten' the villagers or to educate them about the politics. He is an upper middle class socialist, who has romantic notions about the world. He is unaware of the 'real' things going on and seems to be lost in world of weird ideas and fantasies. Moreover, his ideas are as unclear as his name. He is taken aback by the news of Ram Lal's murder. Meet Singh surprised by his unexpected reaction "Why, Babu Sahib, you have come stop killing and you are upset by one murder" (183). The Sikh priest's remarks throw light on Iqbal's role in relation to Jugga, the problems of Mano Majra and Indian situation. He is a rebel, sentimentally attracted to socialist thinking but he is primarily concerned with personal leadership. He is in fact young immature and fashionable politician, who is indecisive and unable to make some action. He has no contribution to save the people while an illiterate person Jugga plays a major role. He comes in the village and isolates himself physically, spiritually and intellectually. When he faces the odd realities of the Indian situation, his superficial rationality vanishes into the air. This foremost characteristic is that he doesn't belong anywhere and, what is worse, he pathetically desires to contribute to the mass upsurge of Indian rural communities. He is a being without fixity, dangling in a vacuum. His speeches fall on deaf ears, primarily because the people of Mano Majra have no political consciousness. So what independence is has no meaning for them. He is unable to hold sway over the people because he has never gone on fast or gone to the jails, which are the pre-requisites for one to have a successful political career. Ironically, he is arrested and this arrest has nothing to do with his political activities.

Iqbal is a Muslim, so as to justify his arrest is probably the best description of the unlimited power in the hands of the bureaucrats and its total misuse by them. In order to find out Iqbal's faith, the sub-inspector orders him to 'take off his pajamas' and then reports his 'discovery' to Hukum Chand consequently the warrant of arrest is issued in the name of Muhammed Iqbal. In the whole range of Indo-English fiction, this is an extra-ordinary scene for its exposure of ugly and naked reality and that implied criticism of the stupidity and inhumanity of reckless bureaucracy.

The inability of the government machinery is exposed when the magistrate orders the release of Jugga and Iqbal in the hope that they will be able to prevent the attack on the refugee train. The magistrate admits the defeat of the bureaucracy in trying to curb the mass violence. Hukum Chand recognizing his own inability to halt the massacre makes a calculated risk and releases Jugga and Iqbal from jail. He asks the sub-inspector the names of the two convicts, and at this point reveals the fact that he had known all along that Iqbal was not a Muslim: "Do you think any party would be so foolish as to send a Muslim to preach peace to Sikh peasants thirsting for Muslim blood, inspector sahib? Where is your imagination" (155).

The evil characters like Malli also play a major role to increase the suffering of common people. He is a heartless conspirator who is responsible for the murder of Lala Ram Lal. He is the person who lays the foundation stone of murder and bloodshed in the village. He is the mastermind behind the violence let loose on the Muslims that force them to leave the village for the refugee camp. So this is cruel irony of fate when he is appointed the 'custodian' of the property of the same Muslim whom he himself has driven out of village. The partition brings the chance for such evil persons to loot while the common man suffers and has no option to live or die. The Malli gang drives out the Muslims

while "the rest of Mano Majra come out to see them off" (158). The speech on this time by Malli is the peak of inhumanity:

Sir, the people of this village are famous for their charity" Said Malli smiling "They can't look after themselves, how can they look after other people? But don't bother sardar shaib, we will take care Muslim property. You can tell the other officer to leave it with us. It will be quite safe if you can detail some of your soldiers to prevent looting by these people (174).

There is misuse of religion by the evil forces. The partition of India is also based on the religions Hindu and Muslim. There is a boy who misguides the people of the village after the name of Guru and religion to kill the Muslims. The boy demands for sacrificers as Guru for *Panj Pryares*:

"Are there any volunteers?"

