

## CUSTOMER PERCEPTION TOWARDS ONLINE BANKING

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### Abstract

The pandemic has changed the way in the people around the world in the field of digital banking. Most bank branches encourage customers not to visit their branches and make use of online banking wallets for ongoing day to day transaction. Online banking is the method of executing banking transactions over the internet. Online banking can be done without physically visiting the bank branch and it can make the transaction through an electronic basis, without the exchange of any tangible commodity by maintaining social distance. The present study is conducted to understand the perception of customers towards during Covid 19 pandemic, to identify the level of awareness of various online banking services, to identify the level of usage of various online banking services and to measure the level of satisfaction of customers towards online banking service. A sample of 120 college teachers is selected by using purposive sampling method. The study revealed that level of perception of customers reveals that customers have a moderate level of perception towards online banking service during Covid 19 pandemic, and customers have high awareness towards fund transfer, payment of bills and shop and order.

### Keywords:

Customer Perception, Satisfaction, Awareness

### I. Introduction

Electronic banking is one of the truly extensive avatars of e-commerce the world over. In simple words, e-banking implies provision of banking products and services through electronic release channels. The facility of internet banking is provided through banks and the customer must be an account holder with any bank to get the available facility. E-Banking means the arrangement of banking and related assistance through extensive utilization of data innovation without direct plan of action to the bank by the client. Internet Banking is a convenient way to do banking from the comfort of home or office and avoid the queue or delays.

Daniel defines E-banking as the delivery of banks information and service by banks to customers via different delivery. Platforms that can be used different terminal devices such as a personal computer and mobile.

### II. Significance of the Study

Nowadays, a lot of changes happening in the banking sector and COVID 19 outbreak changed the shape of the banking industry. Internet banking emerged as a strategic resource for achieving higher efficiency control operation and reduction of cost by replacing paper based and labour intensive method with automated process, thus leading higher productivity and profitability. The perception of bank customers towards online banking needs to be studied and analyzed especially during the Covid 19 pandemic period, as it will help the authorities to provide better services. It will further influence the satisfaction and loyalty of the customers. Hence, a study on perception towards online banking is significant and relevant.

### III. Research Problem

During the Covid-19 pandemic period, there occurred an exorbitant increase in the online banking transactions. Many customers prefer online banking services. In this context, the frequency of online

transactions, the level of usage of customers and the level of awareness of customers with respect various online banking services needs to be checked. The customers may face various issues and challenges while using the online banking services. Customers may or may not be satisfied depending on the quality of online banking services provided. Hence a study is conducted Areekode Block Panchayath to address the issue of perception and satisfaction of customers towards online banking services.

#### IV. Objectives of the Study

The following are the objectives of the study:

- To study the perception of customers towards during Covid 19 pandemic
- To identify the level of awareness of various online banking services.
- To identify the level of usage of various online banking services.
- To measure the level of satisfaction of customers towards online banking service
- To find out the issues and challenges faced by customers while using online banking services during Covid 19 pandemic.

#### V. Research Hypotheses

The following are the research hypotheses:

- There is no significant difference between the mean ranks of the opinion of the customers as regard the factors influencing online banking service during Covid 19 pandemic.
- There is no significant difference between mean scores of bank category as regard perception of customers towards online banking.
- There is no significant difference between mean scores of bank category as regard the problem of online banking during Covid 19 pandemic.
- There is no significant difference between the mean score of age as regard perception of customers.
- There is no association between age and level of usage of online banking service.

#### VI. Research Methodology

The study is conducted in the Areekode block Panchayath of Malappuram District of Kerala. The population of the study constitutes all the online banking users in Areekode Block Panchayath. Both primary and secondary data are used for the study. Primary data collected from online banking users in Areekode Block Panchayath and secondary data is collected from books, journals and internet. The sample size of the study is 110. The method of sampling is purposive sampling. Questionnaire method is used for collecting the primary data. The various tools used for analysis include percentage, mean, ranking, scaling etc. Graphs are also used to have more clarity. Hypotheses are tested by using chi-square test, Mann Whitney U test and Kruskal Wallis H test. Perception is measured by using five point Likert scale. The five points are strongly disagree, disagree, neutral, agree and strongly disagree. Seven statements are used for measuring perception. The data analysis is done with SPSS (Version 26).

#### VII. Results and Discussion

**Table 1 Level of Perception**

Level	Frequency	Percentage
Low	19	17.3
Moderate	53	48.2
High	38	34.5
<b>Total</b>	<b>110</b>	<b>100</b>

The analysis of the level of perception reveals that about 38% customers have high level, 53% have moderate and 19% have level of perception towards online banking.

**Table 2 Awareness level as regards Online Banking Services**

Online Banking Services	Level of Awareness		
	High	Medium	Low
Fund transfer related	85	21	4
Account and Deposit related	38	38	34
Cheque/DD related	43	46	21
Payment of Bills	83	26	1
Shop and Order	74	25	11
Taxation related	21	44	45
Other Services	22	45	43

For analyzing awareness level, seven factors are considered such as Fund transfer related, Account and Deposit related, Cheque/DD related, Payment of Bills, Shop and Order, Taxation related and other services. Analysis of the Awareness level as regards Online Banking Services reveals that customers have high awareness towards fund transfer, payment of bills and shop and order. The awareness level of customers is comparatively low with respect to taxation, accounts and deposits and other services

**Table 3 Level as regards Online Banking Services**

Online Banking Services	Level of Usage				
	Very Rarely	Rarely	Sometimes	Often	Very Often
Fund transfer related	0	6	9	32	63
Account and Deposit related	16	15	28	31	20
Cheque/DD related	27	19	31	26	7
Payment of Bills	1	2	15	30	62
Shop and Order	6	8	15	26	55
Taxation related	33	27	27	18	5
Other Services	34	20	32	19	5

An attempt is made to know the usage level of various banking services. Analysis of the usage level as regards Online Banking Services reveals that customers' usage level is high with respect to fund transfer, payment of bills and shop and order. The usage level of customers is comparatively low with respect to taxation, accounts and deposits and other services.

**Table 4 Satisfaction level as regards Online Banking Services**

Online Banking Services	Level of Satisfaction				
	Highly Dissatisfied	Dissatisfied	Neutral	Satisfied	Highly Satisfied
Fund transfer related	1	3	6	41	59
Account and Deposit related	2	2	52	37	17
Cheque/DD related	4	5	57	34	10
Payment of Bills	1	2	7	43	57
Shop and Order	1	5	18	49	37
Taxation related	5	5	64	27	9
Other Services	5	7	62	25	11

Analysis of the satisfaction level as regards Online Banking Services reveals that customers' satisfaction level is high with respect to fund transfer, payment of bills and shop and order. The satisfied level of customers is comparatively low with respect to taxation, accounts and deposits and other services.

**Table 5 Problems faced in Online Banking Service**

Problems	Mean
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Absence of personal contact	2.66
Less reliable than branch banking	2.68
More chance for fraudulent transactions	3.34
Lack of trust and security	2.45
Always interrupted by poor net connection	3.50

The problems faced by customers during online banking service during reveals that the most serious problem is interruption due to poor net connection (3.50). The other problems are chance for fraudulent transactions (3.34), less reliable than branch banking an absence of personal contact. The comparatively least problem is lack of trust and security.

**Table 6 Results of Hypotheses Testing**

Research Hypothesis	P Value	Result
There is no significant difference between the mean ranks of the opinion of customers as regards factors influencing online banking service during Covid 19 pandemic.	<0.000	Ho rejected at 1%
There is no significant difference between the mean scores of bank category as regards perception of customers towards online banking.	0.264	Ho accepted at 5%
There is no significant difference between the mean scores of bank category as regards problems of online banking service during Covid 19 pandemic	0.410	Ho accepted at 5%
There is no significant difference between the mean scores of age as regards perception of customers towards online banking.	0.853	Ho accepted at 5%
There is no association between age and level of usage of online banking	<0.000	Ho rejected at 1%

### VIII. Conclusion

In the crisis of Covid-19, digital access to banking services has become essential. Though it is still possible to visit some bank branches, people opted to staying home and transacted payments through online which has resulted in an increase in digital banking usage. Online banking is useful to customers as well as banks and other organizations. To increase efficiency, service quality of banks, safety, integrity, online banking can be used in a rightful way. The study has been conducted among 110 customers who belong to both private banks and public bank customers. The overall analysis of customer perception reveals that perception level of customers towards online banking services is moderate. The level of usage, level of awareness and level of satisfaction is high with respect to fund transfer, payment of bills and shop and order. The analysis revealed that the most important factor which attracts online banking service is quality of services.

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Humanities and Social Science Studies, Vol. 12, Issue 2, No. 16, July – December: 2023  
**STRESS AND BURNOUT AMONG NURSES DURING COVID 19 PANDEMIC**

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### **Abstract**

Health workers play a central and pivotal role in providing quality health care services. Their services are available to ensure care and share feelings for 24 hours. Amidst the ongoing Covid-19 pandemic, nurses across the worldwide have turned up as the heroes of the unprecedented crisis. Nurses remain in the forefront to fight against the epidemics and pandemics. They provide primary care, treatment and provide vital medicines to patients on time. It is an unfeasible situation to win the battle against the virus without nurses as they are helping the doctors in the treatment of patients. The present study is conducted to measure the level of stress and burnout among nurses during Covid 19 pandemic, dimensions of burnout and also to identify the various measures for reducing stress and burnout. The study is conducted in the Manjeri Municipality. The analysis revealed that the nurses in Manjeri Municipality experience a moderate level of stress and burnout in their job.

**Keywords:** Stress, Burnout, Dimensions, Nurses

### **Introduction**

Nursing is generally perceived as a stressful and demanding profession. It is both physically and psychologically challenging as they deal with people who are suffering from major or minor health problems and life threatening situations (Bakker et.al, 2000). Nurses remain in the forefront to fight against the epidemics and pandemics. They provide primary care, treatment and provide vital medicines to patients on time. It is an unfeasible situation to win the battle against the virus without nurses as they are helping the doctors in the treatment of patients. Now they are the people inoculating Covid-19 vaccine to patients. In the successful management of any health crisis, nurses act as a crucial link between the patients and the rest of health care team.

### **Significance of the Study**

Covid 19 pandemic has made it a topic of discussion that every nation should invest in nursing jobs, education and leadership to achieve universal health coverage. As India continues its fight towards the pandemic, nurses are the front warriors against it by providing service to block the spread of virus. In that crucial time, India faces a shortage of prescribed strength of nurses. India has 1.7 nurses per 1000 population, which is 43% less than the World Health Organization norm (3 per 1000). This shortage is due to improper rural-urban distribution. Another important reason for the shortage of nurses in the Indian medicinal sector are overworked, underpaid and often undervalued. These prompt thousands of them to migrate overseas every year in search of better-paying jobs for the security of their families. Since the beginning of the COVID-19 pandemic, healthcare workers have been under heavy workload conditions worldwide. Limited resources, longer shifts, disruptions to sleep and work-life balance, and occupational hazards associated with exposure to patients with COVID-19 have contributed to adverse psychological outcomes among healthcare workers in terms of post-traumatic stress, insomnia, anxiety and depression. The COVID-19 pandemic may have also negatively impacted healthcare workers in terms of increased burn-out. Hence a study on burnout and stress among nurses is significant and important.

### **Research Problem**

The study is proposed to be conducted in Manjeri Municipality. By the second wave, Covid 19 pandemic has resulted in an increased demand for healthcare services. On this situation, the Kerala

Humanities and Social Science Studies, Vol. 12, Issue 2, No. 16, July – December: 2023

government has allowed the private hospitals for the consultation of Covid patients. The employees in many sectors had a working of 8 hours, but in the case of medical services, nurses should work for 24 hours. In the conditions of Covid, increase in the Covid positive cases, emergency cases, quarantine stress and improper nurse patient ratio created a severe situation for the work life of nurses. As the demand for nurses and their services increases, stress level increases, this in turn may result in burnout. Hence, it becomes a problematic issue to make a study on the burnout and stress among nurses in Manjeri Municipality during Covid 19 pandemic.

### Scope of the Study

The study is intended to measure the level of burnout and stress among nurses during Covid 19 Pandemic. It will also identify the cause and consequences of stress and the dimensions of burnout. The area of the study is limited to IT employees in Calicut District.

### Research Objectives

1. To measure the level of stress among nurses during Covid 19 pandemic
2. To measure the level of burnout among nurses during Covid 19 pandemic
3. To analyze the various dimensions of burnout among nurses
4. To identify various strategies for reducing stress and burnout.

### Research Hypotheses

1. There is no significant difference between the mean ranks of the opinion of nurses as regards causes of stress.
2. There is no association between hospital category and level of stress of nurses.
3. There is no association between marital status and level of stress of nurses.
4. There is no association between age and level of stress of nurses.
5. There is no association between experience and level of stress of nurses.
6. There is no significant difference between the mean scores of hospital category as regards level of burnout of nurses.
7. There is no significant difference between the mean scores of gender as regards level of burnout of nurses.
8. There is no significant difference between the mean scores of age as regards level of burnout of nurses.

### Research Methodology

The study is conducted in the Manjeri Municipality. The population of the study constitutes all the nurses working in Manjeri Municipality. The study is partly descriptive and partly analytical in nature. Both primary and secondary data are used for the study. Primary data is collected from nurses working in Manjeri Municipality and secondary data is collected from books, journals and internet. The sample size of the study is 120. 60 nurses are selected from Govt hospitals and 60 are selected from private hospitals. The method of sampling is purposive sampling. Questionnaire method is used for collecting the primary data. Hypotheses are tested by using Chi-square test, Friedman test, Mann Whitney U test and Kruskal Wallis H test. Stress is measured by using five point Likert scale. Burnout level is measured by using Maslach Burnout Inventory (MBI).

