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CONTENTS

Introduction

PAGE
333 **Accentuated Marginalization Faced
by the Infertile Woman**
Rajalekshmi M. & Nisha Jolly Nelson

PAGE
355 **Red Dots on Silver Screen: Menstruating
Women of Malayalam Cinema**
Jahnvi Nair & Arunima S.

PAGE
375 **Granger Causality Analysis: Investigating
Interdependencies in Stock Prices of
Tyre Companies in India**
Adarsh

PAGE
383 **National Monetization Pipeline (NMP) in India:
Initiatives and Challenges**
Nitheesh Kumar P. K.

PAGE
395 **Municipal Finance: A Study of Thiruvananthapuram
Municipal Corporation**
Jerry Alwin

PAGE
407 **Perceptions of Tribals on Their Socioeconomic,
Environmental and Welfare Aspects in Kerala**
Shereen Beula L. Jose & Prasad A. K.

PAGE
417 **BOOK REVIEW**
Whispers of Sahra: A Tale of Two Girls
Akhil Vishnu Muraleedharan
Reviewed By Mohanan Bhaskaran Pillai

INTRODUCTION

This issue, featuring six articles and one book review, delves into a wide range of topics from various social science disciplines. The articles explore issues such as societal exclusion, the evolution of societal perceptions, financial interdependencies, infrastructure development, municipal finance, and tribal welfare. This diversity of topics not only reflects our transdisciplinary, multidisciplinary, and interdisciplinary framework but also stimulates intellectual curiosity. We are delighted to witness the growing support and popularity of the journal, which inspires us to serve the academic community to the best of our abilities.

The first article, titled 'Accentuated Marginalisation Faced by the Infertile Woman', discusses various forms of societal exclusion, including humiliation, degradation, and economic deprivation. Indian society is highly pronatalist and patriarchal, leading to significant discrimination against women regarding infertility. Women are often blamed for infertility, which results in profound emotional and financial stress. In India, motherhood is not just a biological role but a foundation of status and power, crucial for ensuring marital security. Consequently, childlessness subjects women to severe social, psychological, and physical consequences, leading to their marginalisation. This review explores how the psychosocial and physical effects of infertility contribute to the marginalisation of women. Through a thematic analysis of existing literature, the study examines the exclusion, abuse, rejection, and stigmatisation faced by infertile women at both household and societal levels. The research underscores how these challenges further marginalise women, resulting in diminished self-esteem and confidence.

The second article explores the transformation of societal perceptions of menstruation and its portrayal in Malayalam cinema. Once shrouded in taboos and constrained by sexism, patriarchy, and discrimination, menstruation has undergone significant shifts in public perception in recent years. Historically relegated to the private spheres of women's lives, this natural biological process was often associated with shame, stigma, and marginalisation. However, advancements in education, the proliferation of awareness campaigns, and the influence of social media have increasingly fostered more open and informed discussions about menstruation, framing it as a natural and integral aspect of life. In storytelling, menstruation has traditionally symbolised a character's coming of age, often depicted with undertones of disgust, fear, or shame. As a powerful medium with substantial societal influence, cinema has played a crucial role in transforming these narratives. Contemporary Malayalam cinema, in particular, has introduced headstrong female characters who

address menstruation with the seriousness and normalcy it deserves. Through these portrayals, cinema has successfully challenged entrenched beliefs and reshaped societal attitudes, demonstrating the potential for change. This paper examines the representation of menstruation in Malayalam cinema, analysing the diverse characterisations of menstruating women and the broader societal implications of these depictions. By exploring how these characters and their experiences are represented, the second article elucidates the evolving narratives surrounding menstruation and its impact on societal perceptions.

The third article employs a rigorous research method to investigate the interdependencies in the stock prices of tyre companies in India. The Granger Causality Analysis, a statistical hypothesis test that examines whether one time series can forecast another, is applied. Understanding the causal links among financial variables is critical. The Granger Causality Test, a commonly used econometric technique, offers valuable information about the direction and strength of causation between variables. This research explores the Granger causality relationships among the stock prices of Apollo Tyres Limited, MRF Limited, and CEAT Limited. Weekly share prices of these companies from January 1, 2020, to March 22, 2024, were collected and analysed. The conclusion indicates causal links between CEAT Limited, MRF Limited, and Apollo Tyres Limited, but the data do not support reverse causal relationships.

The fourth article discusses the National Monetisation Pipeline (NMP) in India. The Indian government's initiative to raise six lakh crore rupees through the NMP has garnered acceptance and criticism nationwide. Nevertheless, the government's commitment to infrastructure development remains strong. There is significant potential in transferring operational control of the central government's brownfield assets to private entities, which may lead to substantial changes in India's infrastructure in the coming years. This explanatory study aims to identify the sectoral share of overall infrastructure investment, explore the initiatives and potential impact of the NMP on the Indian economy, and better understand the challenges involved in infrastructure development. In brownfield investments, domestic and foreign investors can finance projects directly without initial capital, allowing them to benefit immediately. The central government's budget for 2021-22 emphasises the importance of infrastructure development. Finance Minister Nirmala Sitharaman has stated that they plan to lease only under-utilised brownfield assets. The central government claims the NMP project will strengthen Public-Private Partnerships (PPP). In 2021-22, the central government raised 32,845 crores through disinvestment.

The fifth article discusses various aspects of municipal finance, using the Thiruvananthapuram Municipal Corporation as a case study. Among the

six municipal corporations in Kerala, Thiruvananthapuram Municipal Corporation (TMC) is the largest. A significant portion of TMC's revenue comes from state funding and grants, with property and professional taxes accounting for over 90 per cent of TMC's tax revenue. However, the professional tax rate has not been revised since 1988, and including entertainment tax in goods and services tax has adversely affected TMC's resource mobilisation. Therefore, it is crucial to revise tax rates to address TMC's financial challenges, which concern all stakeholders.

The sixth article has opened up the perceptions of tribal communities regarding their socioeconomic, environmental, and welfare aspects in Kerala. This was achieved through a survey conducted in the selected regions of Wayanad, Idukki, and Thiruvananthapuram districts. Using a Google sample calculator with a 5 per cent margin of error, 384 tribal households were chosen as sample households from these districts. The study results show variability in perceptions of tribal welfare and environmental conditions among the surveyed districts, highlighting the urgent need for customised policies and interventions. This understanding is crucial for addressing the specific challenges that tribal communities face in each district, and we hope that this research will inspire more empathetic and practical solutions.

In our book review section, we present a review of a work of fiction written by a techie. While this book is fiction, it offers a unique perspective on the desires and hopes of the post-globalisation generation, making it a compelling read for our audience. The review not only provides a fresh outlook on the societal and cultural implications of technological advancements but also piques the interest of our readers in the social sciences and related fields.

The scholarly community will discover that the authors of the articles in this volume provide new insights into current social and economic realities, greatly enriching our understanding of these complex issues. Their contributions highlight the extensive knowledge within our academic community and emphasise the importance of each individual's research in shaping our collective understanding.

Accentuated Marginalization Faced by the Infertile Woman

Rajalekshmi M. * & Nisha Jolly Nelson **

Abstract: Marginalised groups consist of individuals who encounter various forms of societal exclusion, including humiliation, degradation, and economic deprivation. Indian society is highly pronatalist and patriarchal, and women face significant discrimination concerning infertility. Women are held responsible for infertility, resulting in profound emotional and financial stress. Motherhood in India is not just a biological role but a foundation of status and power, crucial for ensuring marital security. Consequently, childlessness subjects women to the brunt of social, psychological, and physical consequences, leading to their marginalisation. This review explores how the psychosocial and physical consequences of infertility contribute to the marginalisation of women. Through a thematic analysis of existing literature, the study examines the exclusion, abuse, rejection, and stigmatisation faced by infertile women at both household and societal levels. The research underscores how these challenges further marginalise women, leading to diminished self-esteem and confidence.

Keywords: Societal Exclusion, Pronatalist, Motherhood, Infertile women, Marginalization, Accentuated Marginalization.

Marginalised groups consist of individuals who encounter various forms of societal exclusion, including humiliation, degradation, and economic deprivation. Indian society is highly pronatalist and patriarchal, and women face significant discrimination concerning infertility. Women are held responsible for infertility, resulting in profound emotional and financial stress. Motherhood in India is not just a biological role but a foundation of status and power, crucial for ensuring marital security. Women who had infertility issues faced much marginalisation in Indian society, especially in Kerala society.

Family and marriage were regarded as the fundamental units of every society, essential for maintaining social order and regulating human sexual behaviour. In Indian culture, marriage was considered a stable institution, and family relationships were highly valued. Socialisation was the process

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through which a biological being was transformed into a social being. Each family aimed to instil specific behavioural traits in their children to prepare them for life in society. Gender socialisation began at a very young age; girls were dressed in frocks, boys wore shirts and trousers, and they were given different toys to play with. Girls, for example, were given dolls, which nurtured a motherly instinct and helped them internalise feminine traits such as love and affection.

Gender socialisation primarily occurred through the family, school, and media, which fostered gender-related rules, regulations, and expectations that shaped gender identity. Motherhood was a socio-cultural concept; societal expectations were imposed on girls from the early stages of socialisation. From menarche onwards, maternal instincts strengthened, preparing girls psychologically and physically for motherhood. Marriage was the next significant milestone, after which couples often faced inquiries about having children, reflecting the close association between marriage and reproduction. Community living compelled individuals to interact effectively with those around them.

Indian society placed great importance on family; even as structural jointness rapidly diminished, functional jointness persisted. In contrast, relatives and friends generally did not interfere much with a couple's private life in Western societies. The Indian family system underwent significant changes. In the new era of globalisation and technological advancement, individuals typically prioritised stabilising their careers before starting a family. Age played a crucial role in fertility; women over 35 naturally experienced a decline in fertility. Individuals recognised the issue of infertility once they began actively trying to have children, only to find that their efforts yielded no results. WHO data revealed that 180 million couples suffered from infertility in developing countries.

A paradoxical situation existed in Indian society: poverty amidst plenty. In India, the demographic problem of overpopulation coexisted with a rising trend of infertility. Women's identities were primarily shaped by relational and collective factors, leading to the development of a collective self. Scholars such as Sheila Rowbotham and Nancy Chodorow argued that women's sense of self was founded on the interdependence between the community and themselves. Women tended to associate themselves more closely with their mothers, whereas men fostered more isolated individualism (Friedan, 1988). Rowbotham also opined that women could not possess a separate and individual identity, as the dominant male culture constructed it. The WHO defined infertility as an illness of a man's or woman's reproductive system, considered as the failure to attain pregnancy after 12 months or more of consistent unprotected sexual contact. Some causes of infertility were preventable. Infertility presented medical challenges for those involved and deeply affected their emotional,

physical, and spiritual well-being. It distinctly impacted both partners, creating shared experiences and struggles. However, it was primarily women who faced issues related to infertility more than men.

The marginalisation of infertile women was a significant issue encompassing cultural, psychological, and social dimensions. Women often faced stigma, shame, and a lack of support, leading to stress, depression, anxiety, and low self-esteem. In several societies, a woman's individuality was closely linked to her ability to bear children, placing a disproportionate societal burden on them when they were infertile. There was also a need for increased access to affordable fertility care, and financial capabilities determined access to infertility treatment.

Women in most societies were not granted equal rights, but this began to change over time. Women eventually came into the limelight in various areas. In many cultures, the concept of motherhood was revered, which, in turn, provided women with status and power. The continuity of the family line was ensured through the birth of children, who were considered as a form of insurance for both women and men. In many developing countries, families rely on children for economic support.

Consequently, infertility could have significant economic implications. Childlessness or infertility is a medical issue that leads to numerous personal and social problems. It was considered a developmental crisis and public health issue, not merely an individual or medical problem.

In this paper, the researcher analysed the plight of five infertile women who faced marginalisation. These women had different socio-cultural backgrounds regarding their education, religion, occupation, and economic standing. They considered children essential for ensuring marital stability, viewing motherhood as the essence of womanhood. In most cases, the women, rather than the men, were targeted. Women undergoing infertility treatment experienced more financial, physical, and emotional stress compared to men. They endured exclusion, abuse, rejection, and stigmatisation within their families and even in the societal aspects.

In Kerala society, a childless woman was often addressed by derogatory terms like "machi." Some parents of small children hesitated to allow an infertile woman to hold their child. Often, these women were not permitted to participate in auspicious occasions, as it was believed that their presence would bring bad luck to those conducting the rituals. Women undergoing infertility treatment faced numerous invasive procedures, resulting in significant physical pain and emotional strain. Even when infertility was due to a male issue, it was rarely questioned, leaving the women to bear the brunt of the blame.

As a result of this marginalisation, infertile women tended to experience

greater emotional instability and mental distress during the treatment process. Spousal support during infertility treatment was crucial, as the emotional challenges the women faced required a great deal of patience and understanding from their husbands.

Methodology

The research paper explored the psychological and socio-cultural aspects of infertility among women. It sought to analyse the plight of infertile women who faced marginalisation. Although men also encounter issues related to infertility, women were found to be the most stigmatised. This qualitative study utilised the thematic case study method, with the primary sources of data collection being archival documents and interviews.

The investigators assessed the social dimensions of women who had been undergoing infertility treatment for at least three years or more. The study employed the snowballing technique, which was considered the most effective or alternative method to identify women receiving treatment. Women were often hesitant to discuss their infertility issues with outsiders, experiencing a phase of self-stigma, particularly during treatment. The researcher had to establish a good rapport with the participants, and gradually, they began to open up and share their personal stories.

The interviews were audio-recorded and transcribed for research purposes. The study followed various steps to identify the problem and the themes each woman emphasised. The researchers aimed to familiarise themselves with the situation, and the collected data was read and reread to ensure a thorough understanding of the information gathered during the study.

Participants

The present study included 5 participants belonging to different religions, educational backgrounds, financial statuses, occupational statuses, types of families, and treatments. It helped to identify the various aspects relating to their lived experiences about the treatment process and its outcome.

Objectives

- To understand the fractured identity of women undergoing infertility treatment.
- To gain an insight relating to challenges of infertility treatment from the perspective of female.

Infertile men were sometimes teased or rarely taunted by their friends. This study utilised data from articles and research papers on the effects of infertility. Reactions included feelings of shock and disbelief, denial, anger, loss of control, loneliness and isolation, guilt, as well as depression and anxiety, which often accompany the process of grief and loss. The socio-

cultural aspects of infertility were primarily related to religious and cultural factors. A woman's worth was often measured by her ability to bear children.

Discussion

A brief description of the participants and their socio-cultural setting is described below.

Five women from different social backgrounds were selected for the study.

1. Renu, an IT professional, came from a semi-urban area on the city's outskirts. She gained her education from different places in India, as her father worked in military hospitals. After graduating, she got a job at an IT company, and soon, she married Raju, who worked at the same company. It was a love cum arranged marriage. Renu was a jovial and outspoken girl; she got along well with her relatives and liked the company of others.

Renu and Raju got married at the age of 22. Initially, they did not think about having a child. After marriage, they were not interested in having children for 4 years. They have been married for 14 years and started treatment 10 years back. Slowly, things started changing for Renu; Raju's family was close-knit; they occasionally met, and even though structural jointness was not there, functional jointness was. Raju's cousins had children, and they used to come and play with Renu whenever they met for family events. Renu and Raju used to take their pets, Charlie and Flash, for all the functions they went to. Once, a cousin's daughter, who was only 3 years of age, asked whether Charlie and Flash were Renu and Raju's children. Gradually, her parents and in-laws started asking them when they would have children. They did not criticise them.

Raju's antinatalistic attitude is rooted in the personal and philosophical belief that children should not be brought into a world of resource depletion and pervasive dangers. This significantly impacted the couple's relationships and interactions with family and society. However, Renu's continuous and emotional plea to have their own child gradually changed Raju's stance. Renu began to think about having a child; she saw the attachment that was being showered on the parents, who were Raju's cousins. Maternal instincts started creeping into her mind. She began to pester Raju to try to get a child. Raju was not at all interested in having a child. He initially tried to rebuke and scold Renu, saying that they had agreed before the marriage that they wouldn't want a child. Renu tried to convince him that this feeling was quite natural, which almost every woman has. Over time, she recognised that her life would feel complete only with the birth of a child. This realisation led to contrasting desires between them, causing emotional discord. Renu's genuine longing for motherhood clashed with Raju's belief in not procreating, leading to emotional strain and misunderstanding.

Slowly, they started going to a private hospital, and many tests were done, which revealed that Renu had PCOD issues. During her treatment, she was emotionally disturbed, but she never gave up. Being educated and earning well, she strongly reacted to people who tried to shame her because of her infertility. Gradually, the relatives stopped pestering her, relating to questions of infertility. The questions that most of them asked were related to whether they had initiated any treatment and other questions relating to whose problem it was.

Renu felt very comfortable talking to her mother about her childlessness, and the mother was able to give her maximum mental support. Invariably, the mother would tell her that it is better to adopt if there is no natural course of becoming pregnant. She would always comment that if you can't have a biological child, a social child can be sought. Mother always said that "it is better not to have a child rather than losing it or having a child with mental or physical deformities."

If we have problems, we have to accept and move forward; if something is meant to happen, it will happen at any cost. The next step in initiating the treatment was to procure money for the treatment. They had taken a loan for the house, and as a result, there was some financial crunch after the failed IUI and IVF treatment. A one-year gap was taken after the first IVF treatment to raise funds for the second treatment. They did not want to borrow any money from their friends or relatives, so they decided to pawn the gold given during the marriage. Due to Renu's constant longing for a child, Raju noticed a change in his own mental state. He began thinking about having a baby girl, which led him to develop an interest in infertility treatment. Renu's thought process was very positive as she was forward-thinking, had strong principles, and had an opinion of her own. She thought that it would be better to have a child when the financial conditions of the couple improved. She says, "If you can't provide for the well-being of the child and look after the child with all the comforts, it is better not to have a child". Another thing that Renu emphasised was that children should be taught the norms and values of society; this will help them emerge as better citizens.

Renu believed strongly in religion, even though her husband was not like that. She is also a rational individual who very well understands her biological self, which in no way would help her achieve a normal pregnancy. She would take measures to satisfy the deities and get a child normally. Even though she did not expect a miracle, she Visited Mannarasala temple to offer prayers to the Snake deities, following the belief among the Hindus that if you do "Urulikamizhthal, "then you might be blessed with a child.

About sexual intercourse, she said that during the treatment time, it was always done with the intention to beget a child. When she became aware

that it was difficult, she didn't think of sexual intercourse from that perspective and realised that it was to be considered as a source of physical and mental satisfaction as well.

The couple was not bothered about who would look after them in old age. They said that even people with four or five children did not have anybody to look after them, as most of their children worked outside and could not come and be with their old parents when needed.

Renu and her husband regularly played badminton during their leisure time, and this has helped them maintain a strong physique. They were able to develop strong friendships with the other people who came to play. They had 2 pet dogs at home who demanded their constant attention, diverting their attention from negative feelings. Renu was upset at the way the service providers, the doctors and nursing professionals treated her. A humane aspect was missing in their approach. She was of the opinion that service providers specialising in infertility should provide emotional guidance and suggest necessary coping strategies to the couples who undergo treatment. Communication between the service providers and the patient should be honest, and conversations about personal feelings, fears, and expectations should be shared.

Renu believed in God and prayed fervently to have a child. God has not yet fulfilled her dreams. She couldn't convince Raju, as he was an agnostic. She hopes and prays that one day, her prayers and the treatment will yield a positive result.

2. Jaya is 38 years old and has a strong faith in Hinduism. She comes from a rural background. She is a very talkative and fun-loving girl from a very young age. During her school days, she had a lot of friends and enjoyed going to school to play with her friends. She used to care for her younger sisters just like a mother would care for her children. Jaya was interested in dressing up her younger sisters and tying up their hair. She studied in a government school and always dreamed about a boy who would look after her. She belongs to a lower-middle-income family. She was able to complete her education up to her school finals, and after that, she had to search for a job as her parents could not provide for her. Her father died when she was 8, the standard. She was very attached to her father. Her husband gradually filled the void of her father's death; theirs was a love marriage. She thought that he would look after her with so much love and care. She got a job in a textile shop through one of her friends. She faced a lot of problems during the early days of training. She was very pleasant to her clients, but adjusting to the new system took some time. At this juncture, she met Bipin, who was 2 years younger than her and could only complete education up to the higher secondary level. Bipin's family was not very keen on this marriage as they knew she would not fetch them any dowry.

Jaya and Bipin have been married for 7 years. They wanted to have a child of their own from the very beginning. She got pregnant after 6 months of their marriage but could not continue it to full term. The couple thought that they would get an average child after the first abortion. They waited for two more years, but nothing happened, and hence, they thought of approaching a private hospital even though they were financially weak. Their income from the textile shop was hardly enough to earn a living. According to Jaya, "Going to a private hospital will hasten the fertility process, whereas in a government hospital, it will be a delayed one". The waiting period at the Govt Medical College was too long. Jaya said, "In my dreams, I always see a healthy baby smiling at me and making giggling sounds; as soon as I wake up, I realise that there is no baby with me. I feel tears welling up in my eyes". This has occurred many times, and she says that God will surely answer her prayers one day. The most important thing in her life is becoming a mother and nurturing a baby. "Motherhood is the most divine thing in the world."

Jaya had her periods when she was 13 years of age and did not have any problems relating to her periods. She was taking medicines for heart problems for some time, but after she became pregnant, she stopped taking medicines as her heart problems had wholly healed by then. She became doubtful whether the medicines had made her infertile. The doctors were able to convince her that it was not related to the medicine as she had become pregnant soon after marriage.