"My life is at your disposal", said Malli heroically." (175)

This is the response of an evil force to the evil force. The young man again said in last: "Please forgive us for this inconvenience and for any angry words that I may have uttered; but this is in the service of the Guru." (178)

These evil forces create an environment that can not be easily controlled. Nor any responsible authority wants to resolve it properly. This confusion is not easily resolvable. Hukum Chand, the responsible person is also irritated:

"What am I to do?" he wailed. "The whole world has gone mad. Let it go mad. What does it matter if another thousand get killed? We will get a bulldozer and bury them as we did the others. We may not even need the bulldozer if this time it is going to be on the river. Just throw the corpses in the water. What is a few hundred out of the hundred million anyway? An epidemic takes ten times the number and no one even bothers." (179)

The police releases Malli also to oil the fire, otherwise he could be sent to the jail also.

At last partition takes place in the village, as well as in India. But "The decision of partition was not easy. It shook the roots of togetherness that was centuries old. It created a mournful numbness and made them weep." (Khatri 96). Even the nature was also crying on this cruelty of human beings. Muslims said that Hindus had planned and started the killing; on the other side Hindus said that it is the conspiracy of the Muslims. The fact is, both sides killed, stabbed, tortured and both raped. Villagers were in the dark about happenings of larger scope than the village outskirts but now they were bearing everything on their bodies and minds. Government officials were corrupt, manipulative of villagers, and could arrest anyone they chose for any reason, more often than not for their own benefit. They did just enough in terms of dealing with the dispute so that nobody could say that they did not do anything. The law enforcement was completely at the whim of the local government, meaning that in practice, there was no law. Iqbal tried to teach people law and freedom but he failed. A villager says about freedom: "Freedom is for the educated people who fought for it. We were slaves of the English, now we well be slaves of the educated Indians-or the Pakistanis." (Singh, *Train to Pakistan* 163).

This statement is very true according to the reality. Partition brings freedom only to the higher cunning class. It is the common man who suffers in this partition; there is no freedom for him. The common man loses every time and the rich person always gains although it is English or Indian. No common person was consulted for the partition of India. They were the only rich who determined

their future. If the educated people have taken a right step at the right time then there would not have such a massive bloodshed in India.

It is not only the geographical partition; it is the partition of hearts, of psyche and of lovers. The lover couple's story also touches the hearts of the readers. Jugga and Nooran love each other. They can not leave each other. Nooran is pregnant at the time of partition and Jugga is in police custody. Now, Nooran is unable to stay in the village. The authorities are taking them to the Refugee Camps. She can only cry and is not able to take any decision. She goes to the mother of Jugga in hurry and asks for the favour:

Nooran felt heavy and lifeless. "All right Beybey, I will go. Don't be angry with me. When Jugga comes back just tell him I came to say 'Sat Sri Akal'". The girl went down on her knees, clasped the old woman's legs and began to sob. "Beybey, I am going away and will never come again. Don't be harsh to me just when I am leaving." (152)

This scene squeezes the hearts of the lovers, we find helpless to ourselves, as

Khushwant Singh had felt at the time of partition.

It is the train that brings the news of death to the villagers. The train suggests the fate of individuals, the fortunes of the two newly born nations. The partition is a political decision, which had given the people the miseries, sufferings and privation. Secondly, the train is the indicator of the machine age, an age dominated by science and technology. This has devalued humanistic values. The human race far from nature and God, finds itself rootless, lifeless and completely alienated:

There are no lights on the train.

The engine does not whistle.

It is like a ghost. (163).

The beginning of novel with hot and dusty summer foretells the collapse of the future. The symbol of drought is also a significant aspect of atmosphere. The weather becomes an impediment in the way of the refugees and makes their journey more difficult. The rain, which is the symbol of life in nature changes to an instrument of death and destruction. "While the 'weather' refers to the political weather . . ." (Ravindranathan 78).

The river Sutlej presents a terrifying sight in the novel, as it is flooded. It appears like a mass graveyard as the dead bodies are thrown into it. There is flowing red water in it. The dead bodies of human beings and animals are floating on it. Although, it presents the scene of death, of blood yet it flows and symbolizes the continuity of life.