### Results and Discussion

**Table 1**  
**Level of Stress**

Level of Stress	Frequency	Percentage	Cumulative Percentage
Low	29	24	24

Moderate	53	44	68
High	38	32	100
<b>Total</b>	<b>120.0</b>	<b>100.0</b>	-

The analysis of level of stress revealed that the nurses in Manjeri Municipality experience a **moderate level of stress** in their job. The analysis of 16 variables shows that 44% experience moderate level of stress and 32% experience high level of stress

**Table 2**  
**Level and Dimensions of Burnout**

Components	Average Score	Level
Emotional Exhaustion	20	Moderate
Depersonalization	18	Moderate
Personal Achievement	26	Moderate
<b>Overall Level</b>		<b>Moderate</b>

The level of burnout is measured by using Maslach Burnout Inventory (MBI). The study revealed that the level of burnout experienced by the nurses in Manjeri Municipality at the time of Covid 19 pandemic is moderate. The study revealed that various dimensions of burnout are emotional exhaustion (Mean score -20), depersonalization (Mean score -18) and personal achievement (mean score -26). Level of all dimensions is identified as moderate and the overall burnout level is also moderate.

**Table 3**  
**Strategies for reducing Stress**

Coping Strategies	Frequency
Yoga /Meditation	57
Physical exercises	62
Connect with supportive people	62
Enough sleep	65
Breath therapy	40

Nurses adopt various measures to reduce the stress and burnout in their job. The strategies are enough sleep (frequency of 65), physical exercise (62), connect to supportive people (62), yoga and meditation (57) and breath therapy (40). It shows that mostly preferred coping strategy is enough sleep for the nurses.

**Table 4**  
**Results of Hypotheses Testing**

Research Hypothesis	P Value	Result
There is no significant difference between the mean ranks of the opinion of nurses as regards causes of stress.	<0.000	Ho rejected at 1%
There is no association between hospital category and level of stress of nurses.	<0.000	Ho rejected at 1%
There is no association between marital status and level of stress of nurses.	<0.018	Ho rejected at 5%
There is no association between age and level of stress of nurses.	<0.000	Ho rejected at 1%



There is no association between experience and level of stress of nurses.	<0.001	Ho rejected at 1%
There is no significant difference between the mean scores of hospital category as regards level of burnout of nurses.	0.048	Ho rejected at 5%
There is no significant difference between the mean scores of gender as regards level of burnout of nurses.	0.098	Ho accepted at 5%
There is no significant difference between the mean scores of age as regards level of burnout of nurses.	0.016	Ho rejected at 5%

### Conclusion

Nurses are a group of workers subject to high degree of stress. The various factors which causes of stress were lack of professional knowledge and skills, work environment and workload. The study reveals that the stress and burnout faced by the nurses in Manjeri Municipality at the time of COVID 19 pandemic were moderate and high. The major cause of stress was the lack of professional knowledge and skill of nurses. Other factors were workload, difficulty in getting leave, treatment of COVID patient, delayed and unfair remuneration and lack of job security. The nurses mainly adopt enough sleep, physical exercise and connect with supportive people as the coping strategies of stress. The hospital managements and authorities should take the initiatives to overcome the employee's problems. A high productive unit of nurses can improve the hospital efficiency from the present level.

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## ORGANIZATION CITIZENSHIP BEHAVIOUR AMONG BANK EMPLOYEES

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### Abstract

Organizational citizenship behaviour can be said as employee's interest, voluntary commitment and willingness to go above and beyond their contractual tasks in the workplace by performing positive actions that benefit their business as well as co-workers even though they are not in their job description. Employees' exhibit organizational citizenship behaviour voluntarily will support their co-workers and this type of behaviour is always very much expected from all workers working in the organization. There are several factors to take into account that influence organizational citizenship behaviour of an employee. Investigating and examining these would definitely contribute to enhance the organizational effectiveness. The present study is intended to identify the dimensions and level of organizational citizenship behaviour and the level job satisfaction among bank in Manjeri Municipality. A sample of 120 employees, 60 from public sector and 60 from private sector banks, is selected by using purposive sampling method. The study reveals that 50.8% of employees have moderate level of organization citizenship behaviour.

**Keywords: Organizational Citizenship Behaviour, Dimensions, Job Satisfaction**

### I. Introduction

Organization Citizenship Behaviours are individual, discretionary actions by employees that are outside their formal job description. OCB refers to the behaviours of employees or individuals that promote effectiveness in organizational functioning. OCB is a term that encompasses anything positive and constructive that employees do perform of their own choice which supports the co-workers and benefits the company. Volunteering for extra work, cooperating with colleagues and sharing ideas are some examples of OCB.

Dennis Organ defines organizational citizenship behaviour is defined as work-related factors that are discretionary, not related to the formal organizational reward system, and, in aggregate, promote the effective functioning of the organization.

In Indian banking sector, there are several indicators for measuring effectiveness of the organization such as competition from foreign banks and non-banking financial institutions, bureaucratization, increasing political pressure, maintaining asset quality and losses in rural branches.

### II. Significance of the Study

Organization citizenship can boost the morale of bank employees. It enhances the people's level of work meaningfulness. It is important for improving employee productivity. In point of fact, researches show that organizational citizenship behaviour positively predicts performance. It creates better social associations between employees. An organization with a positive and enabling culture helps employees feel that they have some level of role and ownership over the organizational operations. Moreover, organizational citizenship behaviour is considered as an inseparable element of performance management these days and it is considered for the evaluation of various organizational aspects.

Banking has become more competitive in respect of the pricing of bank products and the location of point of sale. It has been reported that organizational citizenship behavior (OCB) is related to organizational performance. It is also noted that the concepts of OCB and service quality are related. Hence a study about organizational citizenship behaviour in banks helps to identify and analyze the role of organization citizenship behaviour in improving profitability of banks, customer creation and retention. . Hence a study about organizational citizenship behaviour in among bank employees is found significant and relevant which helps to identify and analyze the role of organization citizenship behaviour in improving profitability of banks, customer creation and retention.

### III. Research Problem

One of the most important factors that influence the dynamics of organizational life is the employees working in that organization. Organization citizenship behaviour includes voluntary and gratuitous contributions by the employees to the organization that employ them. Former studies regarding the antecedents of organization citizenship behavior focus on submission, employee attitudes and leader supportiveness. But recently it is examined that there are several other variables to determine the antecedents of organization citizenship behaviour such as job satisfaction, perceptions of organizational justice, personality task and characteristics, organization commitment and leadership behaviour. When the workers feel that they have some kind of acceptance and recognition, they will exhibit a readiness to contribute to the organization beyond contractual obligation. Organization having employees highly engaged in organization citizenship behaviour would strengthen managerial efficiency and organizational effectiveness. In banking industry, the organization citizenship behaviour is such an important factor as its productivity is measured on customer creation and retention. Customer creation is highly based on service provision and it is based on employee behaviour. Hence the study intends to identify the level of organization citizenship behaviour bank employees in Manjeri Municipality and to test whether the level of organization citizenship behaviour has any association with demographic variables.

### IV. Scope of the Study

The present study is conducted to identify the level of organization citizenship behaviour among bank employees. The area of the study is Manjeri Municipality and all the banks employees working in Manjeri Municipality is considered for the study. The private and public sector commercial banks in Manjeri Municipality are considered and cooperative banks are excluded. The study aims to find various determinants of organization citizenship behaviour, dimensions of organization citizenship behaviour and determine the level of organization citizenship behaviour exhibited by the bank employees.

### V. Objectives of the Study

The following are the objectives of the study:

- To identify the dimensions of Organization Citizenship Behaviour among bank employees.
- To determine the level of Organization Citizenship Behaviour exhibited by bank employees.
- To measure the level of satisfaction of bank employees.
- To know whether there is any association between level of Organization Citizenship Behaviour and demographic variables.

### VI. Research Hypotheses

The following are the research hypotheses:

- There is no significant difference between the mean ranks of the opinion of bank employees as regards factors inspiring to visit bank branch.
- There is no association between bank category and level of organization citizenship behaviour.
- There is no association between marital status and level of organization citizenship behaviour.
- There is no association between age and level of organization citizenship behaviour.
- There is no association between bank category and level of job satisfaction.
- There is no association between marital status and level of job satisfaction.
- There is no association between age and level of job satisfaction.
- There is no significant difference between the mean scores of bank category as regards level of organization citizenship behaviour.
- There is no significant difference between the mean scores of bank category as regards level of job satisfaction.

## VII. Research Methodology

The study is conducted in the Manjeri Municipality of Malappuram District. The population of the study constitutes all the bank employees working in Manjeri Municipality. Both primary and secondary data are used for the study. Primary data is collected from bank employees working in Manjeri Municipality and secondary data is collected from books, journals and internet. The sample size of the study is 120. 60 bank employees are selected from public sector banks and 60 are selected from private sector banks. The method of sampling is purposive sampling. Questionnaire method is used for collecting the primary data. The various tools used for analysis include percentage, mean, standard deviation, ranking, scaling etc. Graphs are also used to have more clarity. Hypotheses are tested by using Chi-square test, Friedman test, and Mann Whitney U test. Kolmogorov-Smirnov Test (K-S Test) and Shapiro-Wilk Test (S-W Test) are used for testing the normality of data. Reliability Analysis is done with Cronbach's Alpha. Data analysis is done by using SPSS (Version 26).

## VIII. Results and Discussion

**Table 1**

**Level of Organization Citizenship Behaviour**

Level	Frequency	Percentage
Low	30	25
Moderate	61	50.8
High	29	24.2
<b>Total</b>	<b>120</b>	<b>100</b>

The analysis of the level of organization citizenship behaviour reveals that 50.8% of employees have moderate level of organization citizenship behaviour. 25% have low and 24.2% have high organization citizenship behaviour.

**Table 2**

**Dimensions of Organization Citizenship Behaviour**

Dimensions	Mean	S.D
Altruism	4.56	0.541
Conscientiousness	4.56	0.564
Civic Virtue	4.48	0.61
Sportsmanship	4.33	0.595
Courtesy	4.16	0.63

The five dimensions of organizational citizenship behaviour are identified from the study. The analysis reveals that the most important dimensions are Altruism and Conscientiousness (mean value with 4.56) and the dimension with least mean value is Courtesy.

**Table 3**

**Level of Job Satisfaction**

Level	Frequency	Percentage
Low	41	34.2
Moderate	24	20
High	55	45.8
<b>Total</b>	<b>120</b>	<b>100</b>

An attempt is made to determine the level of job satisfaction among bank employees. The analysis reveals that 45.8% of employees have high level of job satisfaction. 20% have moderate and 34.2% have low level of level of job satisfaction.

**Table 4**

**Results of Hypotheses Testing**

Research Hypothesis	P Value	Result
There is no significant difference between the mean ranks of the opinion of bank employees as regards factors inspiring to visit bank branch	<0.000	Ho rejected at 1%
There is no association between bank category and level of organization citizenship behaviour	0.975	Ho accepted at 5%
There is no association between marital status and level of organization citizenship behaviour.	0.845	Ho accepted at 5%
There is no association between age and level of organization citizenship behaviour.	0.562	Ho accepted at 5%
There is no association between bank category and level of job satisfaction	0.000	Ho rejected at 1%
There is no association between marital status and level of job satisfaction	0.011	Ho rejected at 5%
There is no association between age and level of job satisfaction.	0.043	Ho rejected at 5%
There is no significant difference between the mean scores of bank category as regards level of organization citizenship behaviour.	0.825	Ho accepted at 5%
There is no significant difference between the mean scores of bank category as regards level of job satisfaction.	0.000	Ho accepted at 5%

**IX. Conclusion**

The present study covers organization citizenship behaviour and job satisfaction of bank employees in Manjeri Municipality. The study identifies five dimensions of organization citizenship behaviour. The most important among them are Altruism and Conscientiousness. There is a moderate level of organization citizenship behaviour and a high level of job satisfaction existing among bank employees in Manjeri Municipality. Job satisfaction is high with respect to several factors except training and development. The bank should focus, assess and overcome the shortcomings mentioned and work on the suggestions put forward by the study so as to improve the present level of organization citizenship behaviour among bank employees and also to have a better organizational life and job satisfaction for the employees.

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## **FAMILY ENVIRONMENT OF WOMEN BANK EMPLOYEES IN KERALA**

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### **Abstract**

The family environment has a significant impact on employees' work-life balance and job happiness. The settings and social atmosphere that exist within families are considered to be a part of the family environment. Every family environment is diverse since every family is made up of various people in different settings. The settings may vary in numerous ways. A positive family environment is one in which employees are safe, achieve their goals, and grow professionally, personally and emotionally. Financial soundness of the family, support of family members, attitude of family members to send an employee into work etc are the factors included in this paper. The study is conducted in the state of Kerala and a sample of 372 women bank employees were selected by using stratified random sampling method. The study examines the family environment of women bank employees in Kerala and their level of satisfaction on family environment.

### **Keywords:**

Family Environment, Women Bank Employees, Level of Satisfaction

### **I. Introduction**

The present study is an attempt to understand the family environment of women bank employees and the level of employee satisfaction on their family environment. The family environment plays an important role in employee growth and productivity. The family environment is the sum of the various personal or family factors that exist within the family of the employee. Family environment involves the surroundings and circumstances that exist within the family. It refers to the social climate conditions within the family. Family environment is influenced by a number of factors such as number of members in the family, financial soundness of the family, house hold work, support of family members, child care and elder care responsibilities, etc. Family environment may be positive or negative. A positive environment in the family creates love, affection and mutual respect among the family members. It helps the employees to maintain a better work life balance. A negative family environment worsens the work life balance of employees. For this study Family Environment includes variables such as support of the family members, attitude of family members to send to work, financial soundness of the family, support of the family members for career growth and development of the employee.