Even though they had financial issues, the couple had already done two bouts of Intrauterine insemination (IUI), which was done in a private hospital, and as both of them failed then, the couple resorted to In vitro fertilisation (IVF). Both IUI and IVF failed. The IVF process cost them 2.5 lakhs, and they had to borrow 75000 Rs each from two relatives. Jaya was eager to sell gold ornaments as she thought the baby would bring her luck. Jaya was completely happy with the treatment provided by the doctors in the hospital. She was constantly repeating the fact that almost all of them who were getting treatment from the hospital were able to conceive. She believes that the right time has still not arrived. They couldn't continue a second round of IVF because of financial status. Jaya says that her husband has been very supportive and looks after her well, knowing that the issue is primarily hers. In the initial period, she even had a doubt whether her husband being younger than her might be one reason for infertility.

Even though her husband loves her dearly, sometimes they quarrel, and he calls her barren and a good-for-nothing person. This pains her a lot, but slowly, she reconciles with the fact and says that it is definitely her problem. Soon after the quarrel, the husband also recognises his fault and looks after her well.

The couple has decided not to go for infertility treatment for some more

days as they are really short of funds. They have a very frugal way of living. Bipin's mother stayed with them initially and was not very supportive. Her mother-in-law slowly understood that Jaya was having problems with infertility. Later, she understood the depth and intensity of Jaya's emotional turmoil and became very supportive. Jaya and Bipin try not to attend any events that take place in the family as they are constantly asked why they are not going for treatment and about their next course of action. This has made them stay isolated from their relatives, and many of their friends do not give them enough support. They have started searching the internet to find out about the causes of infertility. She says, "I do need only one egg to become pregnant and that one egg should be made as healthy as possible." Jaya thinks that some food items like avocado, fish, and nuts will improve her anti-Mullerian hormone levels, giving her a better chance of becoming pregnant. Antimullerian hormone (AMH), produced by ovarian follicles, indicates fertility in women.

Both husband and wife strongly believed in religion. They believe that this ill fate has happened to them because Bipin's father had killed a snake. They are trying to do the poojas to snake gods as a sort of repentance. They went to perform the ritual of uralikamizhtal in the Mannarasala temple. However, people over there said they were not supposed to do it as she had already become pregnant. Jaya strongly believes that she will become pregnant after eating quality food and exercising. The couple had a tough time during the Corona period as they were constantly short of money. The management provided them with only half a month's salary, which made their treatment plans suffer. Treatment was also not done in the infertility clinics as it was not of an emergency nature. They did not want to stay home even during the non-working days as they had nothing else to do.

Jaya tries to reduce visits to relatives' places and avoid gatherings, as they are very painful to her. When she sees other children, she feels sad and thinks that God has not been fair to her. She becomes upset for thinking in such ways. She plans to stay somewhere close to her textile shop when she becomes pregnant. Both of them have high hopes about getting a child. Jaya constantly refers to her "Unborn Baby" and thinks that the child will cast away all the gloom.

3. Shammi and Irfan lived in a semi-urban area; they lived in an extended family. Her husband's family lived together, and Irfan's two brothers, one brother's wife, and child Mia lived with them. Shammi got married at the age of 18 as soon as her father passed away. Irfan was a responsible boy; the alliance came through a relative. Shammi's in-laws were very good people; even though they lived in a community which was interfering, they did not pester Irfan and Shammi too much because of their infertility issues.

Shammi said, "I remain jovial and happy outwardly, but inwardly, I cry a lot." Why does God do this to me? For those who do not want any children,

God gives them plenty. "She mentioned the incident when three children were put in the amma throttle (the electronic cradle functioning under the Kerala State Council for Child Welfare). It has been instituted to provide a better life for abandoned children.

Shammi narrates, "When I see all the good things being put in the social media and Instagram, I squirm inside". Shammi had undergone two cycles of IUI; they wanted to try IVF, which is very costly. The couple has been trying to save 2- 3 lakhs for nearly 3 years. Irfan does not miss a chance to go for the small jobs that people call him for. He has been a very supportive husband. They had a strong bond with Mia, Irfan's brother's child. Mia was very close to Irfan and Shammi. She was taken care of well by Irfan and Shammi. Irfan often told Shammi that she should not care too much about Mia, fearing that his brother or sister-in-law would say something which would hurt Shammi. Shammi had a constant fear in her mind about whether Irfan would seek a talaq (divorce). Irfan tried to make her understand that he would not do such a thing. Shammi needed constant reassurance from Irfan's part to move forward. He was prepared to wait for years to have a child.

Shammi stopped her education at the age of 17. She couldn't complete her education but restarted it in the open school system. She said that it had helped her a lot, as she could focus more on her studies. They used to have classes only on Saturdays and Sundays, and she would wait for those two days to be with her friends. She hoped to continue her education and get a job so that from her pay, she could save money to pay for the infertility expenses and be of some help to Irfan.

Shammi has been trying to find solace in God by praying and appeasing God. They lived amid their relatives, who constantly tried to pass unsolicited advice. Some of them tell them about some infertility hospitals and recommend certain doctors. After some time, they would again come and ask them whether they had gone to the hospital which they had recommended earlier. They tell them to offer pidippannam in the mosques to get a child. Another thing they emphasised was reading the Surah Maryam, which would help her achieve pregnancy, quoting the story of Ibrahim and Maryam, who were childless and how Maryam was able to gain a child by Allah's mercy. In all situations, Shammi believed that a Muslim should accept and be content with the decree of Allah, even if she were to remain infertile for the rest of her life.

A thing that worried Shammi was the constant interference of Irfan's relatives. The relatives knew very well that Mia was Irfan's brother's daughter. Still, whenever she was with Mia, some odd ones would ask her whether Shammi was having a child of her own. Shammi gradually became reluctant to go out much with Mia, as she didn't want others to ask the same question again and again.

The couple had placed their hopes in medical technology's advancements, convinced that it was a means through which Allah's will could manifest. They had undergone numerous treatments in private and government hospitals, each one a testament to their enduring hope and determination. The doctors were optimistic, too, reassuring them that Shammi's age was not a barrier to conception.

The Intrauterine Insemination (IUI) attempts made her hopeful; they did it three times. Each cycle brought with it a mix of anxiety and optimism. They would hold hands, silently praying for a miracle as the doctors performed the procedure. The wait that followed was always the hardest, filled with silent prayers and hopeful glances.

4. Cyan, a 34-year-old medical professional employed in government service, had been undergoing infertility treatment for the past three years. Her husband, Yohan, was also a doctor. Cyan was a Catholic with a strong belief in God. They lived in an independent house with Cyan's parents and her grandmother. Being in the medical profession, the couple was well aware of their situation.

Cyan had been diagnosed with polycystic ovarian Disorder (PCOD), a condition caused by a combination of hormonal imbalance and genetic tendencies. She explained that PCOD led to numerous hormonal irregularities, making conception significantly more difficult. She had been prescribed Clomiphene tablets to enhance her fertility. Although PCOD was a common disorder affecting many women, Cyan noted that it was often treated as a source of shame and kept hidden, much like other issues related to menstruation.

The couple chose to undergo fertility treatments at a private hospital, as Cyan was reluctant to seek help at the government hospital where she worked. They hoped that private treatment would yield quicker results. Despite their efforts, including attempts at intrauterine insemination (IUI), the procedures turned out unsuccessful. Initially, Cyan was shocked by the infertility diagnosis and tried to deny it. After numerous tests and scans, she came to understand her situation fully. She had undergone three IUIs; during the second attempt, she became pregnant, but it was a tubal pregnancy and had to be terminated.

Knowing that they would soon need to pursue in vitro fertilisation (IVF), the couple faced ethical concerns regarding egg retrieval and other aspects of the treatment, leading to a dilemma about proceeding. Throughout this journey, Cyan's parents provided crucial financial and emotional support. The most devastating moment came when Cyan, pregnant following an IUI, was diagnosed with COVID-19. She experienced immense psychological stress during this period, and even the doctors could offer limited assistance. This was an incredibly isolating and challenging time for her.

Cyan was in for another shock when she visited her close friend after the friend's delivery. Her husband also accompanied her when she wanted to visit her friend who had a baby. Her friend was not very comfortable to see her. When her husband tried to take the baby, her friend did not give him the baby even though she was also a doctor .. Her friend thought that the child would have some ill luck if taken by an infertile person. Cyan was shocked beyond words, and her husband was very upset. It was revealed to Cyan that education alone does not change society's cultural aspects. They left the house immediately. After this incident, she decided not to go to any of her friend's houses, nor did she go to her friends' get-togethers, as she thought that the world does not have a place for infertile persons. Whenever her friends meet, they have many things to talk about their children; her friends constantly sideline her. Cyan never tried to open social media on Mother's Day or Daughters' Day as it would be full of emotional messages.

Themes Analysed in the Study

Concept of motherhood- Motherhood and infertility are two inseparable concepts. It referred to the challenges some women faced when trying to become mothers due to infertility. It also encompassed the emotional and psychological aspects of wanting to be a mother but struggling with infertility. The participants in this case study believed that motherhood is the essence of being a complete woman. According to Jaya, "Motherhood is the most divine thing in the world," Cyan thought that society adds or assigns a symbolic position to a woman only when she becomes a mother. She says that women who passed through the complex life trajectory of infertility identified themselves as incomplete women. Both Cyan and Jaya felt that they were incomplete without a child. Though Renu had the company of many children, she felt it was always better to have a child for oneself. Renu said that motherhood had an emotional bond that goes beyond biological ties. For her, being a mother involved nurturing and caring for her own child. Renu perceived motherhood as a role that required self-sacrifice and complete dedication. She valued the idea of giving up personal comforts and dreams to ensure a child's well-being. Shammi said that motherhood is considered a gift from God. She believed that it could be achieved with the help of doctors who would be the mediators of Allah in achieving the status of motherhood.

The Desire for One's Own Child

The desire for a child in an infertile mother can be overwhelming; it often becomes a central focus of her life. The respondents experienced deep emotional pain and felt incomplete without the ability to conceive and nurture a child. This longing can lead to feelings of frustration, guilt, and even jealousy when they see others with children. Despite the challenges, their determination to become a mother often drives them to explore every

possible avenue, from medical treatments to adoption.

Cyan had high hopes of rearing a biological child of her own. She often dreamt of having a child who would satiate her mothering instinct. The longing to become a mother is emotionally determined. Motherhood is a stage in a woman's development in the society's eyes. Social expectations forced the women to become ashamed of their childless status. Motherhood and the desire for a child result from a conscious choice that a woman makes at a particular stage of her life. When women make a decision to have a child, they give importance to certain aspects like age, financial position and relationship stability and, based on that, decide when the right time for having a child would be (Bell, 2013; Ulrich & Weatherall, 2000). Renu believed that a mother's role was to guide and nurture the child and shape it into a responsible and kind individual. Motherhood, for her, was about passing on values, wisdom, and life lessons. Renu believed that the necessary financial resources should be there to support and give a good life to the child. She was echoing the doubts that her husband always had in his mind. Renu had to struggle so hard with her husband to make him agree to initiate the treatment. They saved sufficient money for the treatment and for the pregnancy and aftercare of the mother and baby if she became pregnant.

Shammi was on treatment for infertility for nearly six years in the extended family in which the couple lived. Her husband Irfan's brother's child Mia, who lived with them, became her constant companion. She used to dress up Mia and do everything for her, but in spite of that, she longed to have a child of her own. The longing to have a child of their own blood made her pursue the dream of becoming a mother.

To be a Woman is to be a Mother

Through the process of socialisation, the mothering instincts are internalised by the woman. Even when the concept of deconstruction of motherhood is happening in modern-day societies, motherhood has become an indispensable aspect as far as many women are concerned, especially the female respondents of the present study. According to Cyan, motherhood is closely associated with marriage and family. Renu opined that the emotions of a mother emanate from an individual and cannot be sidelined. She did not want to have a child of her own during the initial years of their marriage. After some years, her yearning to become a mother became so strong. She could not control her emotions of becoming a mother. Hormones got the better off me," this statement reflected the internal shift in a woman who initially didn't want to be a mother but gradually developed the desire to have a child. Over time, she noticed subtle changes in her. She attributed this to biological factors, societal influences, and changes in her life circumstances. The once firm decision to remain child-free began to waver as she found herself increasingly

drawn to the idea of nurturing and raising a child. These evolving feelings and the desire for a child were surprising and confusing, contrasting with her previous outlook. Ultimately, it represented a natural and complex aspect of human emotions and identity, where what once seemed certain became open to new possibilities. She had a tough time convincing her husband, who did not want to have a child of their own, as it would bring about resource depletion in the world. Renu thought it was an automatic response that emerged in a woman's mind and could not be controlled by other external forces.

For Jaya, the identity of being a woman has always been closely tied to the role of motherhood. From a young age, she internalised the belief that to be truly fulfilled as a woman, one must experience the joys and responsibilities of raising a child. This belief became a cornerstone of her self-image, shaping her aspirations and understanding of her place in the world. Jaya had the thought that it was a natural process. As Jaya struggled with infertility, she found herself yearning deeply for the experience of motherhood, a longing that seemed to grow stronger with each passing day. Watching other women with their children, she felt a mix of hope and envy. On one hand, she saw in them a reflection of her desires—a life she wanted but couldn't have. On the other hand, she battled with her own feelings of guilt and shame for not being a complete woman.

Cyan, an educated doctor, thinks that infertility has quashed all her other successes in life. Infertility operates at another level for her. Renu believed that society could exist only if children were born. Women identified that becoming a mother is very important to them for a social, psychological, and physical sense of adequacy and completeness (Ferland & Caron).

Preoccupation with Motherhood

All the participants except Shammi are working. Cyan is a teaching doctor, and Jaya works in a textile shop. Renu worked in an IT firm. Shammi is a housewife. For Cyan and Jaya, they found that infertility treatment was similar to having a job, one which required changes in their daily routine. They had to take leave for their appointments; they had to be in the infertility clinics for a no of hours a day. Once the treatment started, they expected a positive result. When this did not happen, their first reactions were shock and disbelief. Once the shock and disbelief settled down, they again prepared their minds to equip themselves for the next infertility cycle. They tried to have control over their own bodies and tried to keep their body under surveillance constantly.

Cyan being a doctor, searched for sure fertility signs like vaginal secretions, which will enhance sperm motility and increase Basal Body Temperature (BBT), which happens during the time of ovulation. At the same time, Jaya thinks that the Anti-Müllerian hormone (AMH) plays a crucial role in assessing a woman's ovarian reserve and enhancing oocyte production,

which can be an important factor in infertility. When Jaya learned about AMH, she understood that higher levels might indicate a better potential for fertility, while lower levels could signal challenges.

Having heard this, she became interested in ways to boost AMH levels naturally. She learned that certain food items, such as eggs, avocados, nuts, seeds, leafy greens, and fish rich in omega-3 fatty acids, could potentially support ovarian health. She began incorporating these foods into her diet, hoping to improve her AMH levels and enhance her chances of conception.

For Renu and Shammi, the belief in a higher power was central to their hopes of having a child of their own. They thought that their faith would eventually bless them with the joy of motherhood. Although Renu had many children in Raju's family and Shammi had her brother-in-law's child in the same household - they longed deeply for a child of their own. The couple cherished the idea that having a child with whom they shared blood ties was more meaningful and fulfilling than anything else. They believed that such a connection would complete their family in a way that nothing else could. This conviction guided them as they held hope and faith in their journey to become parents.

Narratives of Fertility Challenges

The narratives of infertility revealed by the four women in the present study reflected the accentuated marginalisation they faced from others in society. Although it was a shared journey, the physically invasive techniques of IUI and IVF made the process far more painful for the women. Shammi tried to remain jovial outwardly, but inwardly, she cried a lot. Most of them perceived childlessness as a profound loss to their identity as women. This unique loss often remained invisible to others, isolating those affected. Women who grappled with infertility carried a heavy emotional burden, mourning the experiences they would never have—the joy of pregnancy, the miracle of childbirth, the journey of raising children, and the prospect of becoming grandmothers.

Cyan and Jaya think that not becoming pregnant can represent a profound sense of loss. This loss experience might not always be visible to those around them, and its depth may not be fully apparent to others. Cyan was very close to her husband; they used to talk about their infertility struggles, and this has helped her in one way. She did not share much of her thoughts with the other family members. Yohan wanted Cyan to continue with the IUI treatment and not go ahead with IVF treatment because of the fear of ethical issues relating to IVF. Even though Jaya is not educated much, she has tried to understand what her infertility issues are and has tried to understand the reasons or causes of her infertility.

Through the narratives of Renu, Jaya, Shammi, and Cyan, the researcher gained deep insight into the pain and suffering these women endured

during their infertility treatments. Each of them felt a profound discomfort in the way others around them stared or treated them, often with pity or judgment. This added to their emotional distress, making an already difficult journey even harder.

Despite these challenges, one positive aspect emerged: all women experienced unwavering support from their husbands. Their husbands fully understood their wives' emotional turmoil and stood by them every step of the way. Even though the men knew that the fertility challenges primarily stemmed from issues related to the women, they never criticised or blamed them with intention. Once, when Bipin quarrelled with Jaya over their infertility status. This pained Jaya very much. After that, Bipin became ashamed of what he had said and profusely apologised to her. The husbands provided consistent care, understanding, and encouragement to their wives. This compassion and support from their husbands made the women feel profoundly grateful, as it eased their burden and strengthened their bond during a time of great difficulty.

Shammi had cysts in her ovary, which contributed to her infertility. She felt that Irfan had been forced to accept her condition, and this filled her with fear that he might eventually seek a divorce. The thought of losing him due to her inability to conceive weighed heavily on her mind, adding to her emotional distress during an already challenging time.

During a heated argument, Bipin once blamed Jaya for their infertility issues. In the midst of the quarrel, he harshly stated that it was her problem that had led to their inability to conceive. His words cut deeply, leaving Jaya feeling hurt and isolated, as she had already been struggling with the emotional weight of their fertility challenges. This moment marked a painful point in their relationship, as it exposed the underlying tensions and frustrations they both felt but rarely expressed. Bipin fervently apologised to her for what he had said.

Reproductive struggles – Renu did not want to have a child for nearly four years, and after a prolonged struggle to convince Bipin, she was able to initiate the treatment. The subsequent tests found out that she was having PCOD. During the first IUI treatment, it was very difficult for Renu to make her husband cooperate with the treatment process. The second IUI treatment and the third IVF treatment was relatively unsuccessful. Jaya had an initial miscarriage; then, she took some medicines to enhance oocyte production. Two IUI's and IVF treatments did not yield any positive results. In the case Of Cyan, she did three IUI's; the second time, she became pregnant, but it was an ectopic one, and it had to be terminated. The third one did not yield any positive results. Cyan and her husband had many concerns relating to IVF, which was related to its ethical aspects, so they have not yet started the IVF treatment. Shammi had to make her periods proper, and she took much medication to correct it; after that, she

also underwent two IUIs, Which did not yield a positive outcome.

All the above cases show their resilience, compassion, and determination to move forward because they think it would produce the desired results. Infertility caused an unanticipated disruption in the expected course of their lives, which all of them dreamt about. Infertility prevented the expected sequence of events in the lives of many women, forcing them to follow a different path and go in a direction which some women described as 'scary' and 'uncertain' (Ulrich & Weatherall, 2000). Infertility has been equated with the experience of death. Coping with infertility is described by women as coping with the knowledge of the death of a close person or even the death of an unborn child (Ferland & Caron, 2013; Ulrich & Weatherall, 2000). When women compare infertility with death, it emphasises the pain and sorrow that infertility brings to a woman.

Infertility was a persistent sorrow for all the women. It has become an unceasing ache for all the participants.

Emotional Spectrum of Infertility

Procreation has been prioritised in Indian society, especially in societies like Kerala. Literacy does not play a huge role here. Regarding the psyche of ordinary people in Kerala, people continuously interfered in the matters of others around them. The quest for progeny is individualistic and emotionally challenging when situations like infertility occur. Different emotions can colour it. The emotional roller coaster is a term that has been described in almost all literature relating to infertility. For Renu, Who has a positive mindset and who has strong willpower, infertility struck the core of her existence. It pained her very much. Jaya was totally shattered when she understood about her infertility status. Cyan, the doctor who knew all the scientific aspects relating to infertility, also felt shame and guilt for her inability to conceive. the changes in her feelings during the menstrual cycle moved from the perception of hope that conception would soon occur. For Shammi, there is always hope in the initial stages of the cycle, and when failure occurs at conception, there is intense pain, sadness, and anger. Anger can be directed towards themselves, close relatives, pregnant friends, fertile partners, the world, and even God (Fernandes et al., 2006; Mete et al., 2020).

Cyan said that she became very hypersensitive at times during the course of the treatment. She got triggered for slight things which might not have been a concern at other times. Jaya tried to blame herself for not becoming pregnant. Even though Bipin was a considerate person in one of their quarrels, he blurted out that as the uterus is in the woman's body, it was because of her that they were not able to have a child.

Studies show that individuals who are medically responsible for infertility felt guilt or self-blame when they witnessed their partners suffering due to

their inability to reproduce. (Steuber & Solomon 2008).

All the women felt intense grief in a failed infertility cycle. In every failed attempt to conceive, they waited eagerly for the subsequent onset of the menstrual cycle. They experienced both grief and ambiguity. In Indian society, to overcome the death of near ones, there are rituals that are being done to overcome or heal the wounds. Rituals following the death of a loved one serve as a way to acknowledge the loss, offer closure, and provide a structured process for grieving. These rituals help the bereaved navigate their emotions, find support within the community, and gradually heal from the trauma of loss. The communal nature of these practices ensures that the mourning process is validated and respected.

In contrast, when it comes to infertility treatments, particularly when they result in miscarriage, the mourning process is often neglected or even discouraged. Jaya and Cyan had miscarriages. They experienced societal stigma as a result of infertility, which made it difficult for women. Miscarriage, though a profound loss, was mostly seen as a private matter. The lack of formal rituals for miscarriage in many cultures also contributes to the invisibility of this loss, leaving those affected without a clear path to mourn and heal. This disparity highlights a broader issue of how society views and handles different types of loss, often leaving those who experience infertility and miscarriage to grieve in silence. In the case of a failed infertility cycle, women are not able to mourn in a proper manner because of their loss.