With this partition the major change comes in political, Britain's splitting of India into Hindu India and Muslim Pakistan. The effect of the change is very significant in itself. Khushwant Singh has shown, frighteningly, social as religious groups rearranged and clashed violently. He makes it clear that many people played a part in this chaos and bloodshed and everyone was equally worthy of blame, all while integrating examples of the sheer moral confusion which arises from trying to make sense of an event as momentous as the partition. Actually, the air gets polluted, the devil dances in the brains of everyone. No one has his or her consciousness; all are behaving as the puppets in the hands of time.

Khushwant Singh has the heart of an artist and delineates every picture very close to the reality. He builds powerful images in rapid succession, which lead to the climax of the novel. There is lot of

tension in the atmosphere, as all know the plan about the attack on the train carrying refugees. The hotheads are unwilling to stop short of executing their plan and the pleas of different groups of people fall on deaf ears. The onus is on Jugga and Iqbal, who have been released from the jail for this very purpose. The sub-inspector tells both of them about the refugee train and Malli's misdeeds in looting and killing Muslims. On the way to Mano Majra Iqbal feels that he is the hero because he is coming from the jail. Jugga is worried about Nooran. Iqbal meets Meet Singh and learns about the plan of attack on the refugee train. He asks Meet Singh to "do something" to stop this bloodshed. But both of them are unable to do anything. While in the end we read that badmash character Jugga sacrifices his life to save the refugees.

The novel is drenched in realism. Considering the partition setting, one is likely to conclude that the novel is replete with blood and gore-the blood and gore that drove a schism, still unhealed between Hindus and Sikhs on one side and Muslims on the other, tearing asunder in a very short period the strong bond of love and peace forged over the centuries. This was the time when history tells us that they had confronted misfortune and the unjust oppression of British colonial rule for more than two hundred years. Britishers always used the policy of divide and rule. Historically and ironically previously bearing the injustice and matter-of-fact high handedness of colonial rulers (though there had been a large escape uprising in 1857) at the end of the novel, some of the villagers become thirsty for the blood of one another, but in the novel the events are not steeped on factual historical background to familiarize the reader. It is taken as given, and rightly so, that the horrific result of the partition along with all the wedges that it drove between two communities is well known, especially as the novel was published in 1956. "Independence after partition also has no meaning for the common man "colonizers" from without have gone back "Colonizers" from within continues to colonize." (80)

In the last chapter of the novel, we learn situation changes bad to worse. There are many rape cases. Men are picking up women of the other religion. Sundri the daughter of Hukum Chand's orderly is married to Mansa Ram. They are looted. Mansa Ram is made naked and one man cut off his penis and gives it to her. The mob of the mad people made her love collectively.

Sunder Singh, a Sikh and his family is caught in a train for four days. There is no food for them in train. The children were hungry. They asked for food and water. Helpless Sunder Singh gave them his urine to drink and at last he shoot all of them. He killed his wife. But when he was going to shoot himself the train began to move. There were dead bodies all around. The dead bodies were traveling in ghost train. The tranquility peace of the tiny village, love and commotion among Hindu, Muslim and Sikhs get all shattered.

When Jugga and Iqbal are released from the jail, Jugga arrives at a late hour at the Gurdwara. His motive is quite different from that of Iqbal. He is a proclaimed villain through his earlier actions, but now he shows the positive side of his character as he arrives at the 'abode of god' to seek "his" blessings for the heroic act that he is going to carry out. It is the love of common person for his beloved that finally asserts itself. Complying with his wishes, Meet Singh reads from the *Granth Sahib* that God, the giver of truth, honors the work of men who want to perform good actions. The last chapter of the novel focuses on the personality of Jugga and his heroic quality. The waves of feelings and expectations in the minds of Jugga, Hukum Chand and Iqbal rise to crescendo in the final climatic scene of the novel. Hukum Chand finds that he is a failure and he condemns the powers of politicians. He is also worried about the safe passage of Haseena who is also traveling in the refugee train going to Pakistan. The final scene has a chilling and rather eerie quality. The conspirators have taken their positions: "They sat on their haunches with their rifles and spears between their legs. In the first steel