### **II. Significance of the Study**

Understanding the dynamics of a woman's family environment helps in assessing her work-life balance. Banks, like many other sectors, demand commitment and long working hours. An understanding of their family obligations can aid in creating policies and support systems that facilitate a healthy balance between work and personal life, thus improving employee satisfaction and retention. Family dynamics can influence a woman's career choices and progression within the banking sector. Factors such as support from family members, childcare responsibilities, and familial expectations can impact career decisions and aspirations. Studying these aspects can help in designing career development programs tailored to the needs of women employees. Family environment plays a crucial role in determining an individual's stress levels and overall well-being. Conflicts or support within the family can directly affect job performance, absenteeism, and overall job satisfaction among women bank employees. Identifying stressors originating from the family environment can aid in implementing support mechanisms and interventions to mitigate their impact on employees' mental health. A supportive family environment can positively impact employee productivity and

performance. Factors such as emotional support, childcare arrangements, and access to resources can alleviate stress and enable women to focus more effectively on their professional responsibilities. Understanding these dynamics can lead to the development of initiatives aimed at enhancing employee engagement and job satisfaction. Studying the family environment of women bank employees is crucial for designing policies, programs, and initiatives that promote their well-being, career development, and overall success within the banking sector. By addressing the unique challenges and opportunities presented by their family dynamics, organizations can create a more inclusive, supportive, and equitable work environment for all employees.

**III. Scope of the Study**

The present study is an employee-centric study related to Family Environment of women employees working at various public, old private sector and new private sector banks in Kerala. The paper examines various factors that influence the Family Environment of women bank employees in Kerala.

**IV. Objectives of the Study**

The following are the objectives of the study:

1. To analyze the factors influencing Family Environment of women bank employees in Kerala
2. To measure the level of satisfaction experienced by women bank employees from their Family Environment.

**V. Hypotheses of the Study**

1. There is no significant difference in the Family Environment of the women employees in public, old private and new private banks in Kerala as regards category, location and designation.
2. There is no difference in the opinion of women employees in public, old private and new private banks in Kerala on Satisfaction from the Family Environment

**VI. Research Methodology**

The population of the study constitutes the women bank employees in Kerala. For the study, respondents from three sectors were identified viz, Public Sector Banks (PSBs), Old Private Sector Banks (OPBs) and New Private Sector Banks (NPSBs). From the Public Sector, SBI was selected. Federal bank was selected from Old Private Sector Bank and ICICI bank was selected from New private sector banks. The sample size of the study is 372. 124 employees were selected from each category of bank. They are selected by using stratified random sampling method. Both primary and secondary data are used for the study. Primary data is collected from women bank employees in Kerala and secondary data from books, journals and internet. Questionnaire was used for collecting data. The statistical tools such as percentage, mean scores, standard deviation, scaling etc. are used for data analysis. The hypotheses were tested using Brown-Forsythe test of equality of means and three-way Anova.

**VII. Results and Discussion**

The Family Environment Scale (FES) was developed to examine the status of women bank employees in Kerala with their family. The family environment is of critical significance to the well-being and support to women bank employees in Kerala. Children, young people and adults have a better role in the family to scaffold the women bank employees in Kerala. Family helps to shape, describe and provides a foundation for the success of women bank employees in Kerala.

**Table – 1**  
**Family Environment- Brown-Forsythe Robust Tests of Equality of Means**

Family Environment		Statistic	df1	df2	Sig.
Financial soundness of the family	Brown-Forsythe	.292	2	365.218	.747



The attitude of family members to send you to work	Brown-Forsythe	10.588	2	338.628	<b>.000</b>
Support of your family members to finish off your household work in time	Brown-Forsythe	2.444	2	355.074	.088
Support of your family members to take care of your children and other dependents	Brown-Forsythe	7.871	2	360.788	<b>.000</b>
Support of your family members to your career growth and development	Brown-Forsythe	4.842	2	365.727	<b>.008</b>
a. Asymptotically F distributed.					

**Source: Primary data**

The statistical significance of the statements in the variable family environment was tested with the support of Brown-Forsythe Robust Tests of Equality of Means. Except the statements namely 'financial soundness of the family' and 'Support of family members to finish off the household work in time', all the other statements are statistically significant, as the p-value is lesser than the accepted level of significance (5%). This implies there is a difference in opinion of SBI, Federal Bank and ICICI women bank employees.

**Table – 2**  
**Family Environment - Tests of Between-Subjects Effects**

Dependent Variable: Family Environment					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	27.754 <sup>a</sup>	11	2.523	8.952	.000
Intercept	3646.197	1	3646.197	12937.590	.000
Location	.064	1	.064	.229	.633
Category	.912	2	.456	1.618	.200
Designation	21.178	1	21.178	75.143	<b>.000</b>
Location * Category	1.360	2	.680	2.412	.091
Location * Designation	.170	1	.170	.605	.437
Category * Designation	3.234	2	1.617	5.737	<b>.004</b>
Location * Category * Designation	1.515	2	.757	2.688	.069
Error	101.459	360	.282		
Total	4708.640	372			
Corrected Total	129.212	371			

a. R Squared = .215 (Adjusted R Squared = .191)

**Source: Primary data**

The three-way Anova table showed some interesting inferences. According to Location and Category of the women bank employees in Kerala, statistically, no significant difference was seen, as the p-value is greater than the accepted level of significance (5%). Hence the null hypothesis is accepted. But with reference to Designation of the women bank employees in Kerala, statistically, a significant difference was seen, as the p-value is lower than the accepted level of significance (5%). Hence the null hypothesis is rejected. It is also interesting to note that the interaction effect of Location with Category and Location with Designation of the women bank employees in Kerala, statistically no significant difference was seen, as the p-value is greater than the accepted level of significance (5%). Hence the null hypothesis is accepted. But with reference to Category with Designation of the women

bank employees in Kerala, statistically, a significant difference was seen, as the p-value is lower than the accepted level of significance (5%). Hence the null hypothesis is rejected. Finally, the interaction effect of Location, Category and Designation of the women bank employees in Kerala, statistically no significant difference was seen, as the p-value is greater than the accepted level of significance (5%). Hence the null hypothesis is accepted.

Table – 3

Satisfaction from the family environment- Brown-Forsythe Robust Tests of Equality

Satisfaction from the family environment		Statistic	df1	df2	Sig.
The attitude of family members to send you to work	Brown-Forsythe	2.049	2	367.666	.130
Support of your family members to finish off your household work in time	Brown-Forsythe	.469	2	368.855	.626
Support of your family members to take care of your children	Brown-Forsythe	.157	2	367.942	.855
Support of your family members to your career growth and development	Brown-Forsythe	1.222	2	368.759	.296
Availability of time to join with the recreational activities of the family members	Brown-Forsythe	2.743	2	368.243	.066

Source: Primary data

The statistical significance of the statements in the variable Satisfaction from the family environment was tested with the support of Brown-Forsythe Robust Tests of Equality of Means. All the statements are statistically not significant, as the p-value is greater than the accepted level of significance (5%). This implies there is no difference in opinion of SBI, Federal Bank and ICICI women bank employees on satisfaction from the family environment.

VIII. Conclusion

Examining the family environment of women bank employees contributes to addressing gender disparities within the workplace. Traditional gender roles and expectations may impact women's career choices, opportunities for advancement, and access to resources. By studying these influences, organizations can implement strategies to promote gender equality, such as flexible work arrangements, parental leave policies, and mentoring programs. The present study identified different aspects of family environment of women bank employees working at various public sector and private sector banks in Kerala. From the study it is clear that all the category of women bank employees in Kerala opined that they get the support of family members to take care of their children and to finish off women employee's household work in time. The results of hypotheses testing revealed that there is no significant difference in the family environment of women bank employees with respect to Location, Category and Designation of the women bank employees and there is no difference in the opinion of women bank employees on satisfaction from the family environment. The study concluded that the family environment is almost same among women bank employees working at various banks in Kerala and there is no difference in the level of satisfaction experienced by women bank employees from the family environment. Overall, the family environment exerts a significant influence on work-life balance, affecting various aspects such as support systems, childcare responsibilities, workload distribution, financial considerations, cultural norms, and workplace policies. By understanding these dynamics and implementing supportive measures, organizations can create a more conducive environment for employees to achieve a healthy balance between their work and personal lives.

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pISSN 0975 9484  
eISSN 2395 5538

Volume 21, I (B)

# Carmelight



**Journal of Social Sciences**  
(Humanities, Commerce & Management)

**Special Edition**

of

**ICSSR Sponsored National Conference**  
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## Perceived Challenges of Growth in Micro Enterprises in Post Pandemic with Special Reference to Palakkad District, Kerala

Prameela P<sup>1</sup> Dr K Kanniammal<sup>2</sup>

### ABSTRACT

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#### Citation :

Prameela P, Dr K Kanniammal (2023). Perceived Challenges of Growth in Micro Enterprises in Post Pandemic with Special Reference to Palakkad District, Kerala, Carmelight - Journal of Social Sciences, Vol. 20 1(B): 23-27

**Financial Support :** None Declared  
**Conflict of Interest:** None Declared  
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#### Purpose:

Numerous difficulties have been encountered by women entrepreneurs in maintaining their Enterprises. Due to the financial hardship, their vulnerability increased during the COVID-19 lockdown in India. They are encountering a number of challenges because of many reasons. Therefore, the purpose of this study is to analyse the perception of women micro entrepreneurs towards Perceived Challenges of Growth in Micro Enterprises in Post Pandemic.

#### Methodology:

The research Design used for this paper is descriptive and analytical in nature. Both Primary and secondary data are used for the study. Interview schedule was used to gather information from 120 women micro entrepreneurs who are running micro-enterprises, which was then statistically analysed using SPSS. Factor analysis, Correlation and Ranking were used .

#### Findings:

The findings of the paper show that there exists significant difference between problems faced by women micro entrepreneurs in the post pandemic situation. The major challenges perceived by women micro entrepreneurs are changes in marketing strategies followed by 'changes in existing marketing situations'.

#### Implications:

The findings of this paper may be helpful to microenterprise sector policy makers who have a long-term vision and expect the sector to continue to evolve in growth of micro enterprises. The Study will also provide researchers and academicians with scope and space for further research work.

**Keywords :** Micro enterprise, Growth, Challenges, Women micro entrepreneurs

### INTRODUCTION

The substantial and multifaceted role that women entrepreneurs play in the economy is due to the fact that it raises both the social and economic status of women. This suggests that having their own business gives women business owners' financial independence. It helps women become more empowered because they are better able to speak out against

discrimination and fight for their rights when they are financially independent. The government of India has developed a number of programmes to encourage women's entrepreneurship, however despite these initiatives; India's female entrepreneurship base is small. India first recognised the worth of women entrepreneurs during the Fifth Five-Year Plan (1974-1978), and since then, the

government has shifted its attention from women's welfare to women's development and empowerment. The coronavirus disease 2019 (COVID-19) pandemic has had a significant negative impact on the world economy, with women-owned enterprises suffering the most. UN Women has reported that, the percentage of rural Indian women employed in the informal economy who lost their jobs by April 2021 had reached 80%. (Abraham, Basole & Kesar, 2021). India's 6.33 million micro, small, and medium-sized businesses (MSMEs) faced a number of problems during the lockdown in 2020 because of supply chain breakdowns, financial crisis, low sales, and low demand for products (Mint, 2020). In the midst of COVID 19, Sanjeev Kumar and Neha Singh (2021) conducted a study on the opportunities and barriers faced by women entrepreneurs in Delhi, India. The study employed a mixed methodology to examine the difficulties women micro entrepreneurs experienced and the recovery strategies they used. The study's conclusions indicate that women business owners encounter both general and gender-specific difficulties when it comes to the market, money family support, and awareness, in addition to having access to the state's resources and policies both when they are at start-up phase and in emergency situations like the COVID-19 Pandemic.

The COVID-19 lockdown further worsened the situation and reduced the number of female business owners in the state. It not only presents a number of difficulties for women who want to start businesses, but it also raises questions about sustainability. The current article attempts to analyse the Perceived Challenges on Micro Enterprise Growth in Post Pandemic with Particular Reference to Palakkad in this context.

**OBJECTIVES**

1. To identify the problems faced by women micro entrepreneurs in the post pandemic situation.
2. To analyze the perception of women micro entrepreneurs towards problems faced by women micro entrepreneurs.
3. To rank the challenges faced by women micro entrepreneurs in the market for marketing their products.

**HYPOTHESES**

1. H0: There is no significant difference between problems faced by women micro

entrepreneurs in the post pandemic situation.

2. H0: There is no significant relationship between problems and perception Women micro entrepreneurs

**2. MATERIALS & METHODS**

Research design used for the study descriptive and analytical. Interview schedule was used to collect primary data. Books, journals, newspaper and websites were used to collect secondary data. The study was conducted in North Kerala. In North Kerala, Palakkad district was chosen. To select units' simple random sampling was applied. Convenience sampling was used to select required number of respondents. Pilot testing is done with 30 samples and based on the pilot study sample size was determined. The sample size was 120 women micro entrepreneurs from Palakkad District of Kerala State, India. Thus the study is conducted among 120 women micro entrepreneurs who are engaged in some production activities. The tools used for analysing the data are Factor analysis, Correlation and ranking.

**3. RESULTS**

**Objective 1**

Objective 1: To identify the problems faced by women micro entrepreneurs in the post pandemic situation.

Hypothesis: There is no significant difference between problems faced by women micro entrepreneurs in the post pandemic situation.

The data collected from 120 respondents were analysed using IBM SPSS Statistics 21 to group the problems faced by women micro entrepreneurs in the post pandemic situation. Factor analysis has been used to group the problems faced by women micro entrepreneurs from a large number of variables on the basis of the concept of correlation.

**Table 1**  
**Reliability Statistics**

Cronbach's Alpha	N of items
0.947	19

Source: Primary Data

Cronbach's alpha is used to check the reliability of scale. It is required to be more than 0.60 for the scale to be reliable (Cronbach, 1951). It can be inferred from the reliability test that the statements provided in the schedule are reliable and the alpha value is greater than 0.600 and the overall reliability of the schedule pertains to value of 0.947 which shows high reliability. Hence, the high reliability indicates that these items are extremely qualified for further analysis and the researcher can continue to perform factor analysis.