Partnership Challenges in Infertility

When the couple decides to initiate assisted reproductive techniques for infertility, the agreement between the couple to move forward with the treatment comes into play. Emotional bonds and spousal support play a crucial role in the continuance of the treatment. Infertility affects spouses in different ways. In the case of Cyan, her doctor and husband gave her a lot of support during the treatment phase. Cyan says that the infertility experience made their relationship stronger. Cyan says that Yohan felt closer to her because he feels they have only themselves as they move forward in their life journey. For Jaya, it was different all the time. Bipin supported her most of the time, but once or twice, she was called barren by him, and he apologised profusely to her for using such a nasty word. Jaya sometimes became afraid that Bipin might leave her. Shammi also doubted whether Irfan would seek divorce because of her inability to have a child. In the case of Renu, she didn't have any such fear, as Bipin did not want to have a child. It was her desire to have a child.

Impact on relationships. Renu, who wanted to remain childless, gradually changed her mindset and wanted to become a mother. She gradually convinced her husband, who did not want to have a child. For her, the struggle to convince her husband was the initial struggle. Then, the next

blow was when she understood that she had infertility issues. For Jaya, she wanted to have a child from the initial months. She had a miscarriage six months into her marriage, and after that, she knew that things would not be smooth. For Jaya, failure to conceive after an adequate number of sexual intercourse led to denial, and she was not able to cope with the harsh reality for a long time.

Cyan showed reactions of anger and thought that it was an unjust situation and that they were punished for their faults. Hopelessness crept into the minds of Cyan and Jaya, and they constantly asked specific questions: Why me? Sometimes, they thought that infertility was a punishment for certain wrongdoings in their past life. Women tried to understand why this issue had happened to them, whether it was what they deserved, what they did wrong, and why they were deprived of having children (Ferland & Caron, 2013).

On the other hand, Shammi was so much influenced by the community in which they lived. Even though she gained much support from her in-laws and husband, the community members asked her many questions about her childless status and gave her unsolicited advice. This made her life more difficult. Cyan was a fun, loving, and compassionate friend to many. Her identity ultimately underwent a shift when she passed through the infertility journey. She slowly started avoiding her friends who had children. Cyan says that the world does not have a place for a woman who does not have a child. For Jaya, infertility treatment forced her to move away from her relatives who were close to her earlier because they asked her a lot of questions relating to her infertility.

The participant's world, hopes, thoughts, beliefs and desires changed in myriad ways. Women feel worthless and perceive others as pitying or even mocking them (Mete et al., 2020). Cyan stopped going to church when people started passing comments behind her, saying that being a doctor also has not helped her to get a proper result for her infertility treatment. Jaya, at times, feared that the stability of her marriage would be affected because of infertility. She feared Bipin would leave her and go if she could not become a mother. Jaya suffered from feelings of guilt about her sexual life, she feels frustrated and tries to blame herself for being infertile.

Social support refers to the safety network of family members, immediate relatives, and friends who help women cope with feelings and emotions. Cyan had a supportive husband, and hence, she was able to pass through the course of the infertility treatment process in a better way. Cyan stayed with her parents and grandmother. She did not get support from her mother, with whom she did not have much rapport; this was compensated by her father, who has been very supportive. Jaya could move forward with her treatment as she gained support from her husband. Occasionally, her husband taunted her, which did not last long. Cyan decides not to attend

any get-togethers because she feels that the world does not have a place for a childless woman. Once, Cyan and her husband went to a friend's house. Her husband wanted to take the child in his hand, but the friend was unwilling to give the child. This pained her very much. In Cyan's case, she received positive reactions from her husband that helped her to move forth in their infertility journey even though there were some adverse reactions from people around them, which was quite hurtful.

Jaya tried to avoid children and parents who came to the textile shop, whereas Cyan stopped getting together with her friends as they always discussed their children only. Renu tried to confront people who asked her questions relating to her infertility status. She was able to tell them strongly that she had been undergoing treatment for her infertility. This made the people around her feel hesitant to ask her prying questions. She was educated and, simultaneously, more authoritative and stronger.

Shammi faced many problems in the community in which she lived; she did not suffer any ill-treatment in her in-laws' place. Irfan supported her and tried to reassure her.

Coping Strategy

Cyan tried to make use of an active avoidance strategy to cope with her infertility journey; she tried to avoid children and pregnant women actively. She tried to avoid going to the church. Cyan isolated herself from other people around her.

Jaya, on the other hand, made use of a passive avoidance strategy to cope with her life circumstances of trying to cope with infertility. She moved away from pregnant mothers and children who came to the shop where she worked.

Renu tried to confront the issue of infertility actively. She initiated the treatment and convinced her husband to cooperate in the infertility treatment. Shammi tried to actively cope by engaging in studying, Shammi distracted herself from the stress and emotional pain related to infertility, thereby managing her emotional well-being. Shammi actively engages in constructive activity (studying), which has provided her with a sense of purpose and achievement. This proactive approach helped her manage the stress associated with infertility by channelling her energy into something positive and productive.

Religion Acts as a Mechanism to Cope with Infertility

Cyan occasionally visited certain religious places like Pota to pray and meditate to help her beget a child. She hoped and prayed that one day, the Lord would open her womb. This feeling kept her moving to achieve her desired end result.

Jaya also strongly believed in religion; she said that religious prayers are

her lifeline to moving ahead. She thought her father-in-law had killed snakes, so a curse had fallen on their family. They are trying to appease the Gods to help them have a child.

Society expects women to fulfil the role of mother; they make women feel incomplete if they are not able to bear them. Women also experience the feeling that their body is damaged and dysfunctional (Caballo et al., 2015; Ferland & Caron, 2013; Ulrich & Weatherall, 2000). Women have varying feelings towards infertility in different phases of their menstrual cycle. The first feeling of hope appears, followed by other emotions like anxiety, disappointment, anger and rage. Infertility affects the spouse in two different ways; in one way, it leads to alienation and in another way, it leads to greater intimacy among the couple. The feeling of weakness and the inability to control their lives or inadequacy to have a say in many of the matters relating to infertility make women more insecure. Drugs and hormones used in infertility treatment will bring about psychological changes in women.

Conclusion

In summary, the emotional impact of infertility is deeply individualised and complex, shaped by personal, social, and economic factors. Each couple's experience highlighted different aspects of this emotional landscape, from frustration and anxiety to resilience and uncertainty. Understanding these diverse emotional dimensions was crucial for providing empathetic and practical support.

Society always tries to put the brunt of infertility on women's shoulders. In this article, the subjective experience of infertility, the feelings, thoughts and problems faced by infertile women have been given importance. A thematic analysis was made use of in this study to assess the experience of trauma and pain related to infertility. The results of this article give an insight into the diversity of thoughts, feelings, ideas, behaviours and problems that can be found in women's narratives about experiences with infertility. Women undergo infertility tests and treatments; they often feel their privacy is invaded. Loneliness and frustration seep into their minds. They perceive marginalisation from those around them due to their inability to conceive. The emotional toll is immense. In patriarchal and pronatalist countries like India, infertile women have been stigmatised more compared to males. There exists a difference in the level of stigmatisation of infertile women. Usually, it is said that women who are economically well-off experience a lesser level of stigmatisation compared to lower-income women. This article sheds light on the fact that women have faced a sort of accentuated marginalisation while passing through the infertility cycle. Issues relating to infertility are not discussed in an open way in Indian society and more so in the Kerala context. Demographically, Kerala is doing better than other states in India; the health parameters are

pretty high. When it comes to women undergoing infertility treatment, they face many stigmatisations. Women can traverse this emotional crisis with the help of their husbands, relatives and friends. This support system helps them to steer forth in their life in a desirable way.

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Red Dots on Silver Screen: Menstruating Women of Malayalam Cinema

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Abstract: Menstruation once shrouded in societal taboos and constrained by sexism, patriarchy, and discrimination, has undergone significant shifts in public perception in recent years. This natural biological process was often associated with shame, stigma and marginalisation. In storytelling, menstruation has traditionally symbolised a character's coming of age, often portrayed with undertones of disgust, fear, or shame. As a powerful medium with substantial societal influence, cinema has played a crucial role in transforming these narratives. Contemporary Malayalam cinema has introduced strong female characters that address menstruation with the gravity and normalcy it deserves. Through these portrayals, cinema has successfully challenged entrenched beliefs and reshaped societal attitudes, demonstrating the potential for change. This paper examines the representation of menstruation in Malayalam cinema, analysing the diverse characterisations of menstruating women and the broader societal implications of these depictions. By exploring how these characters and their experiences are portrayed, this study aims to elucidate the evolving narratives surrounding menstruation and its impact on societal perceptions.

Keywords: Menstruation, Malayalam cinema, Women, Stigma, Entrenched Taboos.

If one were to choose a single word to address taboo in India, 'menstruation' would be the most apt one. Despite being highlighted by its social construction, menstruation is a natural, self-evident bodily process. Historically, it has received minimal attention and care due to patriarchy and societal ignorance, leading to its perception as something disgusting and shameful by people of all genders. Women have experienced discrimination in society solely because of menstruation. This biological process has determined their vulnerability, often evoking a sense of confinement within the four walls of their households. Many women come to believe that they are impure, shameful, and less worthy during this period.

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However, as society has progressed, education has gained importance, helping to shape people's understanding of taboos, especially regarding menstruation. Society is now starting to recognise menstruation as a real and natural process rather than ignoring it. This societal progress is a reason for optimism, as discussions around menstruation have begun to intersect with social realities and gender identity, enabling women to become more open about sharing their experiences related to the menstrual cycle.

Cinema is a popular medium that captures and reflects societal experiences on the silver screen. It embodies the values, dreams, and aspirations of various communities, showcases real-life events, and addresses societal issues. Through cinema, audiences can reflect on their own lives and the world around them. It has the power to immerse viewers in narratives that allow for relatable experiences.

According to Corrigan and White (2004), the film is a work of art splendidly layered with cultural practices. As a depictive art form, cinema operates within a matrix that shifts between 'realism' and 'fantasy', 'art' and 'entertainment'. Consequently, cinema can significantly influence individuals' thoughts, actions, beliefs, and behaviours, broadening our understanding of the world we inhabit (Cloete, 2017). Thus, it becomes a vital cultural product in the process of meaning-making, which sociologists are keen to explore as a way to understand societal dynamics (Nascimento, 2019).

While cinema touches on various aspects of human life, it has historically been hesitant to discuss menstruation openly. Its portrayal of menstruation has often been marked by shame, with early films representing the topic symbolically rather than directly (Kay, 2017; Verma, 2020). Despite its status as a natural bodily process (Bhandre, 2019), menstruation has frequently been omitted from many women-centric films as well.

However, cinematic representations of menstruation that highlight the struggles and issues women face have begun to emerge, particularly in Malayalam cinema. Recent films in this industry demonstrate a growing awareness and sensitivity in addressing menstruation. Nonetheless, depicting menstruation and its associated issues remains challenging, as mainstream films often neglect the mere existence of menstruation. This ongoing lack of acknowledgement keeps menstruation out of the public eye, relegating it to a private matter that is considered unsuitable for the silver screen. Such disregard for menstruation undermines its significant role in women's lives and reinforces the age-old practice of silencing discussions about it in front of men, thereby making it problematic.

Menstruation encapsulates some of the most deeply entrenched taboos in Indian society and has long been enshrouded in shame and stigma, primarily due to patriarchal norms. Although this biological process is

fundamental to women's health, it is perceived as a marker of impurity, contributing to the marginalisation of women and reinforcing gender-based discrimination. Women, conditioned to view themselves as diminished in value during menstruation, have often been isolated within the private confines of their homes, hindered by the belief that their bodily functions render them vulnerable and impure.

The gradual evolution in the societal understanding of menstruation has been driven by the expansion of education and the proliferation of awareness campaigns that seek to challenge these traditional taboos. As menstruation becomes a topic of public discourse, it intersects with broader conversations surrounding gender identity, social realities, and women's rights. Increasingly, women are articulating their experiences, breaking the longstanding silence surrounding the subject.

As a potent cultural medium, cinema plays a critical role in shaping societal perceptions and reflecting social realities. It serves as a mirror to society, capturing the values, aspirations, and struggles faced by individuals across different contexts. Corrigan and White (2004) argue that film is a layered work of art, deeply embedded in cultural practices and oscillating between realism and fantasy. Cinema's ability to influence thoughts, behaviours and beliefs positions it as a critical tool for understanding and interpreting the world we inhabit (Cloete, 2017). Therefore, sociologists regard cinema as a significant cultural product that enriches the process of meaning-making within society (Nascimento, 2019).

Despite its far-reaching influence, cinema has traditionally been reticent in treating menstruation. Menstruation is often omitted or symbolically represented, particularly in mainstream cinema, where it is seldom depicted as a normal aspect of women's lives. Instead, it is often associated with shame. Early cinematic representations rarely addressed menstruation directly, usually framing it within disgust or secrecy. Even in women-centric films, menstruation is frequently conspicuous by its absence, reflecting the broader societal discomfort with the topic. However, in recent years, menstruation has emerged as a recurring theme in cinema, particularly in Malayalam films that explore its complexities and realities with greater nuance. These films portray menstruation as a natural process and illuminate the social struggles and challenges faced by menstruating women. By bringing menstruation into the public sphere, these films challenge longstanding cultural silence and contribute to a broader re-evaluation of gender norms and societal attitudes.

This study seeks to explore and analyse the representation of menstruation in contemporary Malayalam cinema, focusing on how these films reflect and challenge societal perceptions of menstruation. By examining the characterisation of menstruating women, this research aims to uncover the

evolving narratives surrounding menstruation and its impact on gender identity and social dynamics in India. By employing a sociological lens, the study will assess the role of cinema in shaping public discourse on menstruation and its potential to effect social change.

Red Dots and Stigmas

Menstruation, a natural and essential aspect of women's health, is unjustly burdened with various taboos. These taboos, deeply rooted in social, cultural, and religious contexts, often leave individuals feeling perplexed. The symbolic pollution associated with menstruation, a concept that retains power in a world governed by science, is a stark injustice (cf. Coronil, 1997; Goffman, 1963; Little, 2012; Miner, 1956; Moeran, 2014).

Alexandra Parnebjork, a Sexual and Reproductive Health Adviser for Plan International, states, "The stigma which surrounds menstruation, in high and low-income countries alike, both stems from and worsens gender inequality. It comes from a perception of girls as less worthy. And by exposing them to discrimination, much of it based on myths and poor education, over time these misconceptions can seriously erode girls' confidence and limit their life opportunities." Menstruation is a natural and healthy aspect of women's reproductive health. However, practices such as burying cloths used during the time of menstruation to ward off evil spirits force individuals to isolate themselves in darkness, experience loneliness and remain confined within spaces constructed not just from cement and steel but also shaped by the oppressive forces of patriarchy and systemic discrimination, continue to prevail.

Women and girls are marginalised and often instructed to abstain from everyday activities. While they may be told that they need to rest, the reality is one of exclusion. They are often prohibited from cooking, cleaning, or even touching or seeing certain items. In some regions, specially designated dishes are allocated for their consumption. Isolated behind closed doors, women silently endure the physical discomfort and emotional fluctuations associated with menstruation, effectively rendered anonymous within the family and household, not solely by men but also by women in similar contexts.

In Suriname, a country in South America, it is believed that menstrual blood is dangerous. There exists a prevalent belief that a woman can exert her will and wishes over a man using her menstrual blood. Surprisingly, similar beliefs and practices are found in some Asian countries also, including India.

Methodology

This study employs a qualitative research design to examine the representation of menstruation in Malayalam cinema. This approach is particularly well-suited for uncovering in-depth and focused narratives,

themes, and character portrayals related to menstruation. By utilising qualitative techniques, the study aims to provide a nuanced understanding of how menstruation, as a natural biological process, is depicted and perceived within the cinematic context of the Malayalam film industry.

Research Design

This research employs a systematic content analysis, focusing on a curated selection of Malayalam films in which menstruation is a significant theme or narrative element. Content analysis is a robust methodological approach for examining media portrayals of social issues, as it enables a systematic and objective examination of the content. Through this method, the study aims to identify and analyse patterns, themes, and representations of menstruation within the selected films.

Selection of Films

The films selected for this study have been meticulously chosen, taking into account their explicit focus on menstruation, their impact on audiences, and their cultural significance within the Malayalam film industry. These films offer a representative cross-section of Malayalam cinema, engaging with the subject of menstruation either as a central theme or an integral aspect of character development and narrative structure. Due to the limited number of Malayalam films that address menstruation directly, this study spans a broad timeframe from 1972 to 2023. This extended period is essential for capturing the meaningful evolution of the portrayal of menstruation within the industry. By encompassing films from several decades, the study facilitates a comparative analysis that traces the shifts in societal attitudes and cinematic representations of menstruation over time.

Data Analysis

The data analysis for this study employed a comprehensive thematic approach, beginning with Initial Coding, to systematically identify instances of menstruation in the selected films, encompassing direct references, visual cues, and symbolic representations. These initial codes were subsequently organised into broader themes during the Theme Development stage, including stigma, normalisation, resistance, empowerment, and societal change. In the Interpretation phase, these themes were analysed within a specific sociological framework to critically assess how they reflect or challenge prevailing societal attitudes toward menstruation.

Women on the Silver Screen: From the Typical to the Atypical

Malayalam cinema is known for its representation of contemporary social realities. Current political and social themes often influence its making, resulting in movies catering to dominant ideologies—political, cultural,

social, or financial. However, the filmmakers often choose a different approach in the portrayal of characters. Even though massive male heroes are in the lead, the female characters are typically shown as submissive. Women-oriented problems, their sexuality, and their physical and social issues are rarely addressed. In earlier Malayalam cinema, women lived under the shades of men, protected and guided by them. Strong and independent female characters were portrayed as antagonistic, often greedy or evil, while beauty defined the softer, more vulnerable female leads.

However, cinema underwent a significant shift as society and technology progressed. Rather than giving room for the existing large-scale themes of politics, the elite class culture, and conflict between the rich and poor, roles were written for live characters modelled directly from society and irrespective of gender. From the superstar cult culture, narrations of contemporary real-life stories and incidents concerning livelihood and human spaces started to be portrayed as themes which are normalised norms of society. It started bringing up, discussing and criticising subjects like masculinity, patriarchy and sexuality. This transition in cinema, also called the new generation of cinema, came about in 2010. Contemporary Malayalam Cinema has tried to explore menstruation in its every aspect. Introducing and placing different characters that represent women who menstruate in Malayalam cinema creates a new thought in the audience by making them think and analyse. Menstruation is viewed as a natural biological process in a woman's life. Rather than symbolically representing it like in earlier times, it is portrayed directly and as real as it is.

The 1972 film *Chempurathi*, directed by P. N. Menon, includes scenes that explain the female lead Santha's (played by Roja Ramani) puberty ceremony, known as 'Tirandukalyanam.' The scenes represent the imagery of how a teenage girl's first menstruation is celebrated in a household. Even though the family is poor and unable to afford much of the ceremony, they still elaboratively celebrate her menarche. Her emotions—such as joy, confusion, happy tears, and excitement—are portrayed very realistically. Adoor Bhavani, who plays Santha's mother, gives her daughter clothes and other necessary items as she enters her first menstrual cycle. The mother also prepares her daughter by brushing her hair and applying kohl to her eyes. Additionally, she takes out a small package containing a piece of jewellery she saved for her daughter. While the process is depicted very realistically, other shots suggest the idea of encouraging women to embrace their womanhood through established standards of beauty and societal expectations.

N. Sankaran Nair's *Thulavarsham* (1976) revolves around the life of Ammini, played by Sridevi, and portrays the onset of menstruation with a realism that distinguishes it from treatments of the topic both in its era and

contemporary times. The scene in which Sridevi shockingly discovers blood stains on her skirt captures her initial fear and confusion, which is soon met by her friend's blushing laughter. The conversation between these two friends powerfully conveys that menstruation is a natural biological process beyond human control. Ammini's mother, played by Kaviyoor Ponnammamma, reacts with genuine happiness upon learning about her daughter's experience. She reassures her not to be upset, using the euphemism 'Kutty vayas ariyichu' to inform others. The film also depicts various ceremonies associated with menstruation, such as making Ammini sit before a lit lamp for four days, restricting male presence, and taking her to a pond for ritual purification, while the representation of how Hindu families celebrate 'Thirandukalyanam' is particularly noteworthy. Furthermore, Ammini is advised to relinquish her childhood antics, adopt a more mature demeanour, and exercise caution in her interactions with the opposite sex, reflecting real-life scenarios during this pivotal phase. The film beautifully illustrates the onset of menstruation and its impact on adolescent experiences, including infatuations, relationships, and sexual maturity. Additionally, it subtly addresses implicit ideas regarding the silencing and concealment of menstruation, the regulation of interactions with men, and warnings about sexual maturity, relationship dynamics, and character changes typically associated with menstruation and hormonal fluctuations. Unlike many other Malayalam films, Thulavarsham highlights menstruation rites right from the outset. Ultimately, this film indicates the major events and drastic changes that occur in a girl's life during and after the onset of menstruation. However, it does not explicitly centre on menstruation; it effectively portrays the struggles and societal norms that shape and condition a woman's life.

Rathinirvedam (1978), directed by Bharathan, portrays a teenage girl experiencing menarche while riding a bicycle. Upon noticing blood stains on the cycle, she realises that she has begun menstruating. This scenario contrasts sharply with the scenes depicted in the earlier film Chemparathy. In Rathinirvedam, when the girl becomes aware of her menstruation, it is symbolically represented through blooming flowers. The film aims to explore the various aspects of human sexuality, and by using blooming flowers on screen, it illustrates how menstruation serves as a connecting element to the girl's sexual maturity. In contrast, Chemparathy directly presents the realities of menstruation and the associated ceremonies, offering a more straightforward depiction.