span of the bridge a thick rope was tied horizontally above the railway line. It was about twenty feet above the track".³⁹ The novelist states: "It was too dark for the men to recognize each other."⁴⁰ Everybody had gone blind and mad with fury. All were waiting for the train with baited breath to carry out their diabolic design. Suddenly they noticed a man climbing on the steel span. It is no doubt Jugga (although novelist has not mentioned his name). He is trying to cut off the rope. He was slashing the rope with his 'Kirpan' the leader of the conspirators fires at him. He is hurt in the leg and begins. to dangle in the air. But he is still continuously attacking the rope as the train is approaching nearer. It is the fight between death and life. The description of this scene indicates the hard determination of a human being for humanity:

. . . the rope had been cut in shreds. Only a thin tough strand remained. He went at it with his knife, and then with his teeth. The engine was almost on him. There was a volley of shots. The man shivered and collapsed. The rope snapped in the center as he fell. The train went over him and went to Pakistan (207).

Jugga fulfils his promise with Nooran that while he breathes no one will harm her; he saves both her life and that of his unborn child. In fact, Jugga does not analyze this act; he just loves to Nooran and this love saves the lives of thousands of travelers. In the simple and selfless harmony of the Sikh peasant, a spiritual force survives amid a torrent of chaos and despair. His self-sacrifice puts to shame all those time servers, who not-withstanding their resources, power and prestige falter and vacillate to take a decision. Thus, Jugga comes forward as the hero of the story.

It is very painful delineation of the scenes of partition. Khushwant Singh bears this pain in his mind and delineates it on the pages for us to know about the devil forces and our blunders in the past. He takes pains in the use of culture and context bound lexical items and expressions in this novel. It is very painful to describe this painful story of one's own people. He knows everyone intimately. So as a result, he is 'an easy style' which is marked by 'the charm and interest' of its picture of the Punjab land and it's Sikh people.

There is contrast between the real religion and the misuse of religion. People fight against each other or are made to do so by the name of religion. The birth of two countries is also based on two religions. The young man in the novel provokes the Sikhs to fight against the Muslims in the name of religion. But the real religion binds the people together. The mosque and the temple are very close to each other. The people of different castes and religions are like brothers. When there is any problem in the village, people gather in the Gurdwara to solve the problem. Nooran is the daughter of the village. Her father is 'Chacha' of everyone in the village. There is a three feet tall 'slab of sandstone', which is worshipped by all. In the last, we study that it is the *Shabad Guru* that sends Jugga to save the travelers of refugee train. It is a great source of inspiration for him. We study that only the false use of religion proves false.

Every person in war wants to attack on the weak point of the enemy. In this novel we study that the crazy people make women their point of attack. The women of Muslims are raped and killed by the Hindu men and the Hindu women by the Muslim men. They use them as the tools in this fight. All suffer in this partition, but suffering of women is greater than everyone. We study the life of Nooran she IS the beloved of Jugga. She is pregnant and for from her lover but she has to leave India for Pakistan. She has to face the hard reality of a woman's life. She is not allowed to wait for Jugga. She has to leave the village with her unborn child. Haseena, fifteen-sixteen years old prostitute has to satisfy the lust of Hukum Chand. She is a child and doesn't know the ways of the world. She is looted before her consciousness. The lady who brings her before Hukum Chand warns her again and again to

please the Deputy Commissioner. In spite of his attachment with Haseena, the officer sends her away in the refugee camp. He doesn't want to have her with himself because prostitutes are not supposed to clean enough to have them in our houses.

It is only the force of love that can save humanity and it saves the lives of refugees in the train. Juggat Singh is inspired by the force of love to save the refugee train from the attack. He doesn't understand anything and sacrifices his life to save the life of his beloved Nooran. Perhaps it is also the love of Hukum Chand for Haseena who gives immediate orders to release Juggat Singh and Iqbal from the jail because he thinks that only these persons can do something. "There were certain factors, contributing to the resounding success of train to Pakistan: the intensity of the traumatic event of partition, the typicality of the theme and above all the dramatization of the transforming and sustaining and life furthering force" (Chandra 196).