**Table 2**  
**Factor validity by KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.926
Bartlett's Test of Sphericity	Approx. Chi-Square	4219.25
	Df	65
	Sig.	0.000

Source: Primary Data

It is observed to measure the sample adequacy and data appropriateness to perform factor analysis. It leads the researcher either to collect more data or rethink which variables to be included. KMO statistics varies between 0 and 1 and the values greater than 0.5 are acceptable, values ranging between 0.50 to 0.70 are moderate, 0.70 to 0.80 are considered as good and between 0.80 to 0.90 seems to be more superior. (Kaiser, 1974; Field, 2000). For factor analysis to work some relationship between variables must exist and the R-matrix should not be an identity matrix. It is only possible when the significant value is less than 0.05.

Table 2, shows the KMO value as 0.926, indicating the superior quality of the data taken and the sig. value is 0.000 which is less than 0.05. Hence, the sample taken for factor analysis is statistically significant.

**Table 3**  
**Loading of scale items on factors by Rotated Component Matrix**

Problems faced by women micro entrepreneurs in the post pandemic situation.	Factors		
	1	2	3
<b>Problem 1: Economic Problems</b>			
Women entrepreneurs faced problems in funding.	0.792		
Lack of Capital.	0.754		
Failure to pay instalments of loan.	0.681		
Lack of new sources of financial aids.	0.655		
Low flow of cash.	0.58		
<b>Problem 2: Social Problems</b>			
Stereotyping and People's negative perceptions about women's abilities and positions		0.785	
Women faced difficulty to build strong network in the modern business arena.		0.722	
Believed males dominance whenever a women starts a new business.		0.684	
Faced difficulty to balance their personal life & entrepreneurial life.		0.625	
Lack of support from society.		0.587	
Inability to use initiatives due to lack of mobility due to pandemic, personal, and safety for family.		0.528	
Feel there is lot of role conflict while they start their business by their own.		0.492	
<b>Problem 3: Operational Problems</b>			
More production cost.			0.842
Decrease in production which leads to decrease in sales.			0.791
Low profit margin to survive during the pandemic.			0.751
Low budget for marketing.			0.687
Increase in number of conditions to avail bank loans.			0.62
Delay to get payment from buyer.			0.557
Lack of training opportunities.			0.534

Source: Primary Data

After examining the reliability of scale and assuring the appropriateness of data, Principal Component Analysis (PCA) followed by Varimax with Kaiser Normalization was adopted



for analysing the data. The results were grouped into three factors which are: Economic problems with 5 statements, Social problems with 7 statements and Operational problems also with 7 statements.

**Objective 2:** To analyze the perception of women micro entrepreneurs towards problems faced by women micro entrepreneurs.

**Hypothesis:** There is no significant relationship between problems and perception of Women micro entrepreneurs

**Table 4**  
**Relationship between Problems and Perception of women micro entrepreneurs**

Problems faced	R value	P value	N
Economic Problems	0.751**	0	120
Social Problems	0.822**	0	120
Operational Problems	0.815**	0	120
Problems faced by women micro entrepreneurs	0.803**	0	120

Source: Primary Data, \*\*significant at 1% level of significance.

It is clearly evident that there exists a high degree of correlation between problems faced by women micro entrepreneurs and perception of women micro entrepreneurs. Economic problems, social problems, and operational problems are highly correlated with r values of 0.751, 0.822, and 0.815 respectively. Since, the p value is less than 0.01, it is proposed to reject the null hypothesis at 1% significance level. Hence, there exists significant difference between problems faced by women micro entrepreneurs in the post pandemic situation.

**Objective 3**

To rank the challenges faced by women micro entrepreneurs in the market for marketing their products.

**Table 5**  
**Challenges faced by Women Micro Entrepreneurs in the market**

Challenges	Weighted Average Value	Rank
Changes in existing market situation	23.3333	2
Changes in taste and preference of customers	21.8571	4
Changes in promotional measures like advertisement	23.1428	3
Changing demand of employees	19.5463	6
Changes in marketing strategies	24.8095	1
Changes in technology/Difficulty due to lack of technological knowledge	20.7521	5

Source: Primary Data

'Changes in marketing strategies' rank first with a weighted average value of 24.8095 followed by 'changes in existing marketing situations' with a value of 23.3333. Third and fourth rank are occupied by 'changes in promotional measures like advertisement' and 'changes in taste and preference of customers' with values of 23.1428 and 21.8571 respectively. The least ranked ones are changes in technology and changing demand of employees respectively.

**4. DISCUSSION & CONCLUSION**

**4.1 Theoretical Implications**

The study is based on the idea that women entrepreneurs encounter numerous obstacles that prevent them from moving further in their businesses. According to UNIDO (1995), there are a number of obstacles that women business owners frequently face that may hinder their ability to improve their output continually. It has been noted that the success of female entrepreneurs' increases when these issues are less prevalent (Kitching et. al. 2005). This paper explored and highlighted the problems and challenges perceived by women entrepreneurs in post pandemic period and are providing further insights into the theory of entrepreneurship.

**4.2 Practical Implications**

This paper may assist the government and policy makers in comprehending the issues facing women micro entrepreneurs, formulating appropriate strategies to meet those challenges in the post-covi virus pandemic, and launching initiatives to encourage women entrepreneurs.

### 4.3 Managerial Implications

This paper may help managers and leaders in understanding the key challenges perceived by women micro entrepreneurs and to evaluate existing activities and goals of the enterprise and then setting a schedule of activities to overcome the challenges, organising resources, putting right person in the right place, Guiding and directing activities and controlling system.

### 4.4 Limitations & Future Research

This study is limited by the time constraints. The study is restricted to one district of Kerala state. The study's conclusions are constrained by how honestly, carefully, and impartially the respondents responded to the researcher's questions.

Future research might be undertaken in other districts of Kerala and among those women entrepreneurs who are involved in service sectors. This study is focused on women entrepreneurs who work in the production or manufacturing sectors. To ensure their sustainability, a study might be done on the numerous government programmes offered to female micro entrepreneurs throughout the post-pandemic period.

### 4.5 Conclusion

The study analysed the challenges and problems perceived by women entrepreneurs in the post Covid Pandemic situation. The study's results demonstrate that the issues that women entrepreneurs are dealing with in the post-pandemic environment differ significantly from one another. Changes in marketing techniques are the main challenge that women micro entrepreneurs perceive, followed by "changes in current marketing situations. "Therefore, there is a need to raise technological understanding and accessibility among female entrepreneurs. The government and NGOs should set up training courses to support female entrepreneurs by educating them on modern production methods and marketing tactics.

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## Priority Sector Lending: An Analysis

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Dr D Vennila

Priority Sector Lending is a concept introduced by the Reserve Bank of India for the development of weaker sections of society through these rural areas. However, there is not too much development in the rural area so the Reserve Bank of India introduced a new scheme to develop rural areas i.e. The Regional Rural Bank. The study aims to know the impact of Priority Sector Lending on the income and employment level of respondents and its impact on the performance of KGB during the study period. The study concludes by stating that business size and lending of the banks to the agriculture and housing sectors are found to be more efficient, than lending for the education, MSMEs, and other priority sectors. At the same time, the standard of living of the people can be improved.

**Key words:** Regional Rural bank, Priority Sector Lending, Kerala Gramin Bank

### Introduction

Priority Sector Lending is a scheme of the Reserve Bank of India for providing financial assistance to the vulnerable section of the economy. Before introducing the scheme, only large-scale industries and educated people approached our banking system for their assistance. India is a developing country and also an agriculture-based country. 70 percent of people are living in the rural area. These people were outside the banking system before introducing Priority Sector Lending. After introducing the scheme, RBI directed the banks to

provide 33 % of their loan to the Priority sector. Now, this limit is increased to 40%. The priority sector is a sector that includes agriculture, the small-scale sector, housing, the weaker sections of society, and all other vulnerable sections of society. From this agriculture sector gets more priority. Providing this type of assistance to people living in rural areas rise their standard of living and through this, the country's GDP and standard of living will also improve.

All banking services are available only in urban or semi-rural areas even after independence. Rural people especially the weaker section people are unaware of banking facilities even though the priority sector lending scheme is existing. For helping the rural people, RBI introduced Regional Rural Bank in 1975. The main objective of this bank is to provide banking services to rural people and help them with financial assistance. All Regional Rural Bank branches are located in rural or semi-rural areas. Now 43 Regional Rural Banks are functioning in India. Regional Rural Bank in Kerala is known as Kerala Gramin Bank.

### **Statement of the Problem**

Priority Sector Lending is a very helpful scheme for borrowers because they get financial assistance at a low cost. But in the point of banking, it is low profitable because of government intervention regarding lending activities and so the impact of PSL from both sides is important. The study is to know the impact of PSL on the income and employment level of respondents and its impact on the performance of KGB during the study period.

### **Review of Literature**

Partha Deb (2015) made a research on "Analytical Study on Improvement of Bank Loans and Finances of Regional Rural Banks". The process of institutional credit delivery was intensified with the nationalization of commercial banks in 1969 and further, for greater penetration of credit to weaker sections, Regional Rural Banks (RRBs) was created in 1975. With all these efforts, the government also launched various poverty alleviation and rural-development programs with credit as the main component.

Dr. Manoj P. K (2015) made a research on "Gramin Banks

for Financial Inclusion: A Study of the Performance of Kerala Gramin Bank in Malappuram District With a Focus on Agricultural Credit” The main goals of this research are to make an overall analysis of the performance of RRBs in India over time, taking into account trends in their earnings, profitability, advances, etc. The study uses a descriptive-analytical methodology and mostly relies on secondary data. KGB is the only RRB in India with a specific focus on agricultural loans, and the study spans the years 1990 to 2014.

Ms. Thorve Harsha Aadinath ((2017) made a research on “Analytical study of priority sector lending with special reference to lead bank scheme in Maharashtra”. The study covers the important financial period from 2008 to 2016. It can be said that the performance of the lead banks in Maharashtra is noticeable. The contribution of State Bank of India & Bank of Maharashtra under the priority sector lending is major. Even the other two banks Bank of India & Central Bank of India is contributing well in total priority sector. It can be said that the performance of the lead banks in Maharashtra is noticeable under the priority sector lending.

Muneesh Kumar (2016) made a work on “Determinants of Priority Sector Lending: Evidence from Bank Lending Patterns in India”. Mandatory directed credit or priority sector lending (PSL) is part of the regulatory framework for commercial banks/ financial institutions in many countries, both developing and developed. This may be particularly so in developing countries, where availability of finance for the vulnerable sectors like agriculture, small businesses, weaker sectors, is scarce. An analysis of secondary data relating to priority sector lending (1998-2014) for eighty banks in India has been published. The paper is based on findings from a survey of ninety-seven bank officers of various banks. It aims to identify the factors which determine this lending, and the implementation challenges for such lending. It also identifies bank-specific characteristics like the nature of ownership, size, performance, etc., which have a significant impact on priority sector lending patterns. Based on its findings, the paper offers policy suggestions for improving the effectiveness of priority sector lending program.

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S.Manjushree (2018) made a research on “Problems and prospects of priority sector lending”

This paper provides a platform to understand the problems and prospects of priority sector lending in state bank of India in Bhadravathi. The study has used both primary and secondary data. The collected data are represented by using tables and analysis was done by using percentage analysis.

### **Research Gap**

A detailed evaluation of the research studies revealed that so far as no specific study has been undertaken to find out the impact of Priority Sector Lending (PSL) in Kerala from the borrower’s point of and the bank’s point. Previous studies have looked at the basis of the objectives of the study separately. But both these are not included in a single review. So this study tries to know the impact of Regional Rural Banks (RRB) with special reference to Priority Sector Lending (PSL) in Kerala. RRBs in Kerala state is known as Kerala Gramin Bank (KGB).

### **Objectives of the Study**

- a) To measure the impact of Priority Sector Lending on the performance of Regional Rural Bank in Kerala during the study period from 2014 to 2021.
- b) To study the impact of PSL on the income and employment level of borrowers in Kerala Gramin Bank
- c) To know the problems faced by borrowers while availing service from bank

### **Research Methodology**

The present study is diagnostic and exploratory and makes use of both primary and secondary data. The primary data was collected from the borrowers of Kerala Gramin Bank through a questionnaire and secondary data was collected from the Reserve Bank of India databases, the Regional Rural Bank database, and various journals and reports of the Reserve Bank of India. The area of study is limited to the Regional Rural Bank in Kerala and the period of study is from 2014 to 2021. To study the impact of Priority Sector Lending on

the performance of bank, the researcher used Factor Analysis, Principal Component Analysis and Varimax-Rotation Method, Kaiser-Mayer Ohlin (KMO) Normalisation of sample adequacy, and Bartlett's Test of Sphericity are used. To study the impact of PSL on the income and employment level of borrowers and problems faced by the borrowers in Kerala Gramin Bank, the various statistical tools used like Mean, and percentage analysis. The results are presented in a quantitative form and the interpretations of the analyzed data are made using those quantitative results. The data consolidation process was executed through Microsoft Excel and statistical analysis has been performed by using E-views and SPSS.

### **Data analysis and Discussion**

To study the key performance indicators the following parameters used for the study.

Table:1 depicts the overall lending efficiency of the Kerala Gramin Bank. Bank size and the total PSL were found to be significantly correlated as the R-value stood at .995 (99.50 percent) and R<sup>2</sup> 0.990 both were found to be significant at 5 percent level of probability measure. The study observed that overall lending of the rural banks functioning in Kerala are more influenced by its lending efficiency compared to the bank performances.