K.G. George's film Aadaminte Vaariyellu, released in 1983, is regarded as a seminal work that resonated with Malayali audiences for its foresight. This groundbreaking cinema focuses on the narratives of three female protagonists, portrayed by Sreevidya, Soorya, and Suhasini. George has consistently crafted strong female characters who are multifaceted, powerful, and complex. The female leads in his films frequently navigate

intricate crises and make consequential decisions. The film provides a realistic visual representation of menstruation, notably through a scene that depicts menarche. Rather than resorting to symbolic implications, the film presents the actual experiences faced by women. K.G. George's audacious approach to portraying reality and the complexities of everyday life on screen is commendable. The sparse employment of unrealistic conventions to depict natural processes and the emotions of human beings, particularly those of women, distinguishes this film. The portrayal of the character's menstrual days is executed with a notable degree of realism.

On the contrary, 'Pavithram', released in 1994 and directed by T.K. Rajeev Kumar, portrays menstruation through symbolic representations. The film primarily addresses the sensitive topic of geriatric pregnancy, which Rajeev Kumar captures beautifully in all its nuances. Concurrently, the character Meenakshi, played by Vindhuja Menon, experiences puberty. The process of her first menstruation is depicted solely through various symbols, including broken bangles and glass shards, smears of red 'chanthupottu' on her white cloth, and mood fluctuations from happiness to fear, shyness, anxiety, and pain. Through its characters, the film elucidates the typical advice family members offer to girls upon attaining menarche. Meenakshi's character undergoes a significant transition following her first menstruation, evolving from a traditionally dressed village girl to one who gradually adopts Western outfits, music, and friendships. This transformation reflects the hormonal changes and experiences that a teenage girl undergoes during puberty and is portrayed effectively in the film. The duality chosen by the director to address such a sensitive topic as advanced-age pregnancy stands as one of the pivotal themes of the movie while presenting menstruation symbolically through shots that convey the emotions and circumstances the girl encounters.

Depiction of Menstruation in Malayalam Cinema: A Historical Analysis

The depiction of menstruation in Malayalam films from the 20th century reflects broader sociocultural perspectives on this natural biological process, capturing the societal standards, restrictions, and transformations women experienced during that era. An analysis of films such as Chemparathy (1972), Thulavarsham (1976), Rathinirvedam (1978), Aadaminte Vaariyellu (1983), and Pavithram (1994) reveals a progression in the portrayal of menstruation, highlighting evolving societal norms, gender expectations, and growing awareness.

In the early films Chemparathy (1972) and Thulavarsham (1976), menstruation is depicted through a ceremonial and traditional lens, reflecting the cultural customs prevalent at the time. These films portray menstruation as a blend of personal and communal experiences, underscored by practices that reinforce conventional gender roles. For instance, Chemparathy presents menstruation through coming-of-age

rituals, while Thulavarsham authentically depicts a girl's first menstruation, emphasising the emotional and societal pressures associated with this transition.

These portrayals stress the societal expectations for women to embrace their roles as prospective mothers and homemakers. Despite this, the films subtly critique these expectations by highlighting the emotional distress and anxiety surrounding menstruation, which was viewed as a rite of passage into societal norms rather than a natural biological event. In Rathinirvedam (1978), menstruation is metaphorically linked to sexual awakening and maturation, represented through symbols such as blossoming flowers. This symbolic approach reflects the era's discomfort with direct discussions of menstruation, opting instead for metaphorical imagery to signify the transition from childhood to adulthood.

K. G. George's film *Aadaminte Vaariyellu* (1983) marks a significant shift in the representation of menstruation in Malayalam cinema. The film's explicit and realistic portrayal of menstruation, devoid of symbolic embellishments, was groundbreaking for its time. By presenting menstruation as a tangible aspect of women's experiences, the film challenges traditional norms and highlights the oppressive societal expectations placed on women. This film indicates a growing willingness to confront the realities of women's lives and suggests a gradual shift towards recognising women's autonomy and addressing their issues more openly.

By the mid-1990s, Pavithram (1994) continued to employ symbolic representations of menstruation, such as broken bangles and red stains, to signify the onset of puberty. However, this symbolic portrayal was accompanied by a more nuanced depiction of a girl's transition into adolescence, capturing the ambivalent emotions of fear, shame, and curiosity that accompany menstruation. This reflects a persistent societal discomfort with openly discussing menstruation despite a slow shift towards greater openness.

Collectively, these films illustrate the sociological transition in Malayalam cinema from the 1970s to the 1990s regarding the portrayal of menstruation. Early films reflect a profoundly traditional society where menstruation was ritualised and symbolically tied to a girl's entry into womanhood, reinforcing gendered expectations and social conditioning. As the century progressed, a notable shift towards more realistic and open portrayals, exemplified by *Aadaminte Vaariyellu*, mirrors broader societal changes in Kerala, influenced by increased education, feminist movements, and the gradual relaxation of patriarchal norms. Although menstruation continued to be depicted symbolically in films like Pavithram, there was a growing acknowledgement of the need to address the complexities of womanhood more openly.

Overall, the evolving depiction of menstruation in Malayalam cinema provides insight into Kerala's changing cultural and social dynamics. The transition from symbolic to more realistic portrayals reflects broader societal shifts in gender roles, women's autonomy, and the normalisation of menstruation as a natural aspect of life. This analysis underscores cinema's role as both a reflection of societal values and a catalyst for social change, contributing to the ongoing discourse on gender and bodily autonomy.

Contemporary Depictions of Menstruation in twenty-first Century Malayalam Cinema

The transitions of a teenage girl hitting puberty are well depicted in the 2010 film 'Mummy & Me'. Director Jeethu Joseph has crafted a narrative showcasing how Jewel Joseph, the character played by Archana Kavi, evolves from a clingy child into an arrogant teenager in the wake of her menarche. This transformation illustrates the influence of hormonal changes during adolescence on young women. However, the depiction leans towards framing these changes as personality defects rather than acknowledging the natural progression associated with menstruation. Consequently, the experience of menstruation is silenced, being considered neither a humanising change nor a normal facet of a girl's life.

The beginning of the twenty-first century heralded the rise of trio friendships and adolescent confusions in Malayalam cinema. The 2006 film 'Notebook', directed by Roshan Andrews, introduced menstruation as a key narrative element, thus making it a prominent aspect of the silver screen. The film revolves around three close friends—Pooja (Parvathi), Sreedevi (Maria), and Saira (Roma). Sreedevi, a sensitive and kind Brahmin girl, experiences her menstruation during a chemistry practical. In a moment of crisis, her classmates ask a male peer, Sooraj (played by Skanda), to purchase sanitary napkins, addressing the situation albeit indirectly. While the film attempts to normalise menstruation, it simultaneously reinforces associated stigma by employing euphemisms and avoiding direct discussion. Sreedevi is characterised as shy and introverted, conveying her internalised beliefs surrounding menstrual taboos. Additionally, the film sidesteps critical discussions regarding premarital sex, the normalisation of sexual intimacy, and the necessity of sex education in schools. Nevertheless, it does reflect on the dynamics of female friendships and the bonds formed through mutual affection and attention.

In the context of deep-rooted sexism and misogyny, the 2007 film *Chocolate*, directed by Shafi, offers no reprieve. The narrative revolves around Shyam Balagopal (played by Prithviraj), the only male student in a women's college studying for his master's. A notable scene depicts a girl passing a package wrapped in newspaper across the classroom; Shyam assumes it is bread and opens it, only to discover it contains sanitary pads.

His embarrassment, followed by laughter from the class, underscores societal misconceptions around menstruation, exposing the underlying patriarchy and sexism that permeate the portrayal of women's hygiene and products. This scene perpetuates the notion that sanitary napkins are objects of shame, deserving mockery and concealment. Tragically, male ignorance and aversion towards menstrual products are presented as acceptable humour.

Kanakam Kamini Kalaham, a 2021 satirical film by Ratheesh Balakrishnan Poduval, effectively portrays menstrual challenges in a professional environment. Vincy Alosious plays Shalini, a receptionist confronted by Haripriya (Grace Antony) amidst suspicions of theft in their hotel. Haripriya notices a sanitary napkin cover in Shalini's bag, leading to an empathetic response from her. This scene highlights the exhaustion, pain, and emotional turmoil women often endure during menstruation, illustrating society's neglect regarding PMS (Premenstrual Syndrome) and associated mood swings. The implications of stigma surrounding open conversations on menstruation emerge, along with the difficulties faced by working women who must navigate their menstrual cycles without consideration in the workplace.

Asanghadithar, a film by Kunjila Mascillamani included in the anthology 'Freedom Fight' released in 2022, offers a captivating narrative centred around the struggles of saleswomen on Kozhikode's SM Street in accessing toilet facilities. With a documentary approach, Kunjila captures the plight of women who must rely on a local restaurant for restroom access. The lead character, Srindaa, delivers a compelling performance, portraying her advocating for toilet access from her boss while resorting to collecting urine in a bottle. As the situation deteriorates, women from nearby shops unite to demand basic facilities. The film candidly portrays their fears, frustrations, and determination, shedding light on a pressing issue that continues to afflict many.

A powerful exploration of entrenched patriarchy is presented in Jeo Baby's 'The Great Indian Kitchen' (2021), which starkly depicts the raw realities of Malayali households. Suraj Venjaramoodu portrays a sociology teacher who teaches about societal structures yet embodies a toxic patriarchal attitude at home. Nimisha Sajayan's character, constrained by patriarchal norms, ultimately defies societal expectations, depicting her journey toward liberation. The film poignantly exposes the stigma surrounding menstruation, featuring a scene in which Nimisha asks her husband to procure sanitary napkins during her menstrual cycle, an act perceived by him as a grave insult due to his deeply ingrained beliefs.

'The Great Indian Kitchen' also addresses the Sabarimala controversy, where menstruating women are barred from temple entry. Jeo Baby effectively highlights how menstruation is perceived as impure even

within the intimate confines of one's home, reflecting the ongoing implications of such views in twenty-first-century society. The film critiques the structures that perpetuate these beliefs, revealing the mental anguish menstruating women endure.

Conversely, films such as 'Kakshi: Ammini Pillai' (2019), directed by Dinjith Ayyathan, and 'Journey of Love 18+' (2023), directed by Arun D. Jose, provide alternative perspectives but perpetuate the stigma surrounding menstruation. 'Kakshi: Ammini Pillai' presents a scene in which Ahmed Sidhique's character, Sajith Kumar, experiences shame and disgust when he realises he must purchase tablets to delay menstruation during a family pilgrimage—further reflecting societal misconceptions that regard menstruation as a secretive matter unworthy of open discussion. In 'Love 18+', the female protagonist mentions her period as a reason she cannot marry, and a male character suggests pills to delay it, reinforcing outdated beliefs.

'Oh, My Darling' (2023), directed by Alfred Samuel, explores the relationship dynamics between Jenny and Joel, featuring Jenny grappling with Mayer-Rokitansky-Küster-Hauser (MRKH) syndrome, a condition affecting the female reproductive system. The film showcases Jenny's emotional distress upon realising her inability to menstruate, illustrated in scenes contrasting her experience with that of her twin sister, Jasmine, whose menstruation elicits happiness in their mother. Jenny's struggle with societal expectations and envy towards her sister culminates in poignant moments. Still, overall, the film treats menstruation with sensitivity, embracing the reality of Jenny's condition without leaping into stigma or shame.

'Nayattu' (2021), directed by Martin Prakkat, marks a notable shift in societal narratives. In an emergency, Praveen Michael (Kunchako Boban) discreetly asks his colleague Sunitha (Nimisha Sajayan) if she requires anything, implicitly suggesting the acknowledgement of her menstrual needs. The subsequent shot of him purchasing sanitary napkins indicates a transformation in male attitudes towards menstruation, suggesting a progressive understanding beyond the barriers of stigma, shame, and disgust.

In summary, in the twenty-first century, Malayalam cinema has significantly evolved its portrayal of menstruation, transitioning from symbolic and stigmatised representations to more direct and realistic depictions. This shift is exemplified in films such as 'Mummy & Me' (2010) and 'Notebook' (2006), which incorporate menstruation into the core narratives. While 'Mummy & Me' explores the psychological and hormonal changes experienced by a teenage girl, it often frames these transformations as defects rather than typical aspects of adolescence, indicating a limited normalisation of menstruation. In contrast, 'Notebook'

attempts to address menstruation within a school context yet continues to rely on euphemisms, highlighting the need for open discussions and improved sex education.

Films like 'Oh My Darling' (2023) delve into the emotional aspects of a young girl with MRKH syndrome and reflect societal pressures surrounding reproductive health while presenting a more nuanced perspective on menstruation as a natural process. Conversely, certain films, including 'Chocolate' (2007) and 'Kanakam Kamini Kalaham' (2021), perpetuate societal stigmas associated with menstruation. The former trivialises menstruation through embarrassment, while the latter underscores the minimisation of women's health issues, particularly in professional contexts, despite acknowledging the challenges women face,

The evolving narrative surrounding menstruation can also be seen in films such as 'Asanghadithar' (2022), 'Nayattu' (2021), 'Kakshi: Ammini Pillai' (2019), and 'Journey of Love 18+' (2023). The acknowledgement of male characters purchasing sanitary products signifies a shift toward empathetic portrayals of menstruation. Nonetheless, films like 'Kakshi: Ammini Pillai' and 'Journey of Love 18+' highlight the persistence of stigma, indicating that while progress has been made, the journey toward the complete normalisation of menstruation in Malayalam cinema and society remains ongoing.

Discussions

The researchers have analysed various Malayalam films and their treatment of menstruation, concluding that the concept of menstruation is often treated with ambivalence and indifference. It is frequently concealed, underrepresented, or omitted in most of these films. While certain films have attempted to address the topic of menstruation, the screen time allocated to this subject is generally minimal and often characterised by a degree of immaturity in its treatment. Major reasons for such omissions may include the perpetuation of age-old taboos and stigmas associated with societal constructs surrounding menstruation. Although many films aim to normalise menstruation, it is frequently either omitted, concealed, or mocked within the narratives. Consequently, acknowledging or accepting menstrual representation in films is complex.

Sabu (2020) also supports this notion in her paper, which asserts that Malayalam cinema propagates the idea that a woman's body should be represented as not menstruating. This perspective is similarly evident in various sanitary pad commercials that encourage women to conceal the markers of menstruation. Menstruation is frequently depicted as a threat that should be controlled, kept secret, and excluded from public discourse.

Male scriptwriters wrote the majority of the films analysed for this paper. This male perspective may explain why menstruation is depicted through

a lens that lacks many authentic female experiences associated with it.

Menstruation is dealt with considerable curiosity in Malayalam cinema. While Malayalam films are often regarded as path-breaking, innovative, and inspiring, their treatment of menstruation frequently lacks realistic or positive portrayal. There are several symbolic associations connected to the representation of menstruation. Films such as 'Rathinirvedam', 'Thulabhaaram', 'Chembarathi', and 'Aadaminte Vaariyellu' depict menstruation in a straightforward manner. They illustrate the 'Thirandukalyanam' ceremony, the transition from childhood to adolescence, behavioural changes, and sexual development in a normalised way.

In these films, whenever menstruation is discussed, euphemisms such as "therandu" and "vayas ariyichu" are employed, suggesting that a woman is ready to accept a man as her sexual partner. Such discussions often highlight the reproductive aspects of women in the storyline, with little effort made to challenge stereotypes and address the problematic issues surrounding this subject. The films provide scant attention to identifying or nullifying the challenges women face regarding menstruation, and there are few active conversations aimed at breaking the stigma that surrounds it.

Early twentieth-century films typically considered menstruation a private matter. It was celebrated within the family prior to a girl's sexual advancement, yet also imbued with the notion of impurity. This represented menstruation as a subject unsuitable for public discourse. In 'Rathinirvedam', menstruation is symbolically represented through the imagery of a blossoming flower. Such a lack of acknowledgement in these films may lead women in society to live as if menstruation does not exist in their lives, perpetuating the taboos surrounding it. As cinema reflects society, it serves as an indicator of reinforcing age-old beliefs that silence 'menstruation' as a topic only pertinent to women.

As time progressed, shifts in Malayalam cinema's approach to depicting menstruation became evident. The threshold and impact of films on societal norms are significant. Audience celebrations of actors create a tendency to idolise characters, which shapes principles, attitudes, norms, and opinions in society. However, when it comes to menstruation, cinematic portrayals primarily evoke silence, stigma, shame, and concealment, contributing to the prevailing notion that menstruation should be a source of shame. Various research articles indicate that society generally prefers menstruation to be concealed. Thus, films that project the idea that menstruation should be hidden further entrench this belief among individuals, fostering a cycle of ideology. Conversely, cinema should serve as a medium to promote active discussions regarding menstrual health, education, awareness, hygiene, and self-care practices. Such dialogue can help transform the popular culture surrounding

menstruation that perpetuates stigma and taboos.

In the current landscape of Malayalam cinema, many early twentieth-century films depicted menstruation in a more natural manner while simultaneously promoting the idea that it is a private aspect of womanhood, integral to a girl's transition from childhood. However, these films could have addressed health, hygiene, and educational aspects surrounding menstruation. Nevertheless, they offered a realistic representation of menstruation as a regular part of life. As time progressed, more symbolic representations emerged around menstruation, including motifs such as red flowers, blossoming flowers, giggles, blushing, confusion, and feelings of shame and dilemma, which can be seen in films like 'Notebook'.

Films such as 'Chocolate' and 'Mummy & Me' offer minimal representation of menstruation but inadvertently endorse the notion that it should be hidden from the male audience. These films depict the transition from childhood to adolescence concerning menarche. This pattern may stem from the prevalence of male-perspective scripts. As a result, menstruation risks being trivialised or mocked. Newton (2016) argued that jokes centred around menstruation signal there should be no relevance given to its normalisation, thereby perpetuating male ignorance regarding menstruation. Such jokes may convey a message that regards a biological process as inconsequential and suitable for ridicule. Notably, contemporary films like Notebook illustrate how women can provide compassion for fellow women experiencing menstruation. While Malayalam cinema often overlooks a nuanced understanding of menstruation, some films strive to depict female bonds and the ways women empathise with and care for one another. However, this portrayal often reinforces menstruation as a women's issue, enabling men to disengage from its significance and trivialise the subject.

As Malayalam cinema has evolved, films such as 'Great Indian Kitchen' (2021) and 'Asanghadithar' (2022) have increasingly emphasised the urgent need to accurately and sensitively address menstruation and women's hygiene. These films focus on dismantling stereotypes and challenging the stigma surrounding menstruation, aiming to shift societal perceptions and eradicate age-old notions that view menstruation as impure. By portraying menstruation as a normal biological process, these films bridge the gap between traditional societal attitudes and a more informed understanding of menstrual health. Despite these advancements, the representation of menstruation in Malayalam cinema remains limited, even within the progressive or women-centric films of the new generation. While some films have attempted to address menstruation, few have treated it with the necessary concern, acceptance, and positivity required for its full normalisation.

The depiction of menstruation in Malayalam cinema has undergone considerable changes from the twentieth to the twenty-first century, mirroring broader societal transformations. In the twentieth century, films such as 'Chembarathi' (1972), 'Thulavarsham' (1976), and 'Rathinirvedam' (1978) employed symbolic imagery and ritualistic representations of menstruation. These films often reinforced traditional norms and stigmas associated with womanhood, portraying menstruation as a rite of passage necessitating adherence to cultural rituals and standards of beauty.

In contrast, twenty-first-century films like 'Mummy & Me' (2010), 'Notebook' (2006), and 'Nayattu' (2021) have adopted a more direct and realistic approach. These films address menstruation's psychological, emotional, and social impacts while challenging the persistent stigma. This shift from symbolic representations to more explicit portrayals reflects a gradual movement towards normalising menstruation and questioning entrenched patriarchal attitudes.

Nevertheless, despite the progress made, elements of shame and secrecy surrounding menstruation continue to persist in some cinematic portrayals. This indicates that while significant strides have been taken, further efforts are necessary to normalise menstruation in both film and broader societal contexts fully.

Conclusion

The absence of menstruation in earlier Malayalam cinema and its unparalleled presence in the spotlight of contemporary Malayalam cinema is striking. Historically, Indian cinema has largely neglected the subject of menstruation, which has seldom been considered a topic for discussion on the silver screen. Throughout cinema's history, menstruation was rarely addressed and, when mentioned, was often surrounded by stigmas and taboos. It was typically associated with shame, disgust, fear, or deemed something that should be concealed. This pattern persists even in female-centric films that promote feminist, activist, or revolutionary storytelling. The scenario in Malayalam cinema is no different, particularly in its earlier iterations. However, there are exceptions. Researchers note significant omissions of menstruation in Malayalam cinema, which have influenced societal perceptions and perpetuated the stigma surrounding it in Kerala. This has adversely impacted women's and girls' freedom to discuss menstruation and access menstrual hygiene products for generations openly.

Nevertheless, due to various interventions and the heavy influence of modernity and feminist ideologies, there has been an evolution in the filmmaking landscape. Contemporary Malayalam cinema acknowledges women's issues and experiences from a fresh perspective. It endeavours to portray the changing roles of women in the social context, reflecting the actual transformations occurring in society. This article examines the

reasons behind the historical omission of menstruation in Malayalam cinema and how recent films have begun to address this gap, offering proper narratives regarding menstruation and providing it with significant screen time. Rather than focusing solely on unrealistic, symbolic, and problematic representations of menstruation, the article also explores the tangible aspects of this natural process.

The interplay of menstruation depictions in cinema is critical, as film serves as a widely accessible medium with the potential to eliminate the negative cultural taboos associated with menstruation (Yagnik, 2012). Late Malayalam cinema plays a pivotal role in presenting an authentic portrayal of menstruation on the silver screen, working to dismantle problematic ideas surrounding it. This paper conducts a thematic analysis of Malayalam films that have discussed, portrayed, and depicted menstruation, involving the selection of significant films, research designs, and analytical techniques. By employing a qualitative study approach primarily based on content analysis, this research involved carefully selecting and examining various Malayalam films to identify instances of menstruation representation.