The religious, social attitude of different classes, hunger for power, politics, the existing differences between the two communities were exploited by the Britishers in reality, but *Train to Pakistan* only delineates its consequences. Khushwant Singh doesn't focus on the politics but on the results of the politics of the Britishers and Indian politicians. Partition doesn't solve any problem but it becomes a major problem for every common man in the novel. The novel offers an insight into the life and the suffering of a common man.

The deep study of the novel also shows that Khushwant Singh has more sympathy for Sikh characters, the characters of his own community than other characters. The canvas of the novel is very restricted and very close to the lives of the Sikhs. Khushwant Singh also is a very well known Sikh historian. The novel doesn't transcend the limits of socio-political narrative fiction of contemporary interest, though it has an element of intensity and fullness of passion. The novel delineates the Punjabi Sikh culture in the novel. The superiority of Sikh characters also tells about his feelings those are in favour of Sikh characters. The only Muslim girls are shown as helpless characters as Nooran and there is the hero of the novel Jugga who saves the life of Nooran as well as the lives of other Muslims. The prostitute, Haseena in the novel is also a Muslim girl. There is no delineation of such type in the novel about any Hindu or Sikh character. Only the Sikh *Gurbani* inspires Juggat Singh to save the humanity. But instead of these minor facts the novel delineates the dark face of the partition reality. It delineates that partition was equally worse for every person and suffering is not the suffering of a Hindu, a Muslim or a Sikh rather it is the suffering of humanity. In the end, the sacrifice of Juggat Singh for the refugees teaches us the lesson of love, of life, of humanity and of sacrifice.

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ETHNIC CONFLICTS AND PROBLEM OF GENDER AND RACE IN KHALED'S HOSSEINI'S *THE KITE RUNNER*

Anju Mehra

Associate Professor, Dept. of English and Foreign Languages, M.D.U Rohtak

Khaled Hosseini, the most renowned Afghan-American novelist, brings out the gist of Afghanistan's ethnic and racial conflicts through his novels, *The Kite Runner*, *A Thousand Splendid Suns*, and *And The Mountain Echoed*. Through his novels he confronts and affirms the established racial and gender conflicts of the nation. His debut novel *The Kite Runner* (2003) poured out the violence, brutality and terrorism, reigning in the country in the hands of Pashtuns and Taliban. *The Kite Runner* is a heart breaking and gripping tale of two friends who grow up in Kabul, Afghanistan.

The story is set against the backdrop of conflict between two races in Afghanistan, namely Pashtuns and Hazaras. Though Hazaras were original inhabitants of the land, gradually Pashtuns took control over the government and military and tried to dispel Hazaras from their own land. They started discriminating against Hazaras in every sector of their lives-by killing them, destroying their houses, occupying their lands, making them slaves, banning them not to attend any social event and school. Since Hazaras do not have equal rights to Pashtuns they were soon considered a minority. According to Wahab,

The Hazaras in the North West mountain country were first treated far more cruelly. When these Shiites refused to surrender their cherished autonomy, Abdur Rahman proclaimed a jihad and offered a *ghazi* status to anyone who enlisted in the fight. The Hazaras were completely repressed as a political-ethnic group, and much of their land was given to others, whom they were forced to serve as slaves. Others were sold as slaves in Kabul. Thousands fled to Mashad in Persia and Quetta in India. (Wahab 94)

In simpler words, "ethnicity or ethnic group is a group of people who share the same pattern of language, religion, culture and ancestry, which distinguish them from other ethnic groups". Sometimes the word ethnicity is also referred to as Nation, but within the same nation can reside various ethnic groups who have their own ancestry, heritage, history, and dialect. All ethnic groups symbolize their religion, ritual, mythology, physical appearance and lifestyles. M. Bulmer in his most cited essay, *Race and Ethnicity*, defines ethnicity as,