Table 1 The overall Lending Efficiency of the Kerala Gramin Bank

Variables	Bank Characteristics	Initial Eigen Value	R	R <sup>2</sup>	F Value	Constant	Co-efficient	t value	Sig
Advances	Business Size	1.358	.995	.990	138.592 (.000)	3.057	.744	14.724	.000
Deposits									
Total Assets									
No. of Employees									
No. of Branches									
CAR	Bank Performance	1.295					0.057	2.012	.115
ROA									
NIM									
CD Ratio	Lending Efficiency	.347					.274	3.632	.022
Net NPA									

Level of Significance: 5 Per cent

Table 2 Lending to Agricultural Sector Efficiency

Variables	Bank Characteristics	Initial Eigen Value	R	R <sup>2</sup>	F Value	Constant	Co-efficient	t value	Sig
Advances	Business Size	1.358	.997	.994	223.204 (.000)	4.504	.844	18.526	.000
Deposits									
Total Assets									
No. of Employees									
No. of Branches									
CAR	Bank Performance	1.295					.068	2.673	.056
ROA									
NIM									
CD Ratio	Lending Efficiency	.347					.330	4.855	.008

Level of Significance: 5 Per cent



Table 3 Lending to Housing Sector Efficiency

Variables	Bank Characteristics		R	R <sup>2</sup>	F Value	Constant	Co-efficient	t value	Sig	
	Business Size	Initial Eigen Value								
Advances	Business Size	1.358	.995	.991	143.287 (.000)	10.704	.023	.492	.649	
Deposits										
Total Assets										
No. of Employees										
No. of Branches										
CAR(Capital Adequacy Ratio)	Bank Performance	1.295	.995	.991	143.287 (.000)	10.704	.023	.492	.649	
ROA(Return on Assets)										
NIM (Net Interest Margin)										
CD Ratio (Cash-Deposit Ratio)	Lending Efficiency	.347						.294	2.382	.076
Net NPA(Non-Performing Assets)										

Level of Significance: 5 Per cent

Table 2 illustrate that the bank size and the agriculture sectors were found to be significantly correlated as the R value stood at .997 (99.70 per cent) and R<sup>2</sup> .994 both were found to be significant at 5 per cent level of probability measure. The study observed that the overall agriculture lending of the rural banks functioning in Kerala was more influenced by its lending efficiency compared to the bank's performances.

Table 3 depicts that the bank size and the housing sectors were found to be significantly correlated as the R-value stood at .995 (99.50 percent) and R<sup>2</sup>.991 both were found to be significant at a 5 percent level of probability measure. The study observed that housing sector lending of the rural banks functioning in Kerala is more influenced by its business size compared to the bank performances and lending efficiency.

Table 4 Lending to Education Sector Efficiency

Variables	Bank Characteristics	Initial Eigen Value	R	R <sup>2</sup>	F Value	Constant	Co-efficient	t value	Sig
	Business Size								
Advances	Business Size	1.358	.446	.199	.331 (.000)	3.937	.078	.535	.621
Deposits									
Total Assets									
No. of Employees									
No. of Branches									
CAR(Capital Adequacy Ratio)	Bank Performance	1.295	.446	.199	.331 (.000)	3.937	.039	.479	.657
ROA(Return on Assets)									
NIM (Net Interest Margin)									
CD Ratio (Cash-Deposit Ratio)	Lending Efficiency	.347	.446	.199	.331 (.000)	3.937	.068	.313	.770
Net NPA(Non-Performing Assets)									

Level of Significance: 5 Per cent

Table 4 represents the efficiency of lending in education sector. The bank size and the education sectors were found to be significantly correlated as the R-value stood at 0.446 (44.60 percent) and R<sup>2</sup> 0.199 both were not found to be significant at a 5 percent level of probability measure. The study observed that the overall education sector lending of the rural banks functioning in Kerala were not significant.

#### Table 5 Lending to MEMEs Efficiency

Table 5 clearly says that the bank size and the MSMEs were found to be significantly correlated as the R value stood at .680 (68.00 percent) and R<sup>2</sup> .463 both were not found to be significant at 5 percent level of probability measure. The study observed that the overall MSMEs lending of the rural banks functioning in Kerala is not significant.

Table 5 Lending to MSMEs Efficiency

Variables	Bank Characteristics	Initial Eigen Value	R	R <sup>2</sup>	F Value	Constant	Co-efficient	t value	Sig
Advances	Business Size	1.358	.680	.463	1.147 (.432)	5.800	.043	.589	.588
Deposits									
Total Assets									
No. of Employees									
No. of Branches									
CAR(Capital Adequacy Ratio)	Bank Performance	1.295	.680	.463	1.147 (.432)	5.800	.061	1.493	.210
ROA(Return on Assets)									
NIM (Net Interest Margin)									
CD Ratio (Cash-Deposit Ratio)	Lending Efficiency	.347	.680	.463	1.147 (.432)	5.800	.023	.206	.847
Net NPA(Non-Performing Assets)									

Level of Significance: 5 Per cent

Table 6 Lending to Other Priority Sector Efficiency

Bank size and the other priority sectors were found to be significantly correlated as the R value stood at .966 (96.60per cent) and R<sup>2</sup> .933 both were found to be significant at 5 per cent level of probability measure. The study observed that overall lending of the rural banks functioning in Kerala is more influenced by its business size compared to the bank performances and lending efficiency.

The study concludes by stating that business size and lending of the banks to the agriculture and housing sectors are found to be more efficient, than lending for the education purpose, MSMEs development and other priority sectors.

Table 7 reveals that the impact of priority sector lending on the income and employment level of borrowers in Keral Gramein Bank, the researcher found that most of the respondents get information of PSL from various Medias; most of the respondents are under

Table 6 Lending to Other Priority Sector Efficiency

Variables	Bank Characteristics	Initial Eigen Value	R	R <sup>2</sup>	F Value	Constant	Co-efficient	t value	Sig
Advances	Business Size	1.358							
Deposits									
Total Assets									
No. of Employees									
No. of Branches									
CAR(Capital Adequacy Ratio)	Bank Performance	1.295	.966	.933	18.565 (.008)	2.044	.090	1.525	.202
ROA(Return on Assets)									
NIM (Net Interest Margin)									
CD Ratio (Cash-Deposit Ratio)	Lending Efficiency	.347					.086	.543	.616
Net NPA(Non-Performing Assets)									

Level of significance 5%

the category of male at the same time the age in between 30 to 45 years. Education qualification of most of the respondents has only up to S.S.L.C., their occupation is also agriculture, and they are availing agriculture loan also. Most of the respondents took up to Rs 3, 00,000 as loan and their repayment method is annually. Their standard of living is also improved after availing loan.

Table 8 illustrates that the problems faced by the respondents for availing loan.0 From this analysis, lack of knowledge of the respondents is the main barrier to them. Apart from this, they face fear of insecurity, long procedure of bank, lack of cooperation from bank staff and high rate of interest.

## Conclusion

Regional Rural Bank is very helpful to rural dwellers for their financial assistance. After the introduction of PSL, the bank must provide 40% of the advances to rural people. Through this rural people can rise their standard of living but the banks are not in a happy position based on their profit. Their profit declined due to the heavy intervention from the government. The study also concludes by stating that business size and lending of the banks to the agriculture and housing sectors are found to be more efficient, than lending for education purposes, MSMEs development, and other priority sectors. Government intervention must be minimized but at the same time, government must rely on the minimum standard that must be achieved by every commercial bank.

Table 7 Socio Economic Profile of respondent

Particulars	No of respondents	Percentage
Sources of knowing Priority sector lending		
Bank officials	10	20
Medias	24	48
Friends and relatives	16	32
Total	50	100
Age		
Below 30	11	22
30-45	24	48
45-60	13	26
60 and above	02	04
Total	50	100
Gender		
Male	39	78
Female	11	22
Total	50	100
Educational qualification		
Up to S.S.L. C	36	72
Higher secondary	11	22
Graduation & above	3	06
Occupation		
Agriculture	31	62
Business	12	24
Others	7	14
Total	50	100

Types of loan availed		
Agriculture loan	22	44
MSME	12	24
Housing	7	14
Education	2	04
Others	7	14
Total	50	100
Amount of loan		
Less than 1,00,000	6	12
1,00,000 to 3,00,000	41	82
Above 3,00,000	3	06
Total	50	100
Repayment method		
Quarterly	16	32
Half yearly	11	22
Annually	23	46
Total	50	100
Status after availing loan		
Raised	29	58
No change	21	42
Total	50	100

Author's computation

Table: 8 Problems faced by the respondents

Particulars	No. of respondents	%
Lack of knowledge	14	28
Fear of insecurity	12	24
High rate of interest	07	14
Long procedure while availing service	09	18
Lack of cooperation from bank staff	08	16

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E-ISSN	NA	
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**Abstract**

The Mappila outbreaks, which began in 1836 and recurred at regular intervals, culminated in the Malabar Rebellion of 1921. This mass insurrection lasted for about eight months, which resulted in the death of thousands of people and proved to be more violent and devastating than all other earlier outbreaks. Malabar Rebellion of 1921 was concentrated mainly in three taluks of British Malabar – Ernad, Valluvanad and Ponnani. The rebellion was a traumatic experience for the people of Malabar.

**Key Words**

*Mappila, Malabar, uprising, outbreak, khilafath, noncooperation, nationalist, imperialist, religious fanaticism, British, peasants, janmi, rebels, atrocities*

The Malabar Rebellion of 1921 was the culmination of a series of outbreaks during the 19th and early 20th centuries. There are differences of opinion among the historians regarding the causes of the outbreaks. The main point of debate has been whether these uprisings were triggered off by religious fanaticism or agrarian grievances in the context of struggle for freedom. Even now, the sharp differences between the historians concerning its causes has not come to an end.

In this article, an attempt is made to survey the major studies concerning this topic. Studies both of an academic and non-academic kind have come out. Scholars like K.N. Panikkar, Conradwood, and Stephen. F. Dale, Roland E. Miller, D.N. Dhanagare, K. Madhavan Nair and M. Gangadaramenon are among those who have contributed to the study.

*A History of Malabar Rebellion* written by R.H. Hitchcock, the British Officer tries to satisfy the imperialist aspirations in his work. He rejected the view presented by the nationalist and rebels totally and tries to put the whole responsibility of the rebellion on the shoulder of the Mappilas. He is always trying to exaggerate the acts of rebels and hiding the brutal policy of the British.<sup>1</sup> As a police officer, he was partly responsible for the brutal suppression of the rebellion. After the repression, the British government assigned him the duty of writing its history. Because of this, he arrived at the conclusion that the revolt was triggered off by religious fanaticism. Throughout his work, we can see that his biased views as wanted to support the officials and government actions against the rebels. As a British official, he wanted to put the blame on the Indian National Congress.

Conradwood made a detailed study of the rebellion of 1921 through his work "*The Mappila Rebellion and Its Genesis*". According to him, the Khilafat and non-cooperation movement of 1921-22 was the main source of inspiration for the rebellion.<sup>2</sup> This work is an attempt to answer two questions, why the Ernad Mappilas should have been fanatical' and in what way did a middle class nationalist movement like that of 1920-21 provoke a rural insurrection like the Mappila rebellion and he also analyse the chief characteristics of the rising itself.

According to Conradwood the genesis of the rising is traced from the cession of Malabar to the East India Company in 1792. The members of the Mappila community has organized the acts of violence against Janmi and British rule from the time of 1792. He has argued that the challenge to British rule was a consequence of their impact on social relations in rural Malabar.<sup>3</sup> He held the view that the rebellion occurred not because of non-cooperator or other manipulators had provided a blue print of insurrection to organize Mappila fanaticism. The genesis of the rebellion lies in the unresolved grievances experienced by the lowly Muslim rural-dweller of Ernad.

*Malabar Rebellion*, an academic study by M. Gangadaramenon, given more importance to cultural factors. It is an attempt to analyse the history of Malabar from the 20th century and about the nature of the nationalist movement prevailed here. He also examine the Hindu community structure developed as a result of the Janmi system. He redefined the argument of T.L. Strange that religious fanaticism was the cause of the rebellion of 1921.

According to him, it is not only the policy of repression adopted by the government against the Khilafatist but also the social cohesion of the Mappila as a community, their militancy, and militant

tradition and their higher sense of organization cannot be ignored in the search for the causes of the rebellion.<sup>4</sup> He point out the central importance of the role of Ali Musliar among the Muslims and he says with evidence that Ali Musliar was a religious fanatic. He says that if Ali Musliar surrenders to the authorities sometime the rebellion would not have been widespread.

'*Against Lord and State*' written by K.N. Panikkar is one of the important work concerning this topic. He wrote that a powerful expression of this conflict was the repeated uprisings by the Mappila peasantry against landlords and colonial state. The early uprisings were isolated incidents with limited participation, but later uprisings gained support which culminated in 1921 rebellion, is one of the massive armed revolt of the colonial period. The anti landlord and anti British feelings which even existed during the period of British dominance and strengthened through the series of outbreak occurred in the 19<sup>th</sup> century is the nature of the outbreak. According to him the bitter memories of the 19th century uprisings was one of the main source of inspiration for the 1921 rebellion.

During his childhood the Khilafat was a topic of common conversation, was a source of inspiration for his study. At that time he heard with particular emphasis on rebel atrocities against Hindus. Like most Hindus, his family also shared a religious view of the revolt.<sup>5</sup> He point out the looting which became a part of the rebellion.

The fanaticism was not the overriding motive force yet the rebels were intensely religious and their religiosity was a decisive influence in the uprising, not as an immediate cause but as a mediating factor. The leaders opposed to forcible conversion they exerted their influence to prevent it. The most difficult task the leadership had to face was to ensure the safety of the property of the people. On the whole, K.N. Panikkar, in his well known work approached the problem in a superficial manner. He analyse the whole movement as a full fledged peasant revolt. In his study, he tries to put forward some reasonable arguments to substantiate his view.