The analysis facilitated understanding cultural implications and community perspectives related to menstruation as represented in Malayalam cinema. However, it is important to acknowledge the limitations of this study, including the subjective interpretative nature of the data. Furthermore, given the extensive array of movies produced in the industry over the years, the researchers faced challenges in selecting and making the films accessible.

Menstruation is a natural bodily process; however, in Indian contexts, including Kerala, it is frequently linked with notions of impurity and pollution. As a mass medium with extensive reach and influence, cinema can significantly contribute to changing erroneous perspectives associated with menstruation. Malayalam cinema is presently on a progressive trajectory, poised to play a notable role in shaping societal attitudes and beliefs regarding various aspects of human life and the surrounding environment. While addressing menstruation, cinema possesses the capacity either to reinforce stigmas and taboos or, conversely, to challenge them. This paper concludes that there exists an apparent demand for more films that address and explore the concept of menstruation in twenty-first-century Malayalam cinema.

This consideration is vital, as it is through representation that we can contest the stigmas and taboos associated with menstruation. Understanding menstruation as a natural bodily function—neither impure nor polluted—can potentially lead to the representation of such topics as central narratives that resonate with larger audiences, fostering significant impact. If cinema succeeds in accurately representing menstruation, it can

help eliminate the marginalisation experienced by women and girls within society. The researchers have emphasised how Malayalam cinema can contribute to changing the negative connotations surrounding menstruation by authentically portraying it on the silver screen.

As noted, the omission of menstruation in films creates gaps in knowledge and understanding of menstrual practices, which in turn normalises them. The menstrual taboos perpetuated by media, particularly cinema, can solidify into cultural norms, profoundly affecting women's psychological and physical well-being. Failure to depict menstruation meaningfully can lead to the accumulation of misinterpretations that reinforce existing stigmas and taboos in societal mindsets. It is paramount that scriptwriters ensure that women's experiences are not overlooked in any form.

Mulvey (1975) posits that an asymmetry in gender power exists, wherein patriarchal discourse shapes societal narratives, leading to misrepresentations of menstruation in cinema. This dynamic reflects the broader societal context. As discussed, menstruation has frequently been reduced to a mere marker of women's sexual availability and reproductive capacity, regarded as a phenomenon that does not concern men (Sabu, 2020).

Reviewing the history of Malayalam cinema, it is evident that menstruation has been primarily represented through symbolic and unrealistic portrayals rather than through authentic narratives. However, contemporary Malayalam films strive to foster a positive outlook on menstruation by attempting to break the silence around the questions and aspects associated with menstrual dynamics in society.

Currently, female directors, scriptwriters, and technicians are more visible within the Malayalam film industry. These favourable conditions have prompted recognition of the variety and diversity of women's menstrual experiences, fostering optimism that such experiences will be more accurately depicted on screen in the future. Over time, cinema is likely to transform, promoting inclusive narratives that resonate with broader audiences.

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Granger Causality Analysis: Investigating Interdependencies in Stock Prices of Tyre

Adarsh *

Abstract: The Granger causality test is a statistical hypothesis test that studies if one time series may forecast another. Understanding the causal links among financial variables is critical. The Granger causation Test, a commonly used econometric technique, offers valuable information about the direction and intensity of causation between variables. This research is intended to investigate the Granger causality relationships among the stock prices of Apollo Tyres Limited, MRF Limited, and CEAT Limited. Weekly share prices of Apollo Tyres Limited, MRF Limited, and CEAT Limited for the period from 01-01-2020 to 22-03-2024 were collected and analysed. The conclusion is that there is evidence of causal links between CEAT Limited, MRF Limited and Apollo Tyres Limited, but the data do not support reverse causal relationships.

Keywords: Granger Causality Test, Financial Market, Stock price, Forecast, Causal Relationship.

Apollo Tyres Limited, MRF Limited, and CEAT Limited are all major participants in the Indian automobile sector, with a strong presence in their respective markets. Apollo Tyres Limited, located in India, has established itself as a global leader in the production of tyres for a wide range of vehicles, consisting of passenger automobiles and commercial trucks. Similarly, MRF Limited, an Indian corporation, has a large presence in the tyre manufacturing industry, known for its high-quality products and extensive distribution network. CEAT Limited, another major player in the Indian industry, manufactures tyres for a variety of vehicle applications and serves both the domestic and foreign markets. With their robust operations, innovative technologies, and enduring reputations, these companies hold sway over the dynamics of the Indian automotive industry, making them prime subjects for analysis in financial research.

Importance of Causality Analysis:

The Granger causality test is a statistical hypothesis test that analyses if one

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time series may forecast another. Granger causality is a concept in econometrics that investigates causal relationships between variables in time series data. The test is often run on two-time series data sets. It seeks to answer whether the past values of one variable provide substantial data in forecasting the future values of another variable beyond what can be anticipated using only the past values of the second variable. Understanding the causal links among financial variables is critical. The Granger causation Test, a commonly used econometric technique, provides valuable information about the direction and intensity of causation between variables. In financial markets, where various factors influence asset values, identifying causality linkages can help predict market movements, develop investment strategies, and evaluate systemic concerns. Granger causality analysis allows researchers to disentangle the deep interdependencies between assets, offering information on the fundamental mechanisms that drive market dynamics.

Need and Significance of the Study

The Granger causality test is used to study the share prices of companies such as Apollo Tyres Limited, MRF Limited, and CEAT Limited to understand the factors that cause stock price variations. Using this test, analysts can determine whether certain variables, such as economic indicators, financial measures, or industry-specific characteristics, have a causal link with changes in share prices. This study is critical for investors making informed decisions about their investment portfolios because it provides insights into the underlying processes influencing stock price movements. Furthermore, detecting major Granger-causal linkages enables the construction of more accurate predictive models, which let investors forecast future price changes and adjust their investing strategy accordingly.

Furthermore, the knowledge of the Granger-causal linkages involving these companies' share prices provides significant insights into market forces that affect their businesses. This understanding can help companies tailor their plans to increase shareholder value and reduce potential hazards. Moreover, this research enables proactive decision-making in capital allocation, corporate finance, and investor relations efforts. Finally, using the Granger causality test in the context of share prices allows both investors and corporate management to make more informed and strategic decisions, thereby improving financial performance and shareholder returns. These practical implications make this research highly relevant to professionals in the financial markets and econometrics field.

Review of Related Literature

Various analytical research studies have been undertaken on the dynamic connections between stock prices and macroeconomic variables in several locations using a variety of approaches. Ibrahim (1999) investigated

Malaysia's stock market, discovering informational inefficiencies in consumer pricing, official reserves, and credit aggregates. Habibullah and Baharamshah (2000) tested the link between stock prices and five macroeconomic variables in Malaysia, employing the Toda and Yamamoto (1995) test to find stock prices as leading indicators of national income, price levels, and exchange rates. They also discovered that the money supply and interest rates drove stock values. Maysami and Sims (2001a, 2001b, and 2002) extended their research to Hong Kong, Singapore, Malaysia, and Thailand, employing Error-Correction Modelling. Their findings corroborated the influence of macroeconomic variables on stock market indices in each country; however, the form and degree of these relationships differed depending on the country's financial structure. Islam (2003) reproduced these findings in Malaysia, looking at the short-run dynamic change and long-run equilibrium correlations between macroeconomic variables and the Malaysian Stock Exchange Composite Index. Tachiwou (2010) switched the focus to how stock market development affects growth in the West African Monetary Union. Using time series data from 1995 to 2006 and an Error-Correction Model, Tachiwou discovered that stock market expansion had a favourable short- and long-term impact on economic growth. These studies provide substantial contributions to understanding the complex links between stock markets and macroeconomic variables across locations and time periods. They emphasise the necessity of taking into account both short-run dynamics and long-run equilibrium relationships when analysing the interaction of stock prices and macroeconomic factors, along with the impact of financial market development on economic growth in various settings.

Objective of the Study

The primary objective of this research is to examine the Granger causality relationships among the stock prices of Apollo Tyres Limited, MRF Limited, and CEAT Limited.

Hypothesis of the Study

There is no Granger causality relationship between the stock prices of Apollo Tyres Limited, MRF Limited, and CEAT Limited.

Literature Review

Prior research on Granger causality analysis in financial markets has yielded valuable insights into the causal relationships among various assets. Studies by [Author1] and [Author2] have explored similar relationships between stock prices or financial variables, demonstrating the applicability of Granger causality analysis in predicting market trends and identifying investment opportunities. However, there remains a dearth of literature specifically examining the causal relationships among the

stock prices of Apollo Tyres Limited, MRF Limited, and CEAT Limited, warranting further investigation in this domain.

Research Methodology

The analytical study is based on weekly secondary data relating to Apollo Tyres Limited, MRF Limited, and CEAT Limited for the period ranging from 01-01-2020 to 22-03-2024. Augmented Dickey-Fuller test, Vector Auto Regression Estimates, VAR Lag Order Selection Criteria and Pairwise Granger Causality Tests were used. The data source is Yahoo Finance.

Result and Discussion

The results of the Augmented Dickey-Fuller (ADF) test show that the null hypothesis of each company's stock price series has a unit root is rejected, as indicated by the significant test statistics and comparison to the crucial values at the 1% level (P values are lower than 1%). This rejection implies that the stock price series for Apollo Tyres Limited, MRF Limited, and CEAT Limited are stationary after differencing, meaning there is no long-term trend.

Table 1. Augmented Dickey-Fuller test -D (Apollo Tyres Limited), D (MRF Limited), D (CEAT Limited)

Null Hypothesis: D(Apollo Tyres Limited) has a unit root			
Exogenous: Constant			
Lag Length: 0 (Automatic - based on SIC, maxlag=14)			
Augmented Dickey-Fuller test statistic		t-Statistic	Prob.*
		-15.19711	0.0000
Test critical values:	1% level	-3.460035	Significant
	5% level	-2.874495	
	10% level	-2.573751	
Null Hypothesis: D(MRF Limited) has a unit root			
Exogenous: Constant			
Lag Length: 0 (Automatic - based on SIC, maxlag=14)			
Augmented Dickey-Fuller test statistic		t-Statistic	Prob.*
		-8.665857	0.0000
Test critical values:	1% level	-3.460035	Significant
	5% level	-2.874495	
	10% level	-2.573751	
Null Hypothesis: D(CEAT Limited) has a unit root			
Exogenous: Constant			
Lag Length: 0 (Automatic - based on SIC, maxlag=14)			
Augmented Dickey-Fuller test statistic		t-Statistic	Prob.*
		-15.19711	0.0000
Test critical values:	1% level	-3.460035	Significant
	5% level	-2.874495	
	10% level	-2.573751	

Source: Computed from yahooofinance.com

**Figure 1. Stationarity-Graph- D (Apollo Tyres Limited),
D (MRF Limited), D (CEAT Limited)**

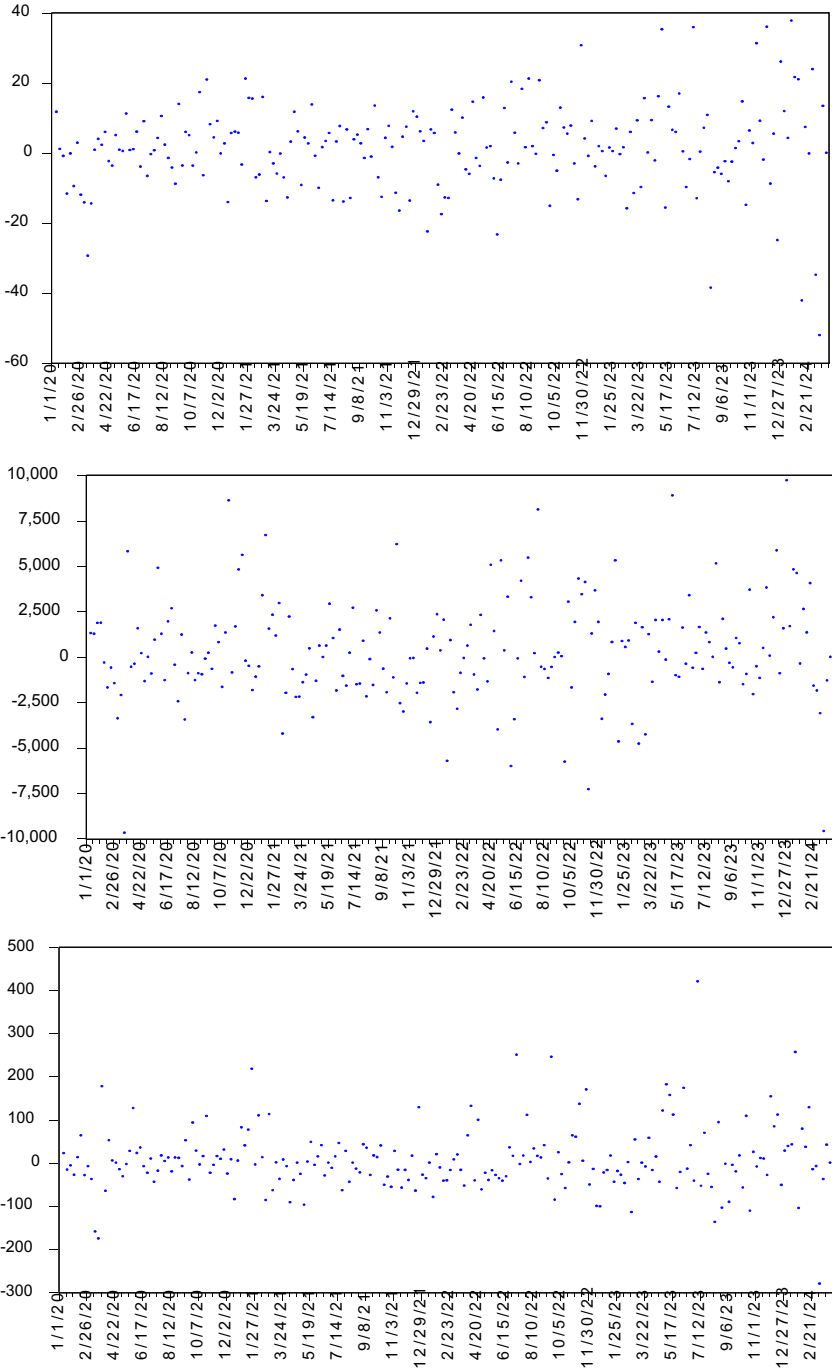


Table 2. Vector Auto regression Estimates -D (Apollo Tyres Limited), D (CEAT Limited), D (MRF Limited)

Share price-First difference	Apollo Tyres Limited 1	CEAT Limited 1	MRF Limited 1
Apollo Tyres Limited (-1)	-0.079749	-1.008432	14.98663
	(0.08740)	(0.52325)	(20.1552)
	[-0.91244]	[-1.92723]	[0.74356]
Apollo Tyres Limited 1(-2)	-0.191380	0.098786	-9.755598
	(0.08894)	(0.53244)	(20.5091)
	[-2.15187]	[0.18553]	[-0.47567]
CEAT Limited 1(-1)	0.007100	-0.041060	2.206613
	(0.01383)	(0.08281)	(3.18961)
	[0.51332]	[-0.49586]	[0.69181]
CEAT Limited 1(-2)	0.037693	0.137364	2.105547
	(0.01353)	(0.08098)	(3.11936)
	[2.78655]	[1.69622]	[0.67499]
MRF Limited 1(-1)	0.000129	0.004685	-0.049474
	(0.00036)	(0.00218)	(0.08393)
	[0.35321]	[2.15009]	[-0.58946]
MRF Limited 1(-2)	0.000631	0.003084	0.073797
	(0.00037)	(0.00220)	(0.08487)
	[1.71520]	[1.39952]	[0.86956]
C	1.199670	5.658500	242.9410
	(0.84885)	(5.08185)	(195.747)
	[1.41329]	[1.11347]	[1.24110]
R-squared	0.062813	0.083733	0.017605
Adj. R-squared	0.036289	0.057801	-0.010198
Sum sq. resids	32419.67	1161967.	1.72E+09
SE equation	12.36620	74.03362	2851.691
F-statistic	2.368144	3.228954	0.633197
Log likelihood	-857.9682	-1249.880	-2049.482
Akaike AIC	7.899253	11.47836	18.78065
Schwarz SC	8.007579	11.58668	18.88898
Mean dependent	1.382796	7.424112	289.8506
SD dependent	12.59688	76.27071	2837.260

Source: Computed from yahooofinance.com

The Vector Auto regression (VAR) estimations reveal dynamic correlations between the share prices of Apollo Tyres Limited1, MRF Limited1 and CEAT Limited1. Each coefficient in the VAR model depicts the effect of lagged values of one company's stock price on the current value of another's stock price. In this analysis, positive coefficients indicate a positive link while negative coefficients indicate a negative relationship. For example, a coefficient of 0.000129 for MRF Limited (-1) under Apollo Tyres Limited 1 indicates that a one-unit increase in the lagged value of MRF Limited's stock price results in a 0.000129-unit increase in Apollo Tyres Limited's stock price in the current period, assuming other variables remain

constant. The R-squared values indicate the proportion of variance in stock price of Apollo Tyres Limited, MRF Limited and CEAT Limited, explained by the lagged values of all variables in the model.

Table 3. VAR Lag Order Selection Criteria -D (Apollo Tyres Limited), D (CEAT Limited), D (MRF Limited)

Endogenous variables: Apollo Tyres Limited1, CEAT Limited1, MRF Limited1						
Exogenous variables: C						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	-3985.399	NA	3.69e+12	37.44976	37.49710*	37.46889*
1	-3977.077	16.33295	3.71e+12	37.45612	37.64549	37.53265
2	-3965.220	22.93405*	3.61e+12*	37.42929*	37.76069	37.56322
3	-3959.982	9.983140	3.74e+12	37.46462	37.93804	37.65595
4	-3957.877	3.953219	4.00e+12	37.52936	38.14481	37.77809
5	-3954.098	6.990014	4.20e+12	37.57839	38.33586	37.88451
6	-3948.635	9.952776	4.34e+12	37.61159	38.51109	37.97511
7	-3945.318	5.947925	4.58e+12	37.66496	38.70649	38.08588
8	-3941.116	7.418759	4.80e+12	37.71000	38.89356	38.18832
* indicates lag order selected by the criterion						
LR: sequential modified LR test statistic (each test at 5% level)						
FPE: Final prediction error; AIC: Akaike information criterion; SC: Schwarz information criterion; HQ: Hannan-Quinn information criterion						

Source: Computed from yahoofinance.com

The VAR Lag Order Selection Criteria are useful in establishing the right lag order for the Vector Auto regression model for the share prices of Apollo Tyres Limited, MRF Limited and CEAT Limited. The trade-off between model fit and complexity is assessed using measures such as the Akaike information criterion (AIC), Schwarz information criterion (SC), and Hannan-Quinn information criterion (HQ). The chosen lag order is shown by an asterisk (*) next to the criterion where the value is minimised. In this scenario, the lag order used varies among criteria, indicating possible variances in the ideal model design.

The pair wise Granger causality tests performed on the share prices of Apollo Tyres Limited, MRF Limited and CEAT Limited (CL) reveal causal linkages between their stock prices. Some of the findings reveal significant Granger causality links. CEAT Limited Granger causes Apollo Tyres

Table 4. Pair wise Granger Causality Tests -D (Apollo Tyres Limited), D (CEAT Limited), D (MRF Limited)

Null Hypothesis:	Obs	F-Statistic	Prob.
CEAT Limited 1 does not Granger Cause Apollo Tyres Limited 1	219	5.49092	0.0047
Apollo Tyres Limited 1 does not Granger Cause CEAT Limited 1		1.36899	0.2566
MRF Limited 1 does not Granger Cause Apollo Tyres Limited 1	219	3.10202	0.0498
Apollo Tyres Limited 1 does not Granger Cause MRF Limited 1		0.77002	0.4643
MRF Limited 1 does not Granger Cause CEAT Limited 1	219	2.49388	0.0850
CEAT Limited 1 does not Granger Cause MRF LIMITED1		0.79903	0.4511

Source: Computed from yahoofinance.com

Limited, as demonstrated by a statistically significant F-statistic of 5.49092 with a p-value of 0.0047. Similarly, MRF Limited Granger leads to Apollo Tyres Limited, with a statistically significant F-statistic of 3.10202 and a p-value of 0.0498. However, the reverse causal relationships—Apollo Tyres Limited Granger causing CEAT Limited and MRF Limited—are not statistically significant, implying that past variations in Apollo Tyres Limited's stock price do not accurately predict future variations in the stock prices of CEAT Limited and MRF Limited. In conclusion, while there is evidence of causal links from CEAT Limited and MRF Limited to Apollo Tyres Limited, the data do not support reverse causal relationships.

Conclusion

In conclusion, this study aims to contribute to the growing body of literature on Granger causality analysis in financial markets by examining the causal relationships among the stock prices of Apollo Tyres Limited, MRF Limited, and CEAT Limited. CEAT Limited and MRF Limited may influence Apollo Tyres Limited's stock price movements. Apollo Tyres Limited's stock price changes do not have significant predictive power on the stock prices of CEAT Limited and MRF Limited.

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National Monetization Pipeline (NMP) in India: Initiatives and Challenges

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Abstract: The government of India's move to collect six lakh crore rupees through the National Monetization Pipeline (NMP) has received a lot of acceptance and criticism from different parts of the country. However, the government's commitment to infrastructure development is unwavering. Transferring the operational control of the brownfield assets of the central government to private entities may bring about significant changes in India's infrastructure in the coming years. This is an explanatory study, and the objectives are to determine the sectoral share of overall infrastructure investment, to learn about the initiatives and potential impact of the National Monetization Pipeline on the Indian economy, and to understand better the challenges faced when developing infrastructure. In brownfield investment, domestic and foreign investors can directly finance without investing, allowing them to reap direct benefits. The central government's budget for 2021-22 promises the development of the country's infrastructure. Finance Minister Nirmala Sitharaman states that we plan to lease only under-utilised brownfield assets. The central government asserts that the NMP project will enhance Public-Private Partnership (PPP). During 2021-22 central government raised 32,845 crores through disinvestment.