A collectivity within a larger society having real and putative common ancestry, memoirs of shared past and cultural focus on one or more symbolic elements which define the group's identity, such as kinship, religion, language, shared territory, nationality or physical appearance. (Bulmer 54)

According to Dalai Lama,

Whether one is rich or poor, educated or illiterate, religious or non-believing, man or woman, black, white or brown, we are all the same. Physically, emotionally and mentally, we are all equal. We all aspire to happiness and we all shun suffering. Each of us has hopes, worries, fears and dreams. Each of us wants the best for our family and loved ones. We all experience pain when we suffer loss and joy when we achieve

what we seek. On this fundamental level, religion, ethnicity, culture, and language make no difference. ("The Art of Happiness by Dalai Lama XIV.")

The novel *The Kite Runner* deals with this issue of racial discrimination through its major characters Amir and Hassan. Amir and Hassan both lived in the same house but grew up in different social status, race and ethnicity. On one hand, Amir is a wealthy Pashtun boy and on the other hand, Hassan is son of a poor Hazara Ali, who serves Amir's father.

In the 20th century, the term ethnicity was more often linked with race or racism. "Racism is prejudice among the people on the basis of their religion, color and race". Racism is the belief that one racial category is innately superior or inferior to another. We cannot limit the word racism to color discrimination; it is a broad term and a system of stratification of humans based not only on their religion or nationality but also on their class, gender and sexuality. This concept of prejudice and discrimination against minority groups was very prominent in Afghanistan in the 20th century. Bowling in his book *Racism, Crime and Justice*, explains discrimination and racism. This discrimination forbids minority groups such as Hazaras from accessing certain essential facilities such as housing, education and employment. It is described as,

Discrimination consists of unequal, unfavorable and unjustified treatment based on a person's sex, gender, 'race', ethnicity, culture, religion, language, class, sexual preference, age, physical ability or any other improper ground. It includes refusal to offer employment, pay fair wages, to provide housing or medical treatment or to provide a commercial or social service. (Bowling 38)

Amir and Hassan both lived in the same house, but in different circumstances. Amir is a Pashtun boy; he is the son of one of the richest merchants in Kabul. He is a good writer but a bad athlete. Amir and Hassan are best friends but still he treats him like his servant. Hassan on the other hand is a Hazara, who serves Amir. Hassan exhibits all the qualities Amir's father wanted his son to have. Amir, like all other Pashtuns, believes that Hazaras including Ali and Hassan only live to serve Pashtuns. Throughout he seems to deal with his internal conflict because of the difference of social status, he considers Hassan his best friend but fears to admit the same in front of Assef. He is coward who in order to win his Baba's favors lets Hassan get raped by Assef and his friends.

In the end, I ran. I ran because I was a coward. I was afraid of Assef and what he would do to me. I was afraid of getting hurt. That's what I told myself as I turned my back to the alley, to Hassan. That's what I made myself believe. I actually aspired to cowardice, because the alternative, the real reason I was running, was to watch that Assef was right: Nothing was free in this world. Maybe Hassan was the price I had to pay, the lamp I had to slay, to win Baba. Was it a fair price? The answer floated in my conscious mind before I could thwart it: He was just a Hazara, wasn't he ? (Hosseini 84)

The most agonising thing that Amir, is a Pashtun, is that his feeling of superiority over Hassan made him think that Hassan is the price he has to pay to gain Baba's affection, but after that incident Amir gets nothing but regrets and guilt for not speaking up for Hassan. He witnesses Hassan's assault, but decides to stay quiet. Ali and Hassan fight the battle of inequality and abuse by staying mute and faithful and showing dependability on Baba and Amir. The tale of *The Kite Runner* is loaded up with things untold or implicit, Baba's adultery, Hassan's assault, and Amir's double-crossing of Ali and Hassan are instances of things untold because of their faithfulness and silence for what seems like forever has turned Amir's mental condition like a failed human. "An hour later, I still couldn't sleep. I kept tossing and turning as my relatives grunted, sighed, and stored in their sleep. I sat up. A wedge of moonlight

streamed in through the window"(Hussein 86). "I watched Hassan get raped," I said to no one. That was the night I became an insomniac" (Husseini 86).