K.N. Panikkar, in his *Peasant Revolts in Malabar* analyses the whole movement. He wrote: 'the incidence of eviction without compensation was naturally higher in these taluks compared to other parts of the district.'<sup>6</sup> The attitude of the government to the question of unjustifiable eviction became clear in the incident at Pukkottur. He says that the attitude of the rebel leaders were not against Hindus. He highlights the statement made by Variankunnath Kunhammed Haji that the hands of those who committed outrages against the Hindus would be chopped off. Although he unconcern about other elements he succeeded in a great extent to discuss the peasant involvement in this great event. Hence, this study of the revolt is enlightening to a certain extent.

Stephen Frederich Dale tried to examine the cultural, ideological and political factors of the rebellion in his work '*The Mappilas of Malabar, 1498-1922*'. He approach the problem with the concept of 'Frontier Society' which he applied for his analysis of the whole study. He rejected the view that the revolt was the first modern popular uprising in the 20th century India; he says that when viewed from a far, it seemed to reflect modern social and political attitudes. He criticize those scholars who also is exploiting Mappila rebellion to support their pre-conceived political or historiographical ideas.

According to him, "The rebellion was not a nationalist uprising,<sup>7</sup> even though the Mappilas did rebel against the British and enjoyed wide spread support among Muslims and many peasants undeniably took part. He wrote that the rebellion was not a peasant revolt in the sense that peasants joint specifically to resolve their social and economic grievances as agriculturists. He point out that "rebellion like mutiny was essentially an archaic form of protests as it offered no viable alternative for future". Unlike other writers, he tries to analyse the strength as well as the weakness of the rebellion. He clearly answers to the question, why the rebellion centered in the areas of Ernad and Walluvanad. As pointed by Dhanagare and Panikkkar he also says, "That was the area of the highest concentration of Mappila population". Even though he underestimates the economic changes brought by the colonial rule in the Malaber society he has something new to say. Taking advantage from the source material available India and in England, Dale advanced much in examining the problem with a new style of approach and analysis. He opens a new horizon to the study of the rebellion.

D.N. Dhanagare, in his well documented study, "*Peasant Movements in India 1920-1950*", explain the social structure and those changes within it from which the Mappila rebellion sprang. In the opening part he tries to analyse the agrarian class structure of Malabar during the rebellion. He clearly shows how the previous system prevailed in the period before the Mysorean invasion, and how it

changed in the subsequent period by the Mysorean rulers and later by the British colonialists'.<sup>8</sup> Analyzing their land policy based on landlord on the apex and landless labourer at the bottom, he states that it was meant for the requirements of the colonial aspiration. The preservation of such a class provided a strong ally to the colonial rulers.

He shows that the concentration of land in fewer hands in Malabar comparing the other parts of Madras Presidency. This exploitation affected both the Mappila and lower caste Hindu tenant alike, they chose different way to respond to the situation. Most of the Mappilas of the South Malabar were poor peasant, verumpattamdars landless labourers and coolies. The legislation passed by the government between 1887 and 1901 were not favourable for the poor peasants. After discussing these factors he arrived at the conclusion that "the poor Mappila peasants were the core of the 19th century uprisings". The increase in the population resulted in further evictions and rural poverty. This study provides for a better understanding of the socio-economic and political origin of Malabar Rebellion.

"*The Mappila Muslims of Kerala*" a study by Roland E. Miller, is one of the Pioneering studies on Mappila community. According to him, it is the alienation of the Mappilas that caused the whole trouble in Malabar. He wrote that: to sensitive observers it was clear that this was not finally a problem of law and order but the problem of an alienated community.<sup>9</sup> He says that the outbreak of the 19th century were spontaneous and followed no set pattern. He stated about 1921 revolt "various influences interacted in producing the 1921 outbreak even as they had in the case of the earlier incidents. The most significant new element in the picture was the Khilafat movement".<sup>10</sup>

The major weakness of his study is that he stated the problem of the Muslims separately from those of the other communities. The title shows he is only concerned with the Mappilas. It is an established fact that communalism came to the forefront of the rebellion only after the revolt reaching certain stage. It should be noted that rebellion was confined to the Muslims majority area of Malabar district. The Muslims belonging to other parts of Malabar kept aloof from the rebellion. His analysis dealing with the revolt is not properly traced. He had made no serious attempt to answer the questions pertaining to the rebellion like why it was confined only to some taluks of Malabar and among the Mappilas alone.

Several memoirs and autobiographies of the eminent political leader's of Malabar, also had some association with the rebellion, constitute a good, collection of primary sources. '*Malabar Kalapam*' written by K. Madhavan Nair was a good example for this. His analysis gives his personal experiences and all major events of the rebellion. According to him, "the opinions of those who participated in the rebellion are not yet recorded. The discords among the people resulted by this are not ended. The biased opinion on the rebellion are still powerful. Not only that, many incidents which happened during the rebellion have not yet come to the light".<sup>11</sup>

According to him, the main causes of the rebellion were the ignorance of the Mappilas and the unwise attitude and atrocities of the authorities. He wrote: "the Mappilas of the remote countryside have a tendency to believe the things they hear, which not even the little boys in other place won't believe, and to act accordingly. This is due to their total ignorance".

Madhavan Nair refutes the argument that the rebellion was an anti-landlord revolt. He recorded that: "I know there is an argument that the reason for this great rebellion is the problem created by the landlords. However, I do not believe that no one with an intimate knowledge of the rebellion will sincerely argue that it was due to the problem created by the landlords in general or by a particular Janmi."<sup>12</sup>

His work gives the impression that the colonial exploitation, ignorance of the natives, the policy of suppression adopted by the authorities and the Khilafat, Non-cooperation movement were the cause of the revolt. However, the main weakness of his analysis is his own lack of understanding of the nature of the socio-economic system and his committed political outlook to Gandhism. Anyway, this work gives a comprehensive picture of the events during the period of the rebellion.

"*Khilafatsmaranakal*" written by Mozhikumeth Brahmadathan Nambudiripad constitute an authentic record of the revolt of 1921. His experience presented in a new version of his own involvement in the rebellion. His humanitarian sentiment and nationalist feeling inspired him to help the fighting rebels of Malabar. For this reason, he was arrested and sentenced by the authorities. He has criticized the policy of the Indian National Congress of washing the hands off from the responsibility of the

rebellion.<sup>13</sup> According to him it is baseless to think in terms of tenancy problem and religious quarrels as the basic reason of the rebellion. He holds the view that it was an organized outburst of the people against the high handedness of the district authorities. He did not reject totally the fanatic side of the revolt. According to him, the religious sentiment was kindled, while the struggle for liberation reached its highest watermark. However, he failed to answer the question that who was responsible for kindling the religious passion. He has narrated many incidents like looting of bank and houses of the Nambudiri's in the initial stage of the rebellion and describes the action of Kunhemmad Haji also returned back the looted things to the owners.

He tried to analyse the event occurred during the course of the rebellion. As a man who had experienced the hardness and harshness from the hands of the authorities, he had many stories to tell regarding the main developments of the rebellion. He was not influenced by his own religious sentiments or class interest in analysing the social and economic facting of the rebellion.

K.P. Kesavanmenon in his autobiography, 'Kazhinjakalam' describes his experience as a congress worker during the rebellion. His opinion is that the revolt originated from the atrocities committed by the police officers. He recorded that there is no doubt about the cause of the 1921 rebellion. It originated from the police brutality. The chief cause of the rebellion was the unbounded attack unleashed by the authorities to suppress the Khilafat movement. He refutes both the idea that the course behind the rebellion was the tenancy problem and that it originated out of fanatic fury. He held the opinion that there were some people who were involved in gastly murders, cruelties, looting and forcible conversions. According to him, those inhuman cruelties from the part of the Mappilas had taken place only after the British suppression campaign started by the district authorities. Some Hindus helped the police to capture the Mappila rebels. It kindled the animosity of the Mappilas.<sup>14</sup>

As a leader of the congress he widely travelled and advised the rebels to withdraw from their violent activities. He does not present the complete history of the movement. He recorded that the rebellion played a decisive role in the history of Malabar. These accounts of were more or less eyewitness nationalists. It can be seen that they share certain assumptions that the rebellion was not a purely agrarian uprising, nor was it a purely religious one, that the authorities were brutal and that the congress could not be blamed for the uprisings.

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<b>Publication Language</b>	English , Marathi
<b>Publisher</b>	Marathwada Itihas Parishad
<b>ISSN</b>	0976-5425
<b>E-ISSN</b>	NA
<b>Discipline</b>	Arts and Humanities
<b>Subject</b>	Arts and Humanities (all)
<b>Focus Subject</b>	History
<b>UGC-CARE coverage years</b>	from June-2019 to January-2020 , from April-2022 to Present



# HISTORY RESEARCH JOURNAL

ISSN : 0976-5425

## *Certificate of Publication*

This is to certify that the article entitled

**DESCRIBING A MONUMENT: CHERAMAN JUMA MASJID OF KODUNGALLUR**

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Published in

**History Research Journal**

ISSN 0976-5425 (P) with IF= 7.86

Volume : 30, Issue : 02, January - February : 2024

UGC CARE Approved Group I, Peer Reviewed, Referred Journal



UGC  
University Grants Commission

Published By

**Marathwada Itihas Parishad, Aurangabad**



**DESCRIBING A MONUMENT: CHERAMAN JUMA MASJID OF KODUNGALLUR**

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**ABSTRACT**

The Cheraman Juma Masjid in Kodungallur, Kerala, India holds great historical and cultural significance. It is believed to be the first Mosque in India and one of the oldest mosques in Indian subcontinent. Its establishment is attributed to the visit of a group of Arab traders led by Malik – Ibn-Dinar, who arrived in Kerala during the 7<sup>th</sup> Century AD. Overall Cheraman Juma Masjid stands as a testament of the historical and cultural connections between India and the Arab world. It serves as reminder of the longstanding presence of Islam in India and the rich to tapestry of religious and cultural diversity in the region. This paper intends to reveal the historical, religious, cultural importance of the monument and the cultural diversity of the locale.

**Key Words:**

*Kodungallur, Ceraman Perumal, Islam, Cheraman Juma Masjid, Malik- Ibn –Dinar*

The Trichur District of Kerala which is identical with the central region of the state is rich in history and cultural tradition. Kodungallur is one of the important historical place of Trichur. Some writers have attributed the origin and the spread of Islam in Kerala to the conversion of the last Ceraman Perumal to Islam . The Muslim mosque in the heart of the city known at present as Kodungallur palli or Cheraman palli has temple like foundation exhibiting 11<sup>th</sup> ,12<sup>th</sup> century architectural style. Cheraman Juma Masjid ,considered as the first mosque in India is situated in Methala village at Kodungallur.

According to K.P Padmanabha Menon, Kodungallur was the most prominent of all the places in Malabar from the historical point of view. The study of M.G.S entitled “political and social conditions of Kerala under the Kulasekhara Empire C 800-1124 AD” provides us with the interesting details of Kodungallur as a royal seat and military cantonment. The city of Kodungallur was known by various names as by muziris, cranganore, vanci ,muciripattanam, makotai, Thiruvallur, Muyiricode and Thiruvanchikkulam at various point of time .Ptolemy called it as “muziris”, Israelis as “Tharsis” ,Romans as “Ofarar” .Egyptians as “Safar”, Jerusalemese as “Shingali” , Greeks as “Modily” and the Tamil texts it as “murachinagaram”. The oral tradition is that Cheraman Perumal, when he was convinced of his imminent death ,wrote letters to his relatives in Kerala among whom he had partitioned his kingdom before leaving for Mecca. These letters were handed over to his companions. After a while ,when Malik –Ibn-Dinar came to Kerala ,he brought the letters written by Perumal .In this letters he had asked his relatives to receive the bearers of the letter and to treat them well .The rulers of Kerala honored the letter and permitted Malik –Ibn-Dinar and his fellow Arab muslim traders to establish mosques at different places of Kerala.

Islam originated in the beginning of seventh century A.D. Prophet Muhammed ,started preaching of new religion in Mecca. This ideological movement was born in the highly commercialized milieu of Mecca , it was an important religious as well as trade center . During this period Muhammed brought a complete revolution among the people or Arabia socially ,culturally and politically. After consolidating Arabia Prophet Muhammed set forth spreading his message in other countries . On his demise this was followed by faithful followers with vigor and enthusiasm . Long before all this there was regular contact between Aabia and Kerala through Arab merchants who were carrying on flourishing business in dates, pepper , spices and other merchandise. A party of missionaries came with merchants and landed in Kerala.Islam reached through the Arabian sea coast and Hormus, the same sea route to accept by Christians. Many muslim travelers ,traders and geographers wrote about Kerala. In 9<sup>th</sup> -10<sup>th</sup> century ,Abulfida, Sulaiman, Abuzayed, Masudi and in 12<sup>th</sup> – 14<sup>th</sup> century Aldrisi, Dimishqi, Khazveeni, Ibn Batuta etc wrote about Kerala. There is no unanimity of opinion among the historians regarding the exact date of arrival of islam in Kerala. There is no direct epigraphic or literary evidence to support this dating for the origin of islam in Kerala.

The existence of four gold coins Ummayyad period which were discovered at Kothamangalam in Central Kerala, are evidence of trade prior to 750, rather than proving settlement. Buchanan in his "journey from Madras Through the countries of Mysore, Canara, and Malabar" opined that there had been considerable trade between Arabia and Kerala coast. Along with these merchants, Islam reached gradually on the South West coast. Dr. Tarachand, in his influence of Islam on Indian Culture observed that the first muslim groups reached in Indian ocean in 636 A.D. Naturally some Arab merchants accepted Islam during the period of prophet and there was a possibility that they spread it in Kerala. The muslim first set foot in India during the period of rapid expansion of Caliphate. The evidence of support of this tradition is found in the inscription on a muslim tomb stone at Panthalayani Kollam. It read: Ali Ibn Udthorman was obliged to leave this world for ever to spirits of all, in the year 166 of Hijra (782AD) so called after Muhammed, the prophet left for Madinah.