Keywords: Brownfield Investment, Greenfield Investment, Monetization, Public-Private Partnership, Acquisition.

The economic reforms implemented in India in 1991 helped attract investments from within and abroad. They support financial stability and strengthen the country's Public-Private Partnership (PPP). Implementing the economic reforms has brought many changes in the country's Primary, Secondary, and Tertiary sectors. The adoption of economic reforms helped the country to enlarge its overall growth.

However, the strategies adopted by the country in 1991 were suitable for India's growth at that time. However, we need to change the strategy and their application for now. The central government pointed out that the National Monetization Pipeline (NMP) is a modern method of asset

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creation, and many countries are applying this strategy worldwide.

The National Monetization Pipeline (NMP) is a collaborative effort to boost the country's economic development through the active participation of private players. The absence of an initial investment requirement, similar to a greenfield investment, makes this project particularly attractive. All necessary resources are readily available, and the private sector assumes responsibility. In contrast, a new investment would require the entrepreneur to source the property and other materials to start a new venture.

However, with an already-running institution or government property, there is no need to obtain approval or fulfil other formalities from the government side to start the business. Increasing job opportunities and improving its citizens' living standards are the primary targets of any welfare government. Therefore, the central and state governments are responsible for eradicating unemployment and enhancing citizens' welfare by introducing new projects and policies.

Brownfield Investments Trends and Developments

Brownfield investment means that a private company or a government entity can start their project in an already existing facility or infrastructure. The central government pointed out that, through the NMP, they want to lease the country's assets rather than sell them to investors. In India, many government undertakings are running at a loss, and through the national monetisation pipeline, the government can rejuvenate these underutilised assets through private participation.

The asset creation of the central government is based on the philosophy of "creation through monetisation" (Economic Survey 2022-23). The government hopes that realising NMP will help the country's overall infrastructure growth. It also hopes that integrating rural and semi-urban areas will help reduce the development gap between rural and urban areas of the country. Finding money without selling government properties is the modern strategy of the central government. The transfer of running ownerships of brownfield assets will help the government determine the revenue in a targeted period.

According to the Global Infrastructure Outlook 2017 (Oxford Economics), the global infrastructure requirement between 2016 and 2040 is 94 trillion US dollars. Most funds are needed to address the requirements of sustainable development, electricity, and drinking water. As an emerging economy, India also contributes to fostering global infrastructure. India's infrastructure investment between 2013 and 2019 was Rs.57 lakh crore (National Infrastructure Pipeline II, Govt of India).

Table 1. Sectoral Share of Overall Infrastructure Investment (Rs. Lakh Crore)

Sector	FY13	FY14	FY15	FY16	FY16	FY17	FY18	FY19
Power	2.3	2.5	2.5	2.7	3.2	2.6	1.9	17.7
Road & Bridges	1.0	1.1	1.2	1.4	1.8	1.9	1.9	10.3
Urban	0.7	0.9	1.1	1.2	1.3	1.7	1.8	8.7
Telecommunication	0.4	0.7	1.1	1.6	1.1	1	1	6.9
Railways	0.4	0.4	0.4	0.8	0.9	1.3	1.4	5.6
Irrigation	0.5	0.5	0.5	0.7	0.8	1	1.2	5.2
Airports	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.6
Ports	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.7
Others	0.1	0.1	0.0	0.1	0.1	0.5	0.5	1.4
Total Infrastructure Investment	5.3	6.3	7.0	8.5	9.2	10.2	10.0	56.7
Nominal GDP	99.4	112.3	124.7	137.6	153.6	171	190.1	988.7
Percentage of infra investment of nominal GDP	5.5%	5.6%	5.6%	6.2%	6.0%	6.0%	5.3%	5.7%

Source: National Infrastructure Pipeline II, Govt of India

Sectoral Share of Overall Infrastructure Investment in India

Regarding share contribution, the public sector makes a significant share of infrastructure, i.e., 70 %, while the private sector's share remains 30%. The major areas of infrastructure investment are power, roads and bridges, urban, telecommunication, railways, irrigation, airports, ports, and others. The sectoral investment shows positive trends in all sectors.

National Monetization Pipeline has generated significant revenue for the Indian government. As of June 2024, the total value of assets monetised under NMP stands at Rs.3.85 trillion since 2021-22. The private sector contribution exceeds Rs.1.56 trillion in the financial year 2023-24.

Assets Monetised Since FY2023

The Major Framework of Asset Monetisation Strategies of NMP Includes

Table 2. Assets Monetised Since FY2023

Sl No	Asset monetised from	Amount (Rs- Crore)
1	Road	40,314
2	Coal	56,794
3	Power	14,690
4	Mines	4,090
5	Petroleum and natural gas	9,587
6	Urban	6,480
7	Shipping	7,627

Source: National Infrastructure Pipeline II, Govt of India

1. Provision of “Rights” but not “Ownership”

The most important attraction of NMP is that investors can easily start their projects without making any new investments in brownfield assets. However, investing in these assets does not imply a transfer of ownership. Investors can utilise the existing infrastructure and also make additional changes and modifications according to the central government's guidelines.

2. De-Risked Assets with Steady Revenue.

This helps the government generate sufficient revenue from the de-risked assets. The government can transfer risks to the private sector and also assist in reducing future losses. Increasing the value of de-risked assets helps the government attract investments and alleviate the burden of asset management.

3. Well-Defined Contract.

Well-defined and structured contracts are NMP's sole advantage. The various forms of contracts on brownfield assets include public-private Partnerships, Joint ventures, Concessions, lease agreements, asset management partnerships, development agreements, and hybrid models. Well-defined contract agreements and stringent performance standards increase the overall performance of brownfield assets.

Vodafone Telecommunication's investment is an example of such an investment. The Vodafone company is located in London and has acquired the telecom sector in India. Later, it became one of the largest telecom providers in the country. Another investment is made in this field by TATA Motors. In 2008, it took over Jaguar Land Rovers from the most prominent

Table 3. Medium and Long-Term Proposals for Infrastructure Assets Funding

Sl No	Development Financial Institutions (DFI)	Asset Monetisation
	It act s as a provider of infrastructure funding	Monetising existing infrastructure assets helps create new infrastructure construction.
1	The central government passed the National Bank for Financing Infrastructure and Development bill in March 2021	Increase the potential brownfield infrastru ct asset through the National Monetization Pipelin
2	A body cooperate s with an initial goal holding of 100%.	Asset monetisation pipeline of the potent brownfield infrastructure asset.
3	Provide 20000 crores at the initial time , and the target lending portfolio increased to Rs.5 lakh crore (3 years)	Different assets/asset classes are proposed : monetisation during FY 2021-22

Source: NITI Aayog National Monetization Pipeline Volume-I

automotive manufacturer, Ford Motors. Leasing brownfield assets will help the government meet the expenses incurred after the post-COVID era.

This type of investment is also known as "Asset Recycling." Private investors can make fresh investments in this field and modify this sector. It helps the government expand the existing infrastructure without spending additional money. Central and state governments often engage in developmental activities by temporarily selling their assets or borrowing money from domestic or foreign sources like the IMF or World Bank. One of the major advantages received by the government is that it can modify or restructure the existing infrastructure without incurring any debt.

Initiatives and Potential Impact of the National Monetisation Pipeline in India

Government expenditures will increase employment opportunities and the country's overall growth. The Atmanirbhar Bharat Abhiyan scheme introduced by the central government in 2020 has boosted capital expenditure in India. Apart from the capital expenditure package announced by the central government through Atmanirbhar Bharat in 2020, the central government announced another financial package and disinvestment initiatives of public sector investment through the Union Budget 2021-22.

The recent central government initiative to reform private sector participation in infrastructure development has had a tremendous impact. The recent debt financing initiatives taken by the central government, both short-term and long-term, have attracted both domestic and foreign investors to participate in asset recycling. Central government initiatives to remove stamp duty on asset transfer attract private investors and streamline the asset recycling monetisation procedure.

The government is responsible for developing infrastructure. As a welfare government, it is the state's responsibility to provide welfare to its citizens. NITI Aayog has prepared and issued a detailed report through volumes I and II of its guidebooks. It clearly shows the essential instruments, designs, and key imperatives. The new initiatives, through the motto of "Creation through Monetisation," are a long-term sustainable investment strategy for the government.

The Union budget 2021-22 clearly shows the roadmap for implementing NMP in the country. After the post-COVID scenario, the central government has allocated Rs.3.8 lakh crore in the 2021-22 budget to revive the economy. The major strategies for enhancing sustainable infrastructure financing in the country are: -

- Formation of institutional structure
- Push on the monetisation of assets

- Boosted the share of capital expenditure in both Central and State governments.

Through proper government intervention, the issues related to asset monetisation can be easily resolved. As the youngest country in the world, it is the government's responsibility to provide employment opportunities for the youth. World Bank data on increasing urbanisation and population shows that during the period 2011-17, it increased by 1.2 % and is expected to reach 1.52 billion by 2030. About 42 % of India's population is predicted to be urbanised and modernised in the next few decades. The five major states, Gujarat, Tamil Nadu, Punjab, Maharashtra, and Karnataka, will account for 50% of urbanisation by 2030. Urbanisation helps the country increase its contributions to GDP. The conversion of rural areas into urban will create many changes in the country. Through rural infrastructure development, India can use its working-age population in rural areas and increase the share of rural youth contribution to GDP.

The Airport Authority of India is taking over six brownfield airports under Public-Private Participation (PPP) models, which will help expand airports. It is also taking initiatives to develop city-side infrastructure, which will create new hotels, restaurants, and retail shops adjacent to the airports. The telecom sector is also undertaking new projects, such as expanding telecom tower operations. The telecom authority has decided to share the tower space with private operators to extend the operational space of the brownfield assets.

Innovative trust-based financial instruments, such as Infrastructure Investment Trust (InvIT), help investors access stable and liquid instruments properly. They also significantly impact consolidation and asset monetisation by attracting new investors. Global private investors have started investing in various brownfields, such as pension funds and sovereign wealth funds, which clearly demonstrates the feasibility and scope of asset monetisation.

Real Estate Investment Trust (REIT) is a global real estate company that has also started many business projects in India. It is a US-based company that was established in 1960 and later flourished across the globe. This company has already begun its operations in India, which will provide numerous employment opportunities and help the government raise revenue through its implementation. They mainly concentrate on property such as apartment buildings, medical facilities, warehouses, infrastructure, cell towers, and hotels. The investment of REITs in these sectors will boost their overall development.

Other Country's Initiatives for Asset Recycling

Massive infrastructure deficit is a global issue, so every nation is trying to attract investment from domestic and foreign companies to expand its

infrastructure. Raising funds through public sector sources is very difficult, so governments are inviting and participating in private players for asset recycling. Asset recycling helps governments reduce budgetary risk and transfers it onto the shoulders of the private sector. Conversely, private players can avoid and reduce risk by taking ownership of running brownfield investments.

Asset recycling initiatives of Australia's federal government have created a new history in the country's infrastructure development. The Australian government directed the Productivity Commission in 2013 to study the feasibility and future of asset monetisation. The initiatives aimed to reduce government spending on infrastructure projects in the long and short term. The government's asset recycling initiative, which involves selling and recycling assets, has increased productivity and private partnerships to fund and run companies. These initiatives have helped the country to accumulate 17 billion US dollars for Australia's infrastructure development (National Infrastructure Pipeline, Volume-I). The asset recycling initiatives have also helped enhance infrastructure development in ports, roads, and electricity generation.

The Indonesian government has introduced the "Limited Concession Scheme" (LCS) for asset recycling. Many public and private partnership projects are running in the country, but the government introduced this scheme as an alternative to PPP. The country needs a vast amount of infrastructure funding to expand its connectivity. In February 2020, the government of Indonesia permitted the implementation of the Limited Concession Scheme for financing infrastructure through the utilisation of existing assets. Currently, the government has allowed the operation of the existing infrastructure, namely airports, railways, seaports, bus terminals, telecommunications, oil and gas, and renewable energy. This is how other countries are finding funds to develop new infrastructure.

Models Associated with Asset Monetisation

Asset monetisation is implemented through different strategies and frameworks to ensure effective implementation. The major approaches used to explore asset monetisation are the Direct Contractual Approach and Structural Financing models.

Direct Contractual Model-Brownfields PPP Concession

In the past, brownfield contacts focused on management contracts, where the government was responsible for providing services and the daily management was entrusted to the private sector. This type of agreement is known as a contractual agreement. However, in the case of Brownfields PPP Concession models, it provides complete freedom to operate and manage the assets, including end-to-end operation and maintenance. Some examples of potential models for such Brownfields PPP Concession

infrastructure owned by the public sector include

Direct Contractual Models- Brownfield Public-Private Partnership Concessions

After transferring the responsibilities of running the infrastructure, it is their responsibility to maintain the entities they possess.

Table 4. Brownfields PPP Models

Brownfield Public Partnership Concessions		
Model	Operate Maintain Transfer Concession (OMTC)	Operate Maintain Development (OMD) Model
Adopted as	Toll Operate Transfer (TOT)	Operate Management Agreement (OMA) in Airports Adopted.

Source: NITI Aayog National Monetization Pipeline Volume-I

Brownfields Public Private Participation (PPP) Models

In the case of the Operate Maintain Transfer Concession (OMTC) case, it is the private sector's responsibility to operate and maintain the project. This helps the owner party to collect revenue immediately. As an existing infrastructure, the risk for maintenance volatility and running problems of the assets is shallow. This risk and operational power transfer will reduce the burden on the public sector and help the government start a new greenfield investment project. Most OMTC contracts are being done in the road sector, which is a combination of tolling contracts and contracts for operations and maintenance.

Toll Operate Transfer Model (TOT)

The Toll Operate Transfer Model (TOT) is a variant of the Operate Maintain Transfer Model, which has recently been widely used in the road sector. This is one of the major and convenient models applied in the road sector by both central and state governments. The concept of TOT was introduced by the Ministry of Road Transport and Highways in 2016 to monetise the road sector on a long-term basis by the National Highway Authority of India.

Challenges of Asset Monetisation

Historically, the country has faced several challenges due to a need for more funding. Since the reform period, the central government has launched various programs and projects to attract domestic and foreign investors. Underutilised and loss-making units are major responsibilities of every government. The monetisation strategy helps the central government generate additional revenue through Public Sector Units

(PSUs). The central government claims that this additional cash can fund a national infrastructure program, which will help strengthen the country's infrastructure in the coming years.

Increasing private participation enhances the country's productivity and competency. Using assets allows the country to increase its maximum potential output capacity. It will create jobs and career prospects and also help to expand the country's supply chain. Utilising existing brownfield assets can help the government attract more domestic and international investment. This will accelerate the country's economic growth and efficiency quickly.

Providing adequate infrastructure facilities is critical in the National Monetization Pipeline (NMP). Every country faces enormous challenges when it addresses infrastructure development. Using existing infrastructure will allow the government to provide its customers and citizens with adequate and high-quality goods and services.

The National Monetization Pipeline intends to bring institutional investors into the country. Institutional investors play an essential role today since they can invest money on behalf of clients or members. This will let them invest in hedge funds, mutual funds, and other financial products. Investors like brownfield projects because they are less risky than greenfield assets. This method will allow the country to acquire more funds in the future. Several state-owned insurance and pension funds have already established their businesses in India.

To raise the funds, the public and private sectors face numerous challenges hindering infrastructure development in the country. The power sector, particularly, is encountering major issues in raising funds due to sluggish demand growth in the industrial and commercial sectors. Additionally, load shedding and low coal production by Coal India Limited pose further threats to this sector. Investments in the road sector are also encountering various obstacles. Private sector investments in this sector have shown a declining trend since the twelfth five-year plan. This sector must grapple with problems such as land acquisition, dispute settlement issues, and poor project preparations.

Compared with the road and power sectors, investments in railways are low. However, since 2016, there has been an increasing trend in railway investments. Currently, the public sector has recognised the importance of this sector and has started new investments by creating new railway lines, doubling and tripling. Additionally, initiatives have been taken to purchase new wagons, coaches, locomotives, and other necessary equipment. One of the major concerns of this sector is the need for cargo management. Furthermore, the need for more funds and the unavailability of land for station development are also significant concerns.

The port sector in India plays a crucial role, as it handles more than 90 per cent of the trade activity conducted through marine routes. The last five-year plan has emphasised promoting the port sector in India. However, it also faces numerous challenges, the major being port traffic. Additionally, there is an issue of underutilisation of both major and minor ports in the country.

The aviation sector in India is facing many issues. India's largest airports, like Delhi and Mumbai, are experiencing significant traffic problems, with capacity utilisation already exceeding 100%. This clearly highlights the infrastructure constraints of the Indian airports. Additionally, the absence of an aviation maintenance and repair industry further increases this sector's running and maintenance costs. These challenges likely hinder the implementation of the NMP in India.

Conclusion

The National Monetization Pipeline (NMP) aims to obtain funds by leasing the major central government brownfield assets. One of the significant hurdles the central government faces is to collect 6 lakh crore rupees from 2021-22 to 2024-25. About 83% of assets come from areas like roads (27%), railways (25%), the power sector (15%), oil and gas pipelines (8%), and telecom (6%). Transferring the power of brownfield assets to the private sector creates more cooperation from the side of the private sector. The major advantage for investors is that, without any new investment, they can start or modify already functioning brownfield industries. The central government hopes that the NMP project will help young people get more jobs and curb unemployment in the country. It also helps to integrate rural and urban areas of the country.

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Municipal Finance: A Study of Thiruvananthapuram Municipal Corporation

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Abstract: Among the six municipal corporations in Kerala, Thiruvananthapuram Municipal Corporation (TMC) is the largest one. The major share of TMC's revenue is from transferring state funds and grants, with property and professional tax account for over 90 per cent of TMC's tax revenue. However, the lack of revision of the professional tax rate since 1988 and the inclusion of entertainment tax in goods and service tax have significantly affected the resource mobilisation of TMC. There is much scope for an increase in non-tax revenue collection, such as trade licence fees, building permit fees, registration fees, and rents from municipal properties. The state government transferred the largest amount in all four years. The programme or annual plan is the largest item among the five expenditure categories. The need for tax rate revisions is crucial to address the financial challenges faced by TMC.

Keywords: Municipal Finance, Revenue Receipts, Revenue Expenditure, Fiscal Performance.

As per the amendments to the constitution of India (73rd and 74th), which significantly devolved powers to local bodies, the government of Kerala has transferred several functions to local bodies in Kerala. Following this, the Kerala Municipality Act (KMA), 1994, was passed, and several functions previously exercised by the state government were transferred to municipalities and municipal corporations (MCs) in Kerala. Rules are formulated for revenue mobilisation and expenditure by the municipalities. Attempts are made to better collect property tax and other tax and non-tax items. The major issues in the municipal finances in Kerala are insufficient resources due to several factors, such as lack of freedom to revise rates of own tax and non-tax items, inadequate transfer of state funds, and non-implementation of State Finance Commission (SFC) recommendations. Only a few attempts have been made to study the municipal finances in Kerala. In this context, the study examines the finances of Thiruvananthapuram Municipal Corporation (TMC). The aspects examined are tax and non-tax revenue receipts, the efficiency of tax

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collection, transfer of funds and grants, major items of Expenditure and Total Expenditure.

Profile of TMC

The jurisdiction of TMC, the capital city of Kerala, covers an area of 214.86 sq. km (Table 1). According to the 2011 census, TMC has a population of 9.60 lakh. TMC is the largest city in Kerala in terms of total population, area, and number of wards. The city's population density is estimated as 4470 persons per sq. km. The TMC has 100 wards, and the average population per ward is 9603. The decadal growth of the population between 2001 and 2011 is estimated at 3.25 per cent. Of the total population of Thiruvananthapuram district, the share of the population of TMC is estimated at 27.41 per cent. The number of government schools coming under the jurisdiction of TMC is 121. The TMC has 20 primary health centres, six veterinary hospitals, four homoeopathy hospitals, and 12 Ayurveda hospitals. Half of the 100 municipal wards are reserved for women councillors.

Table 1. Profile of Thiruvananthapuram Municipal Corporation (TMC)

Items	Status
Wards (Number)	100
Area (KM ²)	214.86
Total Population (2011 Census) (Number)	9,60,347
Density (Per sq. km)	4470
The average population of per ward (Number)	9,603
Population Growth (Decadal %)	3.25
Share of TMC population in District (%)	27.41
Institutions under TMC	
Government Schools (Number)	121
Anganwadi (Number)	20
Primary Health Centers (Number)	20
Veterinary Hospitals (Number)	6
Hospitals – Homeopathy (Number)	4
Hospitals – Ayurveda (Number)	12
Old Age Homes (Number)	2

Source: BWR (2017).

Tax and Non-tax Revenue of TMC

The major revenue receipts of MCs in Kerala are tax and non-tax items, as well as state funds and grant transfers. The taxes levied and collected are property, profession, entertainment and advertisement. Non-tax revenue items are building permits, rent, licences, and market fees. Transfer of state funds as per SFC awards is another major source of revenue. Similarly, the Union Finance Commission (UFC) recommends distributing specific grants from union government funds to MCs. Table 2 presents the trend in the amount of three major sources of revenue receipts between 2012-13 and 2015-16, its annual growth rate, and share from each item. From Table 2, we can draw the following observations. (1) The revenue increased from Rs 78.88 crore to 99.42 crore within three years. (2) There has been a decline in the growth of non-tax revenue since 2013-14. During 2015-16, this item indicated a negative growth of (-)23.6 per cent. The increase in the amount of transferred funds from the state indicated a marginal increase in the years 2013-14 and 2014-15 but recorded an increase in 2015-16.