Another instance showing how Amir mentally annihilated is:

Hasan milled about the periphery of my life after that. I made sure our paths were used as little as possible, and planned my day that way. Because when he was around, the oxygen seeped out of the room. My chest tightened and I couldn't draw enough air. I'd stand there, gasping in my own little airless bubble of atmosphere.(Hosseini 89)

Indications of ethnic struggle that have been clarified above probably won't be something similar with appearances of other ethnic clashes since some contention between ethnic gatherings isn't constantly shown, some of them stay idle. However, ethnic clashes in Afghanistan are shown in those ways. Then again, knowing the reason for ethnic clash is equally significant. In the wake of examining how ethnic struggle in *The Kite Runner* showed, it is likewise critical to discover the explanation for ethnic clash rise in the novel.

In Afghanistan, Shia political activism generally by the Hazara ethnic gathering has expanded the noticeable quality of the Shi'a Sunni issue inside home grown governmental issues. It is hard to differentiate the issues of ethnic character and strict connection in the brutality among Pashtun and Hazara. Pashtun pioneers have on occasion asserted that the Hazaras were false Muslims since they are Shi'a sectarians and could be abused.

The incongruity that Hosseini works through the main character, Amir, is exceptionally clear in the novel. In spite of the fact that Amir understood what he did wasn't right he decided to allow it to happen and other incongruity came out in the manner in which he considers who Hassan is, and his views about Hassan's identity and ethnic background. Seeing the relationship he has with Hassan and Baba has with Ali, Hassan's dad, it appears they do not make any difference in the distinction of ethnic class they have. In any case, the reality is they never truly think they are on friendly terms with Hazara individuals. The quotation below portrays how this incongruity is told: "But in none of his stories did Baba ever refer to Ali as his friend. The curious thing was, I never thought of Hassan and me as friends either" (Hosseini 24).

History is never easy to overcome, so one should not mind facing its evil side but should make attempts to change the dark side of history. Religion is also not very easy and most of the religious controversies led to centuries of chaos, for example even after centuries in Afghanistan the fact that

I was a Pashtun and he was a Hazara", is all that matters. "I was Sunni and he was Shi'a, and nothing was ever going to change that. Nothing because history isn't easy to overcome. Neither is religion. In the end I was a Pashtun and He was a Hazara. I was Sunni and he was Shi's, and nothing was never going to change that. Nothing." (Hosseini 25)

From the information above, we see the contrast among Amir and Hassan. In spite of their closeness, Baba never considered Ali his companion similarly as Amir never thought about Hassan his, however Hassan consistently thought about him as a companion. Part of the motivation behind why Amir denies his connection with Hassan is that he really sees and feels the extraordinary and esteem of Pashtun individuals as an overwhelming gathering in Afghan. Amir figuratively follows his dad's strides as he neglects to call Hassan his companion. Since both Ali and Hassan are Hazara, they are unmistakably beneath Baba and Amir. Sunni and the Shia don't blend. The impact of strict and social contrasts is investigated all through *The Kite Runner*. However it is very evident in these connections.

In the novel, Religion is portrayed a great deal as the primary motivation behind why Hazara consistently gets such a mistreatment. At the point when Amir was in his mom's library, he discovered a book talking about Hazara individuals that his dad won't ever recount;

Following week, after the class, I showed the book to my teacher and pointed to the chapter on the Hazaras. He skimmed through a couple of pages, snickered, and handed the book back. That's the one thing Shi'a people do well." he said, picking up his papers, "passing themselves as martyrs." He wrinkled his nose when he said the word Shi' a, like it was some kind of disease.

(Hosseini 10)

In the above information, we can see the disdain of Amir's educator who is a Pashtun and Shi'a follower toward Hazara individuals meaning that by his look, it very well may be inferred that he was Sunni and he isn't intrigued with the tale about Shi's. Ethnic struggle in the novel happens on account of the diverse philosophy of religions that Hazara and Pashtun accept. Hazara are Shi'a while Pashtun are Sunni Pashtun, which is a prevailing gathering in the public arena, would vary them with other substandard gatherings.