Mention may also made in this connection of the tradition recorded in the Keralolpathi about the conversion of the last Ceraman Perumal to Islam. Some writers have attributed the origin and the spread of Islam in Kerala to this alleged conversion. But the story of the Perumals conversion to Islam is unacceptable evidence of the Keralolpathi alone. The question of the advent of Muslims is connected with the conversion of the last Ceraman Perumal to Islam. The Perumals were the titular rulers of Medieval Kerala. The Ceraman Perumal tradition maintains that this final representative of the ruling line was converted to another faith, and at that time he attributed his suzerainty to adjacent rajas. This tradition has taken by some as indication of change to another sect of Hinduism, to Buddhism or Christianity. The dominant form of the tradition, however, maintains that the kind was converted to Islam. It is this view that is naturally espoused by the *mappilas* themselves.

According to *mappila* tradition, the conversion process began when Cheraman Perumal who was reigning at Kodungallur, experienced an unusual dream. The new moon at Mecca split into two, half remaining in the heavens, the other half falling to the ground; there after the two half joined again, and the moon set. Some months later a party of muslim pilgrims on their way to visit the foot print shrine at Adams peak in Ceylon stopped at Kodungallur. There they narrated to the Perumal the story of how the prophet Muhammed had converted some unbelievers by the miracle of splitting the moon. On the basis of this experience the Perumal took decision to become a muslim. He secretly determined to join the pilgrims on their return to Mecca. Having left the permission that he would soon he traveled to Arabia with the Arab pilgrims. He soon resolved to return to Malabar to establish mosque of his new religion. On the way back he fell ill however, he begged his companions to proceed to Malabar to propagate the "fourth veda". He gave written authorization to the various chieftains of Malabar asking them to receive the messengers well, to give land for mosque, and to endow them sufficiently. He further cautioned his messengers not to tell the rajas of his illnesses.

Cheraman perumal died and buried at Zuphar on the Arabian coast in 822, according to Zein - Ud - Dins dating. His missionary group was headed by Malik Ibn Dinar, and included family members and three other messengers. Some time after his death, eight years in one version, the group came to Malabar and delivered the Perumal's letters, concealing received, they traveled throughout the area propagating the faith. When Cheraman perumal became a Muslim he adopted the name Thajudeen and he married the sister of a Jiddah king. The Cheraman legend is not corroborated by any contemporary records or evidence. None of the early or medieval traveller's who visited Kerala has referred to it in their records. Thus Sulaiman, Albiruni, Benjamin of Tuleda, Al Kazvini, Marcopolo, Friar Odoric, Friar Jordanus, Ibn Batuta, Abdu razak, Nicolo Conti none of these travelers speaks of the story of the Cheraman's alleged conversion to Islam. Sreedara Menon authoritatively states that Kerala never had a king called Cheraman perumal, Logan accepted the tradition as authentic, but he modified the date of the perumal's conversion to Islam to 825 AD.

The author of the Cochin State Manual argued that if therefore the perumal did come a convert could not have been Muhammedenism, it must have been to Buddhism. He says without pledging ourselves to this exact date, we many assume these events to have happened about the fifth or sixth century AD. Buddhism had made great progress in Southern India in the early centuries of the Christian era. In the light of the recent historical research there seems to be every reason to reject the whole story of the perumal's renunciation of Buddhism and partitioning of the kingdom as

unhistorical . It is now definitely known that the 9<sup>th</sup> ,10<sup>th</sup> and 11<sup>th</sup> centuries were the period when the Kulasekharas of second *Cera* Empire exercised their sway over the whole of Kerala with their capital at Mahodayapuram. This could have been impossible in the event of a partition of the kingdom . Malik- Ibn - Dinar and party were received well . The party was received by ruler of Kodungallur who gave them land and money to build a mosque and to settled down . This shows the tolerance and hospitality of the Hindu rulers of Kerala . Malik- Ibn – Dinar constructed a mosque in Kodungallur.

There are differences of opinion among the historians about the date of construction of *Cheraman* mosque .During the disintegration of Abbasids in the 11<sup>th</sup> century several independent rulers emerged and they encouraged the trade .So several merchants came to Kodungallur and other parts of the world .It led to the development of the trade . Early 12<sup>th</sup> century muslims migration settlement witnessed at Kodungallur. These trade and settlement caused the development of „Angadis“. The muslim traders wanted to place for their prayers. Early they began to built mosque near rivers or coastal regions .These coastal regions and rivers were main centers of trade . These trade settlements led to the construction of the mosque and it became the main center of socio- cultural activities of muslims. The missionary group then split up in to small groups and along with local converts went northwards up to Mangalore and South wards up to Tiruvitamcore. They went to places to spread religion and were given land and money to build mosques. Accordingly they constructed mosques at Barkur, Mangalore ,Kasargod, Ezhimala, Madai, Sreekantapuram, Dharmadam, Pantalayani , Chaliyam, South Quilon. Tiruvitamcore etc . Most of these continued to exist even now ,with additions alterations. Records shows these were repaired ,extended rebuilt many times . With these original mosques as the nuclei of missionaries carried on their work of preaching and social service without hindrance . The simple faith of *islam* enjoying belief in one god and the practicing of good deeds ,equality and brother hood, respect for human personality and so on attracted people of all classes in ever increasing numbers.

. The Muslim mosque in the heart of the city known at present as Kodungallur palli or Cheraman palli has temple like foundation exhibiting 11<sup>th</sup> ,12<sup>th</sup> century architectural style. Cheraman Juma Masjid ,considered as the first mosque in India is situated in Methala village at Kodungallur .In records , Methala village the survey numbers 83/1,83/2 belonged to the mosque and it's properties .It is located 1500 meters from Kodungallur centre, hardly 20 Kms from Irinjalakuda police station .This mosque has another name that is Malik- Ibn –Dinar mosque, because it was designed and constructed by Malik- Ibn –Dinar in 629 AD. Kerala Vyasam Kunhikkuttan Thampuram is of the opinion that an old Buddha temple was handed over to the Muslims to built a mosque there .The Ceraman mosque was designed and constructed in Kerala style .The cultural heritage of any community is seen best exposed in its architectural monuments . The construction and decorations of this mosque shows the technical and architectural craftsmanship, aspiration and the vision of the preceptors, for whom ,the construction was made . It was a medium of thematic expression .Geographical, climatic and historical factors greatly influenced the architecture of this mosque. We can see a merging of the scale of architecture with nature . This building has low walls ,slopping roof which was evolved from climatic considerations for protection from excessive rain and intense solar radiation .The natural building materials like stones ,timber, clay and palm leaves are used for the construction of this mosque ,which was one of the dominant feature of Kerala style .Each one of the mosque follow a pattern set by Malik- Ibn –Dinar and party. This comprises of first ,an inner or main hall ,second and outer hall at the same level ,third veranda on all sides at a slightly lower level ,fourth upstairs over the inner hall and some times over the outer hall also ,fifth a Houle or tank for ablutions, sixth a well for water supply and seventh a urinal. There is a tank for bathing sometimes there is a separate building for madrasa, i.e the religious school . A burial ground is generally located near important mosques. A tomb is built over grace of some holy men if they happen to be buried there .All mosques all over the world are oriented towards the kabba in Mecca. This has no significance except to create a sense of unity through the faith in one god, leading men to do good deeds. This orientation called Qibla is 20 degree North –West for any point in Kerala.

The inner hall is the main room where prayers are held either alone or in congregation. If the congregation is large the worshippers overflow into the outer hall, veranda and the upper stories. In the middle of the western hall there is a niche called mihrab which indicates the Qibla and where the imam (leaders) stands during the congregation prayers. By its side on the right is the mimbar (pulpit) on which the khateeb (preacher) stands for reading the sermon on Fridays. The verandas are used for reading sermon on Fridays. The verandas are also used for resting, for study or for discourses religious classes are held in these verandas or the upstairs. During discourses the verandas came handy for accommodating women. Every mosque has a small library of Quran and other religious books are generally books for references. Thus we can see that a mosque is a cultural center comprising of prayers hall, schools, hostels, libraries, auditorium etc all in one. The design and the arrangement of rooms etc is fully functional but is also indigenous adaptations of architectural forms of Kerala style. A few mosques have copperplates nailed to wooden planks for the roofs. No figure of animal, bird, snake or other living creatures, nor of human forms are found in the mosque. These are clearly discouraged in Islamic architecture on account of its relentless objection to idolatry of any kind of whatever. The only thirteen mosque in Kerala and two mosque in Tamilnadu constructed by Malik-Ibn-Dinar, adopted the design of early Kerala style for the construction. He worked as the first Qazi in Ceraman Juma Masjid. After some years Malik-Ibn-Dinar and some of his members of and some followers went to Shahar Muqalla and died there. Malik-Ibn-Habaib, the relative of Malik-Ibn-Dinar took the position of Qazi in this mosque. He settled here and mingled with Kerala society. This mosque is six kilometers from the sea coast. The Guruvayur-Ernankulam route pass in front of the mosque (NH 17).

The historical significance of Cheraman Juma Masjid is, it was the first mosque and first Mahallu constructed in India. The masjid is written in History as a symbol of religious fraternity. It is constructed in Kerala architectural style. Its inside, doors and door frames are strong. The beams supporting rafters are built by strong trees. It includes beautiful engravings of the earlier architectural style. The performing of Qutba is both in Malayalam and Arabic. It is a matter of great pride that devotees and substantial number of pilgrims are from non-Muslim communities. The Mahallu committee have encouraged this and the secular credentials of the mosque are clearly safeguarded. We often witness offering of *Iftar* during the month of *Ramzan* are being made by the non muslim communities. Many non muslim devotees are conducting *vidhyarambham* or *Ezhuthinuruthal* is not common among the muslims. It celebrated inside of mosque and in these occasions, firstly *khateeb* talk about the importance of education. Then written the word „Allah“ on their slate both in Malayalam and Arabic.

In early time the mosque had a curious custom of oil offerings. May be the Islamic Renaissance began centered around the mosque through the Dars. Its activities are conducted at night, because they wanted lamp. They used coconut oil to avoid charcoal. Generally the oil was contributed by country men. Later the contribution of oil became a sacred one. It was also used for lighting lamps in the mosque for other purposes. So it became a sacred one. These lamp, had twenty one wick of lamp, two inch diameter. Now these lamps are not lit. It is believed that the old tombs now at Ceraman Juma Masjid belongs to Habib and his wife Khumarriah. After the construction the mosque was renovated four times. The Department of Archaeological survey of India find out during the time of first renovation of mosque these mosque is now nine hundred years old. The second renovation conducted in 1984 and third was in 1996. When yet another extension to the mosque was needed in 2001 it was decided to reconstruct this in the model of the old mosque, change was brought from old mosques model. It is renovated in Kerala architectural style. On renovation of the wall for painting an Arabic inscription was noticed. It was the composed by Sayyid Alavi related to the preaching of Islam Malik-Ibn-Habaib and Khumarriah Beevi. This inscription was hundreds of years old, according to the Department of Archeological survey of India. It was found in Vennakkal or alabaster.

The president of India, Dr. A.P.J. Abdul Kalam visited this oldest mosque, Cheraman Juma Masjid on 29<sup>th</sup> July 2005. He was welcomed to the mosque by the present Raja of Kodungallur kovilakam, Gotha Varma Thampuram. In early period, the rulers of Kodungallur gave their full support

and consideration to build a mosque and preaching of Islam. These hearty friendships remembered by new generation. So both the mahallu and muslims dreamed that during the occasion of the prime citizen of India's visit, the present Raja of Kodungallur kovilakam welcomed him to the mosque, so Gotha Varma Thampuran led the function. It is the best example of the secular tradition of these mosque and Kerala culture. In the course of centuries Islam made progress as a religion and today Muslim are next to the Hindus, numerically the most important community in the state. The *Kerala Muslim Aikya Sangham* formed at Kodungallur in 1922. It was under the leadership of K.M.Seethsahib, Muhammed Abdul Rahiman Sahib, Manappatt p. Kunhimammed Haji, K.M. Moulavi and E.K. Moulavi. They published a monthly *Al-Irshad*. It was printed in Arabi – Malayalam in order to reach all men and women. Sangham encouraged women education and English education. Earlier theologians had issued *fatwa* saying English education was against the religion and English is language of hell. Sangham's first secretary was K.M.Seethsahib. The Madrassa movement, Orphanage Federation originated through the activities of Sangham, first Orphanage was established in Tirurangadi. Then many high schools, Oriental schools, Arabic Colleges and Arts Colleges were established. On the occasion of the anniversary celebration of *Aikya Sangham*, "Kerala Jamiyathul Ulema" was formed. It is the initial movement of „*Nadwat*“. The orthodox groups were against the activities of *Aikya Sangham*. The three persons Abdul Rahiman Sahib, later Kerala assembly speaker K.M.Seethsahib, present leader K.M. Ibrahim sahib initiated programmes to elevate the status religiously, politically, culturally. P.A Sayd Muhammed, Dr. Gafoor were important personalities of Kodungallur. It was in Kodungallur that muslim women first entered the mosque and heard the qutba in mother tongue. There after many mahalls were performing qutba in Malayalam. The *Aikya Sangham* heralded the renaissance among the muslims of Kerala. These renaissance stimulated awakening among the Muslims. They exerted their influence on various aspects of society and life.

### Conclusion

The historical significance of Cheraman Juma Masjid is, it was the first mosque and first Mahallu constructed in India. The masjid is written in History as a symbol of religious fraternity. It is constructed in Kerala architectural style. Its inside, doors and door frames are strong. It includes beautiful engravings of the earlier architectural style. The performing of Qutba is both in Malayalam and Arabic. It is a matter of great pride that devotees and substantial number of pilgrims are from non –Muslim communities. The Ceraman mosque was designed and constructed in Kerala style. The cultural heritage of any community is seen best exposed in its architectural monuments.