Table 2. Total Revenue Receipts of TMC

No	Item	2012-13	2013-14	2014-15	2015-16
Amount (Rs in Crore)					
1	Tax	78.88	87.11	91.86	99.42
2	Non-tax	18.09	24.94	29.04	22.18
3	Transfer of state funds and grants	154.64	155.76	156.07	196.05
	Total	251.61	267.81	276.97	317.65
Composition (%)					
1	Tax	31.4	32.5	33.2	31.3
2	Non-tax	7.2	9.3	10.5	7.0
3	Transfer of state funds and grants	61.5	58.2	56.3	61.7
	Total	100.0	100.0	100.0	100.0
Growth (%)					
1	Tax	-	10.4	5.4	8.2
2	Non-tax	-	37.8	16.4	-23.6
3	Transfer of state funds and grants	-	0.7	0.2	25.6
	Total	-	6.4	3.4	14.7

Source: BWR (2017).

Property Tax

The GPs and municipalities are collecting property tax on buildings based on KMA 1994. This item of tax assessed on an annual rental value basis (of MCs from April 1, 1993) was changed to the plinth area basis of the buildings. As per KMA 1994, revision of property tax has to be effected once in five years, but the state government has not revised the rate for more than two decades due to a lack of rules since 1994. The fifth state finance commission, Kerala, which examined the issue, recommended framing necessary rules and revising them once in five years. It also recommended compensating municipalities for the lapse and revising it once in five years. The successive governments in Kerala failed to effect periodical revision and improve the finances of municipalities and MCs. Table 3 gives the revenue from the property tax of TMC between 2012-13 and 2015-16. The major share of TMC's tax revenue is collected from

Table 3. Tax Revenue of TMC

No	Item	2012-13	2013-14	2014-15	2015-16
		Amount (Rs in Crore)			
1	Property tax	45.07	49.94	51.74	53.72
2	Profession tax	27.84	30.65	33.09	35.96
3	Entertainment tax	4.73	5.02	5.44	8.22
4	Advertisement Tax	1.25	1.50	1.56	1.52
5	Others	0.00	0.00	0.02	0.01
	Total	78.89	87.11	91.85	99.43
		Composition (%)			
1	Property tax	57.1	57.3	56.3	54.0
2	Profession tax	35.3	35.2	36.0	36.2
3	Entertainment tax	6.0	5.8	5.9	8.3
4	Advertisement Tax	1.6	1.7	1.7	1.5
5	Others	0.0	0.0	0.0	0.0
	Total	100.0	100.0	100.0	100.0
		Growth (%)			
1	Property tax	-	10.8	3.6	3.8
2	Profession tax	-	10.1	8.0	8.7
3	Entertainment tax	-	6.1	8.4	51.1
4	Advertisement Tax	-	20.0	4.0	-2.6
5	Others	-	-	-	-50.0
	Total	-	10.4	5.4	8.3

Source: BWR (2017).

property tax. The revenue growth rate from this tax was very small in 2014-15 and 2015-16.

Profession Tax

Another major item of tax collected by MCs is the professional tax, which is collected at half yearly from every institution/business unit that transacts business in the municipal area. The state government collects professional tax in India in all states except Kerala and Tamil Nadu. A major problem TMC faces is the meagre upper limit of the tax. The upper limit of Rs 2500 per year remained unchanged for the last 36 years. In India, the states do not have the power to change the rate or upper limit of the tax. The power is vested with the Indian Parliament. Though the Union Finance Commission has recommended raising the ceiling from Rs 2,500 to Rs 12,000, the Union Government has kept the rate the same. Due to this, the MC has been incurring a substantial loss in revenue. The 5th SFC, which examined this issue, found that there is considerable scope for increasing the revenue by bringing the categories that evade this tax.

Entertainment and Advertisement Tax

The entertainment tax was also collected from events such as exhibitions, performances, games, sports, and cinema halls until 2017. However, this tax has been included in GST since July 2017. This has resulted in the loss of revenue from this tax to the entire category of local bodies in Kerala. This tax accounted for 8.3 per cent of the total tax revenue of TMC in 2015-16 (Table 3).

The advertisement tax is collected on various advertisements and displays on land, buildings, walls, and hoardings for public viewing. This complex tax requires time-consuming procedures to approve rates and collect the tax. The introduction of the tax requires the preparation of by-laws to be approved by the Director of Urban Affairs and the local self-government department. The revenue from this tax accounted for 1.5 per cent of the total tax revenue of TMC in 2015-16 (Table 3).

Non-Tax Revenue

It is the second major item of own tax revenue collected by Municipalities and municipal corporations in Kerala. The major items of revenue of TMC are rents from municipal properties, fees and user charges, and other incomes. The fees and user charges account for the bulk of this revenue. The most important item is the building permit fee for constructing new buildings such as houses, flats and shops. The total amount collected from this item was Rs 15.58 crore in 2015-16 (Table 4). Rents from municipal properties account for Rs 4.37 crores in 2015-16.

Efficiency of Tax Collection and Income Rates

The consolidated tax revenue and demand collection balance (DCB)

Table 4. Non-Tax Revenue of TMC (Rs in Crore)

No	Item	2012-13	2013-14	2014-15	2015-16
1	Rents from municipal properties	4.57	3.72	3.97	4.37
2	Fees and user charges	12.70	20.33	23.07	15.58
3	Other income	0.82	0.89	2.00	2.23
Total		18.09	24.94	29.04	22.18
Growth rate (%)		-	37.9	16.4	-23.6

Source: BWR (2017).

presents the demand side, such as arrears and current revenue, as well as the collection side and collection efficiency (Table 5). The efficiency of arrears collection indicates a positive trend between 2012-13 and 2015-16. On the other hand, the collection efficiency of current revenue continued to remain poor throughout the years. This suggests the need to increase the efficiency of collecting current tax revenue.

Table 5. Consolidated Tax Revenue DCB (Rs Crore)

No	Item	2012-13	2013-14	2014-15	2015-16
I	Demand				
1	Arrears	33.69	43.85	58.95	69.01
2	Current	78.88	87.13	87.78	101.80
3	Total (A)	112.57	130.98	146.73	170.81
II	Collection				
1	Arrears	10.30	9.33	12.27	12.37
2	Current	58.42	62.77	69.66	78.81
3	Total (B)	68.72	72.10	81.93	91.18
	Balance (A-B)	43.85	58.88	64.80	79.63
III	Collection Efficiency (%)				
1	Arrears	30.58	21.27	20.81	17.93
2	Current	74.06	72.04	79.35	77.42
3	Overall	61.04	55.04	55.83	53.39

Source: BWR (2017).

The income ratios are indicators of various revenue items to the total revenue. Of the total revenue, the share of tax revenue remains at a rate ranging between 31.27 and 33.16 per cent (Table 6). Regarding non-tax revenue, its share varied between 7 per cent to 10.4 per cent. Own income to total revenue varied between 38.25 per cent and 43.65 per cent. Revenue grants to total revenue ratio also significantly varied during these four years. In the case of compound annual growth rate (CAGR) and operating margin, the only year that indicated much difference is 2012-13. Overall, the income ratios indicated a stable level during the four years.

Table 6. Income Ratio (%)

No	Item	2012-13	2013-14	2014-15	2015-16
1	Tax Revenue to Total Revenue	31.35	32.52	33.16	31.27
2	Non-Tax Revenue to Total Revenue	7.19	9.31	10.48	6.98
3	Own Income to Total Revenue	38.54	41.83	43.65	38.25
4	Revenue Grants to Total Revenue	61.46	58.15	56.35	61.67
5	CAGR* of Total Revenue	41.42	28.65	21.81	20.37
6	Operating Margin	5.33	27.82	23.74	27.89

* Compound Annual Growth Rate

Source: BWR (2017).

Transfer of State Funds and Grants

A major item of revenue of MCs is the fiscal transfers of state funds. In India, intergovernmental fiscal transfers are done by institutions such as UFC (from union to states) and SFC (from state to local governments). The 5th SFC has recommended a transfer of 20 per cent of the net proceeds of the annual state tax revenue of Kerala to local governments as devolution. The transfer of funds is meant to meet mandatory functions, maintain road and non-road assets, and finance annual development plans. The SFC named the fund for general purpose, maintenance, and development.

The total funds transferred per SFC recommendations to TMC increased from Rs 121.53 crore in 2012-13 to Rs 125.59 crore in 2015-16 (Table 7). Besides this, the TMC also got UFC grants and other grants. The total amount received by TMC for four years from the above items is the share of each item, and the annual growth rate between 2012-13 and 2015-16 is given in Table 7. The transfer of state funds and grants accounted for the major share of the total revenue receipts of TMC for the four years (Table 2). The share of state funds and grants accounted for 61.7 per cent of the total revenue receipts in 2015-16.

Table 7. Transfer of State Funds and UFC Grants

No	Item	2012-13	2013-14	2014-15	2015-16
		Amount (Rs in Crore)			
1	Transfer of state funds as per State Finance Commission (SFC)	121.53	127.95	128.89	125.59
2	Union Finance Commission grants	25.93	17.57	16.21	54.34
3	Other grants	7.18	10.25	10.97	16.12
	Total	154.64	155.76	156.07	196.05
		Composition (%)			
1	Transfer of state funds as per SFC	78.6	82.1	82.6	64.1
2	Union Finance Commission grants	16.8	11.3	10.4	27.7
3	Other grants	4.6	6.6	7.0	8.2
	Total	100.0	100.0	100.0	100.0
		Growth (%)			
1	Transfer of state funds as per SFC	-	5.3	0.8	-2.7
2	Union Finance Commission grants	-	-32.2	-5.2	147.0
3	Other grants	-	42.8	10.0	71.7
	Total	-	0.7	0.2	25.9

Source: BWR (2017).

Items of Expenditure of TMC

The major expenditure items of municipal corporations in Kerala are the establishment, administration, maintenance, depreciation and programme. Establishment expenditure consists of payments to various categories of staff and elected persons. It consists of salary, wages, travelling allowances, pension contributions to staff, honorarium, sitting fees, and other items. The administrative expenditures are office expenses, council meetings, electricity charges for office buildings, rents paid for buildings hired, and other items. Maintenance of municipal assets such as road and non-road is another expenditure. Operations Expenditure consists of electricity charges, water charges, vehicle operating expenses, and other capital assets. Depreciation provides an amount to replace a capital asset when it completes its economic life. Programme expenditure is the item spent for development schemes and programmes included in

the annual plan.

Table 8 presents the Expenditure structure of TMC between 2012-13 and 2015-16. From the table, we can draw the following observations. First, establishment expenditure accounted for less than one-third of total Expenditure till 2014-15. However, it increased to a share of 38.3 per cent in 2015-16. Second, the share of administrative Expenditure was below 5.6 per cent except for one year. Third, the share of O&M expenditure ranged between 12.6 per cent and 15.2 per cent, except for one year. Fourth, there was a spurt in the share of depreciation expenditure in 2013-14. Fifth, programme or annual plan expenditure accounted for the largest item of Expenditure. A major share of the total Expenditure is spent in two years. Sixth, we can see much variation regarding the growth rate of expenditure items. A notable aspect is a huge fall plan in programme or annual plan expenditure in 2013-14.

Table 8. Structure of Expenditure of TMC (Rs Crore)

No	Item	2012-13	2013-14	2014-15	2015-16
		Amount (Rs in Crore)			
1	Establishment	70.47	66.46	68.99	95.17
2	Administrative	13.41	37.81	9.19	11.45
3	Operations & Maintenance	30.09	28.47	20.66	37.79
4	Depreciation	4.05	12.12	13.98	0.37
5	Programme	121.06	67.36	113.38	103.86
	Total Expenditure	239.08	212.21	226.53	248.66
		Composition (%)			
1	Establishment	29.5	31.3	30.5	38.3
2	Administrative	5.6	17.8	4.1	4.6
3	Operations & Maintenance	12.6	13.4	9.1	15.2
4	Depreciation	1.7	5.7	6.2	0.1
5	Programme	50.6	31.7	50.1	41.8
	Total	100.0	100.0	100.0	100.0
		Growth (%)			
1	Establishment	-	-5.7	3.6	37.2
2	Administrative	-	182.0	-213.4	16.9
3	Operations & Maintenance	-	-5.4	-26.0	56.9
4	Depreciation	-	199.3	45.9	-336.0
5	Programme	-	-44.4	38.0	-7.9
	Total	-	-11.2	6.0	9.3

Source: BWR (2017).

Fiscal Performance

A review of the fiscal performance of TMC is given in Table 9. We can observe the following from the table. (1) There has been a steady increase in the revenue receipts of TMC between 2012-13 and 2015-16. (2) However, the Expenditure of TMC is much lower than the revenue receipts. (3) This is mainly due to the low utilisation of programme or plan funds. (4) Compared to the programme expenditure in 2012-13, the fall in Expenditure was -44.4 per cent in 2013-14, -6.3 per cent in 2014-15 and -14.2 per cent in 2015-16 (Table 8). (5) This shows the incompetence in utilising development funds given by the state and union governments for development. This indicates the need to prioritise the timely and efficient implementation of the programme and the utilisation of funds.

Table 9. Fiscal Performance of TMC

No	Item	2012-13	2013-14	2014-15	2015-16
1	Total revenue	251.61	267.87	276.98	317.91
2	Total Expenditure	239.08	212.21	226.53	248.66
3	Gross Surplus / Deficit of revenue over Expenditure	12.53	55.66	50.46	69.25
4	Total Prior Period Items(Net)	0.03	0.07	0.68	0.37
5	Gross Surplus / Deficit of revenue over Expenditure after prior period items	12.55	55.73	49.78	68.88

Source: BWR (2017).

Conclusions

We may draw the following conclusions from the above analysis of TMC's finances. Among the categories of revenue receipts, a significant share of revenue is received from the transfer of state funds and grants. Property and professional tax account for over 90 per cent of TMC's tax revenue. The lack of revision of the professional tax rate since 1988 has adversely affected the resource mobilisation of TMC. The inclusion of entertainment tax in GST, which TMC collected until July 2017, has also affected its resource mobilisation. There is much scope for an increase in non-tax revenue collection, such as trade licence fees, building permit fees, registration fees, and rents from municipal properties. The fiscal data indicates that the collection efficiency of current revenue could be better. Among the items for the transfer of funds, the largest amount was transferred as per the recommendations of SFC in all four years. However, there has been an increase in the share of UFC grants in 2015-16. AmoTheogramme or annual

plan is the largest item. Among the five expenditure categories, a negative aspect of TMC's finances is the low utilisation of programme funds. This suggests the need to increase the efficiency of utilising programme funds.

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Perceptions of Tribals on Their Socioeconomic, Environmental and Welfare Aspects in Kerala

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Abstract: This study aims to comprehend tribals' perceptions of their socioeconomic, environmental, and welfare aspects in the selected regions of Wayanad, Idukki, and Thiruvananthapuram districts in Kerala. For that, a primary survey was conducted in tribal concentrated areas in these districts. Using a Google sample calculator with a 5 per cent margin of error, 384 tribal households were selected as sample households from the three districts. The study results indicate variability in perceptions regarding tribal welfare and environmental conditions among the surveyed districts, underscoring the urgent need for customised policies and interventions to tackle the specific challenges tribal communities encounter in each district.

Keywords: Perceptions, Tribals, Socioeconomic, Environmental, Welfare, Kerala.

This study aims to comprehend the perceptions of tribals on their socioeconomic, environmental, and welfare aspects in the selected regions of Wayanad, Idukki, and Thiruvananthapuram districts in Kerala. The term "Scheduled Tribes" was first introduced in the Constitution of India by Article 366 (25), which defined scheduled tribes as "such tribes or tribal communities or parts of or groups within such tribes or tribal communities as are deemed under Article 342 to be Scheduled Tribes for the purposes of this constitution". This article safeguards their interest as majorities concerning language, culture, and education and allows them to receive grants from state funds based on religion, race, caste, and language. Article 19 protects them from exploitation by enabling the creation of special laws to regulate land transfers, money lending, and other related activities. Articles 16 and 35 mandate that the State consider their claims when making appointments to public services. Article 330 and 332 stipulate the reservation of seats for them in both the Parliament and State Assemblies. Tribals are indigenous inhabitants of a region with a unique and ancient culture that differs from the mainstream population. Their way of life primarily relies on natural resources acquired from their

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environment.

The tribals have adapted to their surroundings and gradually integrated into the newly formed socioeconomic structure. However, their advancement has been significantly slower than that of the broader population, often viewed through a lens of social, humanitarian, and legal concern by mainstream societal and political systems. Approximately 200 million tribal people exist worldwide, about 4 per cent of the population. They are present in numerous regions globally, with a significant portion among the most economically disadvantaged. (Jayakumar & Palaniyammal, 2016). (Jayakumar & Palaniyammal, 2016). 2011 census revealed that Scheduled Tribes constitute 8.6 per cent of the population in India. Nutritional status among these populations varies significantly across different states and is influenced by various factors. (FAO, 2010).

Most of Kerala's tribal community resides in the thick forests of the Western Ghats, often isolated from mainstream society. They sustain themselves primarily through basic agricultural practices or by tapping into forest resources using traditional methods. One of the characteristics is that they possess firm ethnic boundaries based on kinship in their habitation. The number of households in a settlement ranges from 20 to 100. The dwellings were unarranged but with a dramatic setting. STs live together in clusters/settlements called 'ooru'. A group of five/or more ST households lying adjacent to each other is called an 'ooru'. About 94.66 per cent of STs reside in Ooru.

During the 2011 Census, Kerala had 36 Scheduled Tribe communities. After that, the Maratti community was also listed as a Scheduled Tribe (ST). The ST communities in Kerala are: Adiyan, Aranda, Eravallan, Hill Pulaya, Irular, Kadar, Kanikar, Karimpalan, Kattunayakan, Kochuvelan, Koraga, Kudiya, Kurichian, Kurumans, Kurumbas, Mahamalar, Malai Arayan, Malai Pandaran, Malai Vedan, Malakkuravan, Malasar, Malayan, Mavilan, Malayarayar, Mannan, Muthuvan, Palleyan, Paniyan, Ulladan, Uraly, Mala Vettuvan, Ten Kurumban, Thachenadan, Cholanaickan, Malapanikar, Vettakuruman.

Kerala accommodates 4,84,839 Indigenous individuals residing in 119,788 households, making up 1.43 per cent of the State's population. Of the entire 4,84,839 tribal population in the State, 2,38,203 are ST males and 2,46,636 are ST females. The ST male population forms 1.48 per cent of the overall male population, and the female population forms 1.42 per cent of the overall female population of the State (Census, 2011). Approximately 89.33 per cent (4,33,092 individuals) of the tribals live in rural regions, while only 10.67 per cent (51,747 individuals) reside in urban areas.

The literacy rate among Kerala's tribal communities is notably lower at 75.81 per cent compared to the broader population. In terms of employment, merely 10 per cent of the tribal populace in Kerala engages in

land cultivation, while 40 per cent work as agricultural wage labourers. (STDD, 2013). The government provides several initiatives to support tribal communities living in remote and inaccessible areas. Central and State governments allocate resources and funds to improve their socioeconomic status. These efforts concentrate on improving education, generating income, enhancing health services, developing irrigation systems, constructing roads and bridges, managing forests and forest villages, providing electricity and communication infrastructure, boosting rural marketing, advancing agriculture and animal husbandry, promoting food processing, developing technical and vocational skills, implementing water harvesting projects, resettling displaced individuals, managing tribal lands, fostering sports, ensuring access to clean drinking water, and conducting other activities explicitly tailored for the well-being of tribal communities, separate from standard development endeavours (Sincymol, 2016). However, despite numerous government initiatives at both Central and State levels, as well as special allocations through the Tribal Sub Plan (TSP), the hardships faced by tribal communities persist without relief (Rajasenan & Rajeev, 2013; Devika, 2016). Many tribal communities remain unaware of the available schemes and legal aids to protect their rights.

This work attempts to comprehend the perceptions of tribals on their socioeconomic, environmental, and welfare aspects in the selected regions of Wayanad, Idukki, and Thiruvananthapuram districts in Kerala. For that, a primary survey was conducted in tribal concentrated areas in these districts. Using a Google sample calculator with a 5 per cent margin of error, 384 tribal households were selected as sample households from the three districts. The number of households selected from Wayanad district is 248, Idukki-92, and Thiruvananthapuram-44. Data were gathered from the primary survey conducted in 2023, with respondents rating various factors on a scale ranging from 1 (Very Bad) to 5 (Very Good). The perceptions of the tribals encompass their responses to socioeconomic status, environmental issues, and welfare. Regular visits to the fields and interaction with the households were held to collect genuine and truthful responses.

Data Analysis and Interpretation

Tribes consistently encounter challenges in their socioeconomic advancement due to various factors. These factors encompass geographical and cultural seclusion, inadequate healthcare services, unmet basic needs, insufficient control over resources and assets, low levels of education and skills, malnutrition, inadequate housing, limited access to water and sanitation, vulnerability to shocks, violence, and crime, restricted access to essential infrastructure and technologies, and a deficiency in political representation and freedom. (Vijaya Lakshmi & Milcah Paul, 2019). Numerous models, approaches, and theories have been suggested during various five-year plan periods for advancing tribals living in the State.

(Devath Suresh, 2014). All these development programs affect their socioeconomic life and positively impact them. Despite significant social development and reform movements, disparities between castes persist in Kerala, with scheduled tribes being the most marginalised among all groups. (CSSEIP, 2010). Programs to alleviate poverty and socioeconomic underdevelopment will only achieve its intended goals if effectively implemented. Past experiences have shown that the benefits of various schemes still need to meet expectations. The intended population still needs to receive these benefits. Despite significant investment, an inadequately structured program is destined to fail because it leads to inefficiencies, such as slow and poor decision-making, lack of coordination of activities, unclear duties, corruption, and conflict among members (Umer Jan Sofi, 2013). Understanding their perceptions of various factors is necessary for implementing further development programs for them. Table 1 presents respondents' perceptions regarding various aspects related to tribals in Kerala.