Here, ethnic class distinction is predominantly seen from the distinction groups they accept. The organisation distinction is regularly used to qualify the norm of individuals who can live in Afghan land. Hazara will consistently be an outcast in Kabul as a result of their alliance with the Shi'a group. The split among Sunni and Shia Islam started to happen following Prophet Mohammad's passing, with the supporters of Abu Bakar, one of Mohammad's initial pupils, framing the Sunni branch and the adherents of Ali, the Prophet's cousin and spouse of his girl Fatima, shaping the Shia branch. The chronicled separation of Islam into Sunni and Shi'a groups was initially caused more by political arguments about replacements, than by doctrinal contrasts.

After some time, the contrasts among Sunni and Shia Islam slowly expected to be philosophical suggestions. Shia Muslims attach extraordinary worth to the mediation of holy people and administrative order, while Sunnis don't have an administrative chain of importance. Force of the predominant ethnic gathering additionally partakes as the reason for ethnic struggle in the novel. Pashtun is the greater part of Afghan culture, as a majority ethnic group, they rule the vast majority of life aspects of Afghanistan. In the meantime, Hazara is the minority group who regularly get mistreated by Pashtun.

Power is demonstrated to be predicated upon authority and control as a youth. Resources can show power in the social delineation that places him and Amir above somebody like Hassan. The demonstration of assault is a portrayal of how Assef has power and how Hassan needs it. Through this information, Hosseini characterises power in current Afghanistan which is that somebody has power to the detriment of another person. The activity of Assef's raping implies demolishing the man's poise. It shows how Pashtun individuals have obliterated Hazara's up to their ancestral framework. When Assef become one of Talibs, he indeed doing likewise provocation toward Sohrab, Hassan's son,

Sohrab danced in a circle, eyes closed, and danced until the music stopped. The bells jingled one final time when he stomped his foot with the song's last note. He froze in mid spin. "bia, bia, my boy, " the talib said, calling Sohrab to him. Sohrab went to him, bead down, and stood between his thighs. The talib wrapped his arms around the boy. "How talented he is, nay, my Hazara boy!" he said. His hands slid down the child's back, then up, felt under his armpits. One of the guards elbowed the other and

snickered. He kissed the side of Sohrab's neck. The boy flinched a little, closed his eyes again. (Hosseini 280-282)

In the lines above, Assef addresses Pashtun individuals showing the control over Hazara individuals by harassing the young boy, Sohrab. Perceiving how Sohrab can do nothing however shut his eyes to deny Assef's pestering treatment is the image of Hazara ethnic who are constantly persecuted by Pashtun individuals.

Most importantly, the significant reason for ethnic struggle among Pashtun and Hazara that is depicted in the novel is the distinction philosophy that each gathering accepts: Pashtun individuals are Sunni sectarians in the interim, Hazara individuals are Shi's sectarians. In Afghan history this distinction in philosophy has been utilised to take control and mistreat Hazara individuals. In any case, the occasions that have been depicted in the novel may not be found in the genuine society of Afghanistan however there are some that have been portrayed by Hosseini in *The Kite Runner*. We can't coordinate with all that have lied in the novel with the genuine society however it is the Sociological scholarly exploration on the grounds that perhaps there are as yet numerous occasions in Afghan culture that Hosseini doesn't tell all through the novel. Hosseini has clearly demonstrated all these beliefs, clashes and cultural disputes in his novels. Statement by Desmond Tutu clearly advocates the philosophy of Khaled Hosseini when he describes principles of human life as,

We are all connected. What unites us is our common humanity. I don't want to oversimplify things-but the suffering of a mother who has lost her child is not dependent on her nationality, ethnicity or religion. White, black rich, poor, Christian, Hindu, Jew or Muslim- pain is pain- joy is joy.

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