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) indicates a high level of sampling adequacy (0.934), and Bartlett's Test of Sphericity suggests that the correlations between variables are significant (Approx. Chi-Square = 5034.071, df = 190, Sig. = .000), supporting the suitability of the data for factor analysis. The Rotated Component Matrix displays the factor loadings for each statement, indicating the strength of the relationship between the statements and the identified components. The statements are grouped into three components based on their factor loadings. Component 1 appears to capture perceptions related to healthcare access, government responsiveness, and cultural preservation, as indicated by statements such as "How well is the government addressing the unique healthcare challenges faced by tribal communities?" and "How do you perceive the emerging issue of cultural preservation and the loss of traditional knowledge among tribes." Component 2 seems to reflect perceptions concerning education, employment, and economic opportunities, as evidenced by statements like "How well do you think the education system addresses the cultural and linguistic needs of tribal students?" and "How would you rate the current employment opportunities available to tribal populations." Component 3 appears to encompass perceptions associated with environmental concerns and policy considerations, as indicated by statements like "Please indicate your level of concern about deforestation and its impact on tribal communities" and "To what extent are tribal voices and perspectives currently considered in policymaking in Kerala." The Eigenvalues and the percentage of total variation explained by each component suggest that Component 1 contributes significantly to the overall variation, followed by Component 2 and Component 3. The reliability of the survey instrument is indicated by Cronbach's Alpha, which is high at 0.943, suggesting internal consistency

Table 1. Perception of Respondents on Various Factors

KMO and Bartlett's Test			
Kaiser-Meyer-Olkin Measure of Sampling Adequacy			.934
Bartlett's Test of Sphericity	Approx. Chi-Square		5034.071
	df		190
	Sig.		.000
Rotated Component Matrix			
Statements	Component		
	1	2	3
Please rate the current State of tribal land rights and ownership documentation in Kerala:	.835	-	-
How do you perceive the emerging mental health and well-being issue among tribal populations in Kerala?	.822	-	-
How well is the government addressing the unique healthcare challenges faced by tribal communities, including traditional healing practices?	.787	-	-
Please rate the responsiveness of local authorities and non-governmental organisations to the needs of tribal communities in Kerala:	.766	-	-
How would you rate the availability of economic opportunities, including sustainable livelihoods, for tribal youth in Kerala?	.714	-	-
How well do you think the education system addresses the cultural and linguistic needs of tribal students in Kerala?	.698	-	-
To what extent do you believe that tribal women in Kerala have access to maternal healthcare services?	.637	-	-
Please indicate your level of concern about the impact of land encroachment on tribal communities in Kerala:	.632	-	-
How do you perceive the emerging issue of cultural preservation and the loss of traditional knowledge among tribes in Kerala?	-	.732	-
To what extent are tribal voices and perspectives currently considered in policymaking in Kerala?	-	.719	-
How would you evaluate the current State of sanitation and hygiene facilities available to tribal populations in Kerala?	-	.696	-
Please rate the level of access to clean drinking water for tribal communities in Kerala:	-	.675	-
Please rate your awareness of the challenges faced by tribal communities in Kerala, including both current and emerging issues:	-	.673	-
Please rate the effectiveness of social support programs in Kerala for uplifting tribal communities:	-	.631	-
How prepared do you think tribal communities in Kerala are to cope with the impacts of climate change?	-	.581	-
Please rate the current level of healthcare access for tribal communities in Kerala:	-	-	.835
To what extent do you believe that educational opportunities for tribal children in Kerala are currently adequate?	-	-	.798
How would you rate the current employment opportunities available to tribal populations in Kerala?	-	-	.738

Source: Primary Survey, 2023

among the survey items. Table 2 displays the mean ratings and standard deviations of perceptions among tribal communities in Kerala regarding different aspects of government initiatives impacting their lives.

Table 2. Perceptions of Tribal Communities in Kerala on Government Initiatives on Various Societal Factors

Statements	Mean	Std. Dev.
Please rate the current level of healthcare access for tribal communities in Kerala:	4.891	.3443
To what extent do you believe that educational opportunities for tribal children in Kerala are currently adequate?	4.857	.3724
How would you rate the current employment opportunities available to tribal populations in Kerala?	4.831	.4088
Please indicate your level of concern about deforestation and its impact on tribal communities in Kerala:	4.812	.4040
How well do you think the government is addressing land rights and ownership issues among tribal groups in Kerala?	4.802	.4248
Please rate the effectiveness of social support programs in Kerala for uplifting tribal communities:	4.792	.4130
How prepared do you think tribal communities in Kerala are to cope with the impacts of climate change?	4.779	.4576
To what extent are tribal voices and perspectives currently considered in policymaking in Kerala?	4.788	.4520
How do you perceive the emerging issue of cultural preservation and the loss of traditional knowledge among tribes in Kerala?	4.758	.4696
Please rate your awareness of the challenges faced by tribal communities in Kerala, including both current and emerging issues:	4.770	.4627
Please rate the level of access to clean drinking water for tribal communities in Kerala:	4.757	.4870
How would you evaluate the current State of sanitation and hygiene facilities available to tribal populations in Kerala?	4.784	.4543
To what extent do you believe that tribal women in Kerala have access to maternal healthcare services?	4.753	.4834
Please indicate your level of concern about the impact of land encroachment on tribal communities in Kerala:	4.781	.4502
How well do you think the education system addresses the cultural and linguistic needs of tribal students in Kerala?	4.786	.4410
How would you rate the availability of economic opportunities, including sustainable livelihoods, for tribal youth in Kerala?	4.783	.4431
Please rate the current State of tribal land rights and ownership documentation in Kerala:	4.794	.4418
How well is the government addressing the unique healthcare challenges faced by tribal communities, including traditional healing practices?	4.786	.4410
Please rate the responsiveness of local authorities and non-governmental organisations to the needs of tribal communities in Kerala:	4.805	.4224
How do you perceive the emerging mental health and well-being issue among tribal populations in Kerala?	4.789	.4397

Source: Primary Survey, 2023, Note: Very Bad-1, Very Good-5

The findings indicate high mean ratings across various factors, suggesting positive perceptions among tribal communities regarding government initiatives in Kerala. These perceptions reflect the perceived effectiveness and adequacy of government programs and services in addressing the needs and challenges faced by tribal populations in different spheres of life. The relatively low standard deviations suggest a consensus among respondents regarding their perceptions, indicating a consistent viewpoint within the tribals on these societal factors. These findings underscore the importance of continued efforts and policies addressing the diverse needs and concerns of tribal communities in Kerala. Table 3 provides a comparative analysis of perceptions regarding tribal welfare and socioeconomic and environmental conditions across three districts in Kerala: Idukki, Thiruvananthapuram, and Wayanad.

Table 3. Comparative Analysis of Perceptions on Tribal Welfare, Socioeconomic, and Environmental Conditions in Different Districts

Factors		N	Mean	Std. Dev.	Std. Error	ANOVA
Perceptions on Tribal Welfare and Socioeconomic Conditions (Average of 8 Variable)	Idukki	91	4.7843	.33699	.03533	F (2,379) =4.345 p=0.014
	Thiruvananthapuram	44	4.6392	.36688	.05531	
	Wayanad	247	4.8122	.36502	.02323	
	Total	382	4.7857	.36192	.01852	
Perceptions on Socioeconomic and Environmental Conditions Impacting Tribal Communities (Average of 7 Variable)	Idukki	92	4.7981	.35066	.03656	F (2,377) =7.927 p=0.000
	Thiruvananthapuram	42	4.5748	.43775	.06755	
	Wayanad	246	4.8072	.33830	.02157	
	Total	380	4.7793	.35981	.01846	
Perceptions on Socioeconomic and Environmental Challenges Faced by Tribal Communities (Average of 5 Variable)	Idukki	91	4.8637	.24015	.02517	F (2,380) =18.043 p=0.000
	Thiruvananthapuram	44	4.5955	.46951	.07078	
	Wayanad	248	4.8718	.25612	.01626	
	Total	383	4.8381	.29747	.01520	

Source: Primary Survey, 2023, Note: Very Bad-1, Very Good-5

Data were gathered from the primary survey conducted in 2023, with respondents rating various factors on a scale ranging from 1 (Very Bad) to 5 (Very Good). In terms of perceptions of tribal welfare and socioeconomic conditions, Wayanad emerged with the highest mean perception score of 4.8122, followed by Idukki at 4.7843 and Thiruvananthapuram at 4.6392. An analysis of variance (ANOVA) revealed a significant difference in perceptions among the districts ($F(2,379) = 4.345$, $p = 0.014$). Similarly, when considering perceptions of socioeconomic and environmental conditions impacting tribal communities, Wayanad exhibited the highest mean perception score of 4.8072, followed by Idukki at 4.7981 and Thiruvananthapuram at 4.5748. ANOVA results showed a significant difference in perceptions among the districts ($F(2,377) = 7.927$, $p = 0.000$). Lastly, perceptions of socioeconomic and environmental challenges faced by tribal communities indicated the highest mean perception score in Wayanad at 4.8718, followed by Idukki at 4.8637 and Thiruvananthapuram at 4.5955. ANOVA results again highlighted a significant difference in perceptions among the districts ($F(2,380) = 18.043$, $p = 0.000$). These findings highlight the variability in perceptions regarding tribal welfare and environmental conditions among the surveyed districts, emphasising the need for tailored policies and interventions to address the unique challenges tribal communities face in each district. Table 4 presents a comparative analysis of perceptions of tribal welfare and socioeconomic and environmental conditions across different tribal communities in Kerala.

Data were collected from a primary, with respondents rating various factors on a scale ranging from 1 (Very Bad) to 5 (Very Good). Regarding perceptions of tribal welfare and socioeconomic conditions, the Adiyam community exhibited the highest mean perception score of 4.8247,

Table 4. Comparative Analysis of Perceptions on Tribal Welfare, Socioeconomic, and Environmental Conditions in Different Tribal Communities

Factor		N	Mean	Std. Dev.	Std. Error	ANOVA
Perceptions on Tribal Welfare and Socioeconomic Conditions (Average of 8 Variable)	Adiyan	169	4.8247	.36933	.02841	F (7,374) =1.881 p=0.071
	Hill Pulaya	38	4.8059	.32060	.05201	
	Kanikkar	44	4.6392	.36688	.05531	
	Kattunayakans	12	4.7917	.32567	.09401	
	Kurichiya	2	4.6875	.44194	.31250	
	Kurumbar	1	4.1250	.	.	
	Muthuvan	53	4.7689	.35048	.04814	
	Paniya	63	4.7976	.35811	.04512	
Total		382	4.7857	.36192	.01852	
Perceptions on Socioeconomic and Environmental Conditions Impacting Tribal Communities (Average of 7 Variable)	Adiyan	168	4.8223	.34905	.02693	F (7,372) =4.559 p=0.000
	Hill Pulaya	38	4.9323	.12750	.02068	
	Kanikkar	42	4.5748	.43775	.06755	
	Kattunayakans	12	4.7976	.26870	.07757	
	Kurichiya	2	4.7857	.30305	.21429	
	Kurumbar	1	4.0000	.	.	
	Muthuvan	54	4.7037	.42164	.05738	
	Paniya	63	4.7823	.31304	.03944	
Total		380	4.7793	.35981	.01846	
Perceptions on Socioeconomic and Environmental Challenges Faced by Tribal Communities (Average of 5 Variable)	Adiyan	169	4.9243	.16602	.01277	F (7,375) =9.895 p=0.000
	Hill Pulaya	38	4.8947	.18446	.02992	
	Kanikkar	44	4.5955	.46951	.07078	
	Kattunayakans	12	4.8833	.18007	.05198	
	Kurichiya	2	4.6000	.56569	.40000	
	Kurumbar	1	4.0000	.	.	
	Muthuvan	53	4.8415	.27276	.03747	
	Paniya	64	4.7531	.36989	.04624	
Total		383	4.8381	.29747	.01520	

Source: Primary Survey, 2023, Note: Very Bad-1, Very Good-5

followed by the Paniya community at 4.7976 and the Muthuvan community at 4.7689. ANOVA results indicated no significant difference in community perceptions ($F(7,374) = 1.881, p = 0.071$). Regarding perceptions of socioeconomic and environmental conditions impacting tribal communities, the Hill Pulaya community displayed the highest mean perception score of 4.9323, followed by the Adiyan community at 4.8223 and the Paniya community at 4.7823. ANOVA results revealed a significant difference in community perceptions ($F(7,372) = 4.559, p = 0.000$). Lastly, perceptions of socioeconomic and environmental challenges faced by tribal communities indicated the highest mean perception score in the Adiyan community at 4.9243, followed by the Hill Pulaya community at 4.8947 and the Muthuvan community at 4.8415. ANOVA results demonstrated a significant difference in community perceptions ($F(7,375) = 9.895, p = 0.000$). These findings emphasise variations in perceptions regarding tribal welfare and environmental conditions across different tribal communities in Kerala, emphasising the need for tailored interventions to address the unique challenges faced by each community.

Conclusion

The study found that tribals in Kerala generally have positive views about

government efforts, indicating that they find these initiatives adequate in tackling their various challenges. The consistency in responses suggests a shared viewpoint among tribal members. However, there are differences in perceptions across districts, underscoring the necessity for customised strategies to address the specific issues tribal groups face regarding their well-being and environmental circumstances in each area. Even though they have positive perceptions of existing socioeconomic, environmental, and welfare aspects, their socioeconomic conditions are poor compared to other sections of society. The level of socioeconomic progress varies between tribals and others. These disparities make their development more challenging for the policymakers. Implementing well-structured programs and policies for further development is necessary to protect them from underdevelopment.

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BOOK REVIEW



Whispers of Sahra: A Tale of Two Girls

By Akhil Vishnu Muraleedharan

Publisher: Story Mirror Infotech Pvt. Ltd

Reviewed By Mohanan Bhaskaran Pillai

Akhil Vishnu Muralidharan's novel 'Whispers of Sahra' offers a unique reading experience. The work of Akhil, a newcomer in the world of literature, unfolds in the fictional land of Sahra. It tells the tale of a girl who is the head of the tribe, striving to protect the uniqueness and pride of her land. This narrative also encompasses another girl who joins her from a foreign land. Set against neoliberal globalisation, Akhil narrates the story of those threatened with losing their identity and their courageous struggle to protect it. Viewed thus, it is not just the story of two girls. In 'Whispers of Sahra' are Riya, Amal, and the baby Vihaan. In a way, they all serve as victims of neoliberal subjugation.

The story of Vihaan depicts a young child growing up in the digital age, where young couples rush through life with little time for anything, particularly for their children. Their parents were different; they lived to create a better future for their offspring. Now, Vihaan is leaving school. Wandering with nowhere to go, he reaches Sahra. His parents, who arrived in Sahra searching for Vihaan, found themselves enticed and transformed by the lush green surroundings. An astonishing shift occurred at their level of consciousness. The people of Sahra live in harmony with nature.

In Sahra, there is no conflict between humans and animals. Outsiders who come here experience a unique rapport with nature. Akhil, the storyteller, presents a vision of life based on Indianness as an alternative to the negativities of market-prompted globalisation. This innovative eco-feminist perspective shines through in Sahra, where people coexist in perfect harmony with nature. This portrayal is particularly inspiring at a time when the entire Western Ghats region grapples with human-animal conflict. The people of Sahra serve as a powerful example of living in

equilibrium with nature.

Similarly, Akhil introduces a distinct brand of feminism, as evidenced by the discussions in the Sahra Council regarding the election of the chief. This perspective carries a touch of Indianness. Our women advocates, often captivated by feminist theories imported from Western cultural backgrounds, must heed this part of the discussion at the Sahra Council: "Your mother raised six unintelligent and undisciplined children and turned them into wise and disciplined men. This is not just her story; it is the story of every mother. If she can transform children into warriors, why do you believe a woman cannot lead a group of wise, experienced men?" "We need a leader. The most important consideration is choosing the right person to lead us. Gender, age, or faith should not divide us."

The Council's discussion concluded with Adrija, a teenager, being chosen as Sahra's chief. Adrija was able to subdue Malik, who had come to capture Sahra, using her leadership qualities despite her youth. Moreover, Adrija, affectionately called Adi, is imparting leadership skills to Ana, a foreigner who arrived in Sahra. Ana is confident she can return and liberate her motherland from Malik's control. Hopefully, she will save her family and her homeland, Amar, through her leadership acumen. Thus, the story of a tribal chief striving to protect the uniqueness and pride of her homeland mirrors the story of another girl who has come from a distant land.

Akhil's narrative is a mesmerising journey along the fine line between reality and fantasy. The journey of the Sahrans from the beautiful coast to Kirtimukha Mountain is enticing.

Through his novel, Akhil demonstrates that alternatives exist for the ordinary individual caught in the competitive trap of neoliberal capitalism, which prioritises profit. Sahra has impacted everyone who has had the opportunity to traverse its mysterious and mystical terrain. Akhil, the narrator, has infused Sahra's charm into the hearts of readers. Whispers of Sahra is not an ordinary novel but a gripping tale of courage and resilience in a world ravaged by forces of darkness and despair. It is a rare work that arises from the confluence of reality and fantasy. Ultimately, it is the story of a resilient girl who courageously leads her people to victory against wretched forces.



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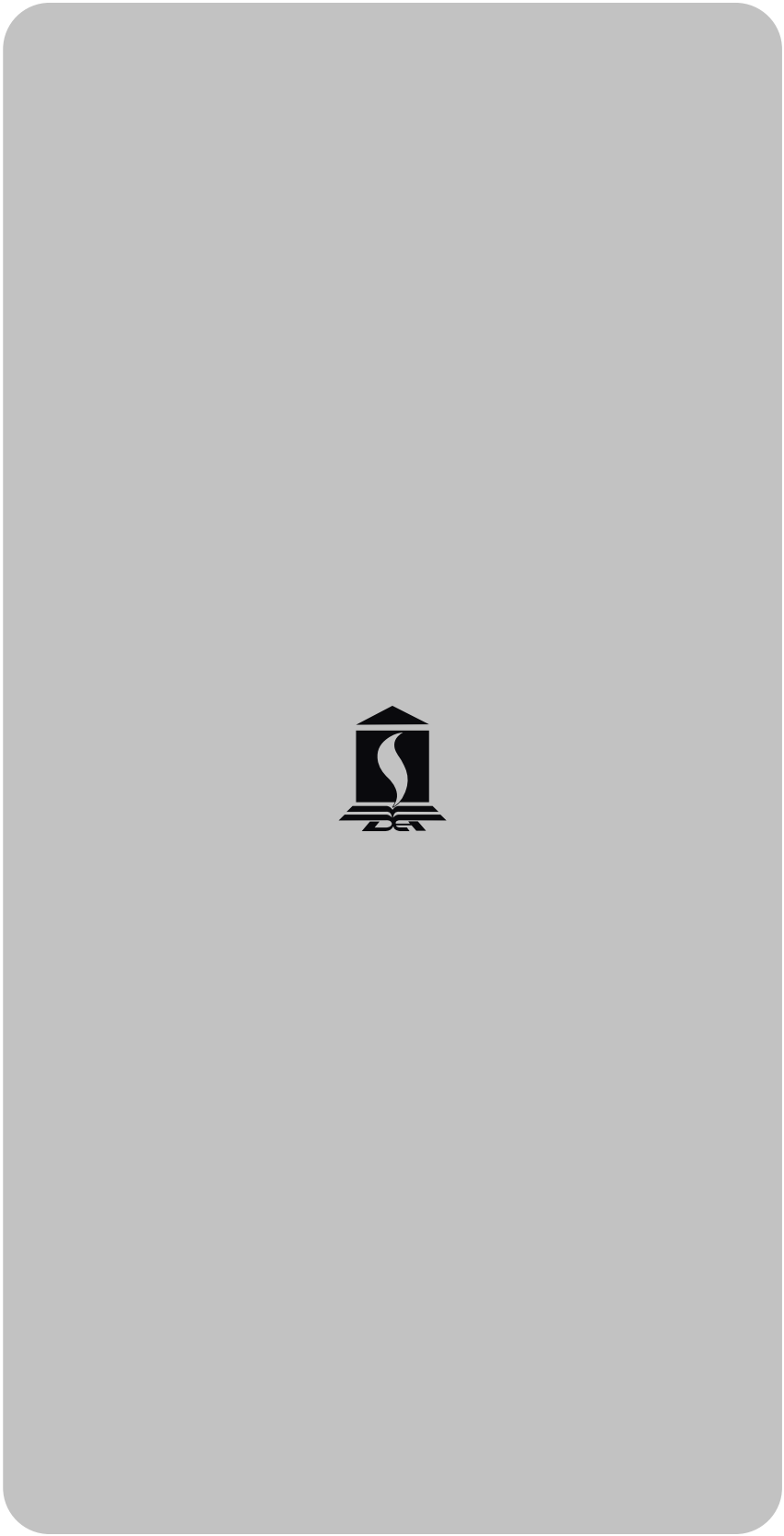
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CONTENTS

Introduction

PAGE **Accentuated Marginalization Faced
333 by the Infertile Woman**
Rajalekshmi M. & Nisha Jolly Nelson

PAGE **Red Dots on Silver Screen: Menstruating
355 Women of Malayalam Cinema**
Jahnvi Nair & Arunima S.

PAGE **Granger Causality Analysis: Investigating
375 Interdependencies in Stock Prices of
Tyre Companies in India**
Adarsh

PAGE **National Monetization Pipeline (NMP) in India:
383 Initiatives and Challenges**
Nitheesh Kumar P. K.

PAGE **Municipal Finance: A Study of Thiruvananthapuram
395 Municipal Corporation**
Jerry Alwin

PAGE **Perceptions of Tribals on Their Socioeconomic,
407 Environmental and Welfare Aspects in Kerala**
Shereen Beula L. Jose & Prasad A. K.

PAGE **BOOK REVIEW**
417 Whispers of Sahra: A Tale of Two Girls
Akhil Vishnu Muraleedharan
Reviewed By Mohanan Bhaskaran Pillai