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ISSN: 2395-7719

Vol : 09, 2023



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Journal of Social Sciences

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Book Review



# **SOCIAL ORBIT**

**Annual Refereed Social Science Journal**

ISSN 2395-7719

**Volume 9  
2023**



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## Political Geography of Kolathunadu, Kerala, India: Reading the Epigraphs of Early Medieval Period

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### Abstract

*Kolathunadu was the northern most political division of pre-modern Kerala. Though the number of epigraphs from the region of Kolathunadu is very less, they furnish a pattern of political transformation between 10th to 12 century CE. This paper attempts to make some notions on the political geography of Kolathunadu by revisiting five epigraphs from Kannur district like Narayan Kannur, Eramam Chalappuram, Tiruvattur, Kuruvakkavu and Perinchellur that signified to the political situations of two important ruling lineages of Kolathunadu during 11th century CE and 12th century CE. They exemplify the evolution of political lineage of Mushikas in the early medieval period (9th to 12th century CE) to the Swarupam polity of Kolathiris in the medieval times (12th to 15th century CE). The role of Perinchellur Brahmin settlement in the making of political power of the Kolathunadu is also evident in these epigraphs.*

**Keywords:** Kolathunadu, Mushikavamsa Kavya, Kola Swarupam, Perinchellur Sanketam, Muppumura, Kuruvazhcha

### Introduction

In historical studies, Kolathunadu is described as the political division of Second Chera kingdom in the early medieval period (9th to 12th century CE) and as the powerful *Naduvali* in the medieval period (13th to 16th century CE) (Pillai 1970: 250-251, Narayanan 1996: 90-105). Historians traces the historical antecedence of Kolathunadu, the geographical area comprises of the present day Kannur district of Kerala state of India, from the imaginary geographical extension of various forms of political authorities that existed in this part of the land from the early historic *Velir* chieftains of Ezhimala through early medieval Mushika and the medieval *Kola Swarupam* to the colonial Chirakkal and Kavvay Taluks. Though the region has a long histor-

ical past and heritage, the number of available historical evidences are too scanty. The present article focusses on the epigraphs in Vattezhuttu script with old Malayalam language of 10th and 12th century CE like *Narayan Kannur* (929 CE), *Eramam Chalappuram* (1020 CE), (Narayanan 1971: 98-99, 103, 2013: 455,475) *Tiruvattur* (1020 CE) (Nair 1972:72-74, Narayanan 2013: 480-81), *Kuruvakkavu* (1122 CE) (Nair 1972:68-71), and *Perinchellur* (1145 CE) (*Veluthat* 2013:165-180), all now from part of the Kannur district. The *Pullur Kodavalam* inscription (1020 CE) (Narayanan 2013:454) from Kasaragod district, the part of erstwhile Kolathunadu, but now situated in the neighbouring Kasaragod district, has also been included in the study. These epigraphs authenticate some important historical developments of the early medieval and medieval Kerala in general and our study area in particular. Accordingly, the present paper focuses on the succession pattern of the Mushika rulers, the expansion of Second Chera rule (800-1122 CE) towards Kolathunadu during the last lap of Bhaskara Ravi (1021 CE) and the formation of *Kola Swarupam* in the post Chera period. The role of the Perincellur Brahmin settlements, which developed from the early historic *Sangam* (*Akananuru* 220) period onwards, in the making of the polity of the Mushika lineage and *Kola Swarupam* are also evident in the inscriptions.

### Mushikas

*Mushikavamsa Kavya* (hereafter MVK), a 11th century CE semi-mythical and semi historical court chronicle of Mushika dynasty of Ezhimala composed by Atula, the court poet of the last mentioned Mushika ruler Srikantan, has 15 cantos contained the genealogy of about 115 Mushika rulers from the legendary founder Ramaghata Mushika to the last rulers Srikantan (Rao:1920:87-113, Pilla 1977, Narayanan 1977: 58-66). The above mentioned epigraphs authenticate the historicity of the Mushika lineage of about 19 rulers, mentioned in the last three cantos, from Kunchivarman (97th ruler) to Srikantan (115th ruler) (Narayanan 1977: 58-66, Unni 1980) (Table 1.).

- MVK refers to the Kerala king Jayaraga, identified with the second Chera king Kota Ravi Vijayaraga (883-913 AD), as the son-in-law of Kunchivarman and brother-in-law of Isana Varman (98th ruler).
- Isana Varman is said to have been succeeded by his sons Nrparama (99th ruler) and Palaka (100th ruler).
- The Narayan Kannur inscription of 928 C.E. refers to *Validhara Vikkira Rama*, as the crown prince (*Ilamkoyil*), identified with two rulers of the

Mushika lineage i.e. Validhara (102nd ruler) and Vikrama Rama (104th ruler). According to MVK, Validhara was succeeded by his nephew Ripurama (103rd ruler) and then by his brother Vikramarama, i.e. the second nephew of Validhara. The first part of Vikramarama's name 'Validhara' is evidently derived from the name of his uncle, Validhara.

- *Iramanjemani* and *Vijayam Srikantan* have appeared in the Tiruvattur temple inscription as the over lords of the Tiruvattur temple. MVK depicts a Jayamani (113th ruler) as the younger brother of Gambhira (112nd ruler) and the uncle of Srikanta. According to MVK Jayamani was succeeded by his nephew Valabha II (114th ruler), who is depicted as the founder of the towns like Valabhapattanam (Valapattanam) and Marahi (Madayi). Accordingly, after Vallabha II, his brother Srikantan, the same *Vijayam Srikantan* and *Kandan Karivarman* alias *Iramaghata Muvar* of the Tiruvattur and Eramam Chalapuram inscription respectively, became the ruler. The first part of his name *Vijayam* must have been derived from the name of his uncle Jayamani.

Table.1. Historicity of the 19 Mushika rulers

Name	Canto	Relations	Peculiarities
Kuncivarman	XI - 100	Son	.....
Isnavarman	XII - 5	Son	He had matrimonial relation with Cedi and Chola
Nrparama	XII - 62	Son	.....
Candravarman	XII - 77	Son	.....
Palaka	XII - 89	Son of Isnavarman	.....
Validhara	XII - 90	Nephew of Palaka	Mentioned in Narayan Kannur Inscription at Ramantali
Ripurama	XII - 93	Nephew	.....
Vikramarama	XII - 95	Brother	Mentioned in Narayan Kannur Inscription at Ramantali
Janamani	XII - 101	.....	.....
Samkavarma	XII - 102	.....	.....
Jayamani	XII - 103	.....	.....
Valabha	XIII - 1	.....	.....
Kundavarman	XIII - 14	Brother of Valabha	Established Narayanapura Temple
Palaka	XIII - 17	Nephew	.....
Ripurama	XIII - 18	.....	.....
Gambhira	XIII - 24	.....	.....
Jayamani	XIII - 39	Brother of Gambhira	Mentioned in Tiruvattur Inscription

Valabha II	XIII - 43	Nephew	Established the city - Valabha pattanam and Madayi. Visited Srimulavasam and Sambara. Assisted Chera in their war against Chola.
Srikanta	XV - 1 XV- 48	Brother	Patron of the poet. Mentioned in Thiruvattur inscription, Renovate the temples like Vatukesvara, Ahiranesvara and Kharakanana

Both *MVK* and the inscriptions refer to a change occurred in the succession line from patrilineal to matrilineal line after Palaka (101st ruler), when his nephew Validhara (102nd ruler) and then his nephew Ripuraman came to the throne. After Ripurama, his brother Vikramarama became the chief. This pattern can be seen in the following rulers in the *MVK* up to Srikantan which validated by the contemporary epigraphs. It shows that the succession was based on the seniority rank of the male members in the matrilineal household and the senior need not be the nephew of the ruling chief but it can be his brother. This system was known as *Muppumura*, by which the *Muppu* (senior) became the chief through a ceremonial function conducted by the Brahmin. The existence of this system is evident in the early medieval Kurumbranadu, the neighboring nadu of the Mushikas. The Kanapapuram inscription (12th century CE), in which *Udayavarmamayina Ramaghatamuvar* appeared as the chief of the region, refers to that “*moothavar chelutha katavar*”, means the senior most member of the household had to occupy the right over the land. In short, the succession pattern of the Mushikas in their last phase was based on *Muppumura*, which was common to the medieval matrilineal household polity of Kerala called *Swarupam* (Rajesh 2011:149-214, 2014: 52-68).

### Mushikas and the Second Cheras

The northern part of Kerala was remained as independent political entities from the early historic period to 11th century CE. According to the Sangam literatures, in the early historic period the region was ruled by a *Velir* chief named Nannan of Ezhimalai, who was defeated by Narmudi Cheralathan, one of the early Chera ruler (*Ventan*) mentioned in the *Patittuppattu*. But we don't have evidences to prove the rule of the early Chera kings over the region of Nannan. However, Atula incorporated Nannan as Nandana in to the Mushika genealogy

and placed him as the second ruler in the lineage account.

The political association between the Mushikas and the Second Chera appears in the last part of the *MVK*. Accordingly, Mushika rulers were assisted the Chera kings, during the reign of Kota Ravi Vijayaraga (883-913 AD), in their fight against the Cholas. The Pullur Kodavalam and Eramam Chalappuram inscriptions composed during the 58th regnal years of Second Chera king Bhaskara Ravi (1020 CE), hinted at the suzerainty of the Second Chera power over the Mushikas. Eramam Chalappuram inscription refers to Kantan Kāri Varman alias Irāmaghata Muvar, identified with the Srikantan of *MVK*, along with the *Chalappuraththu Tali* and the merchant corporations like *Valanchiyar* and *Nanadesikal* and *Panimakkal* made an agreement probably in connection with some gift from Rajendra Chola Samayasenapati of Katappappalli. The presence of *Valanchiyar* and *Nanadesikal* provide a link with the Chola (Narayanan 2013:455). Similarly, Manigramam merchant guild, who mainly mentioned in Kerala in the Second Chera inscriptions like Tarisappalli copper plate of Sthanu Ravi (849 CE), Jewish Copper plate and *Iringalakkuda* inscriptions of Bhaskara Ravi, *Thazhakkad* inscription of Ravi Kotha Raja Simhan, has appeared as the guardian of the Narayan Kannur temple of the Mushikas and as most beloved to the junior crown. The presence of Manigramam, who were involved in the inland and overseas exchange at Kollam and Kodungallur areas under the patronage of Chera rulers, seems to have shown the Chera influence in the Mushika kingdom. The appearance of the Valbhan II as the founder of the two prominent trading centers at Madayi and Valapattanam have revealed the involvement of the last Mushika rulers in the lucrative trade networks of the west coast. Such examples can be seen in the case of Venatu from 9th century under Ayyanatikal Tiruvatikal as well.

In short, Mushikas had political linkage with the Second Chera kingdom from the last decade of 9th or the beginning of 10th century CE and accepted their sovereignty during the reign of Bhaska Ravi and till that time the Mushikas were remained as independent political entity.

### **Kola Swarupam**

The post Chera period witnessed the emergence of Kolathunadu as a dominant *Swarupam* which had resource control over the agrarian settlements and the coastal trading centers like Valapattanam and Madayi (Rajesh 2011). The *Perinchellur* inscription (1145 CE) refers to the name Kolathunadu to denote a political division during the 12th

century CE. This name was absent in the inscriptions of the Mushikas and also in the *MVK*. The *Kavya* refers to the name *Kolam* as the capital of the Mushikas and, at the same time, call their kingdom as Mushikarajya. The Tiruvattur inscription refers to the king Srikantan as "Mushikendran". The Perinchellur inscription refers to Karumpattu Iraman Iravi Varman alias Kolathu Tiruvati Koyiladhikarikal and two Sabhas of Perincellur as the donors of 707 *Anayachu* to a landlord named Pukazhamalaicheri Chuvaran Thevan on interest basis. Here Kolathiri and Perincellur appeared as the supreme political and ritual authority respectively over medieval Kolathunadu. The inscription validated the evolution of the Perinchellur settlement in to the status of the *Sanketham*.

Kolathiris claimed their ancestry from both the Mushikas and Perumal (Second Chera) in the *Keralolpatti Kolattunattu Vzhakkam* (Varier 1984). They used many titles like Iramghata Muvar, Ezhi Perumal, Kolathiri etc. to substantiate such claims and traditionally received three royal names like Udayavarman, Ravivarman and Ramavarman for the ruling chief. Karumpattu or Karippattu was the earliest matrilineal faction of Kolathunadu. Kuruvakkavu inscription of 1122 CE refers to Udayavarmman alias Iramaghatamuvar. the earliest known ruler of Kolattunadu. Karipathu Iramaravi Varmman (Ravivarman), who appears in the Perinchellur inscription, was the second ruler from the Karipathu *Kovilakam*. According to the *Keralolpathi Kolathunattu Vzhakkam* Udayavarman was from the Karipathu *Kovilakam*. Accordingly, Udayavarman and Ravivarman, as the followers of the Cherman Perumal, were known as *Kolathiri Vadakkan Perumal*. *Kola Swarupam* (Kolathiris) had *Muppumura* and remained as one of the dominant matrilineal power in the pre-modern period of Kerala.

### **Perinchellur Sanketam and early medieval and medieval polities**

Both the *Mushikas* of early medieval and *Kolathiris* of the medieval period were loyal to the archaic Brahmin settlement of Perincellur. The Perinchellur settlement is identified with the present Taliparambha of Kannur district (Veluthat 2013: 35-42) As mentioned earlier, Perinchellur was developed from the early historic period. *MVK* stated that the settlement was established by the legendary king Sutasoma (10th ruler) and many other rulers were paid their obeisance to the settlement. But the relation between the ruling power and the Brahmin was not always smoothly operated. According to the *Keralolpathi Granthavari*, Karipathu Udayavarmman has desired to conduct a *Yaga* at Perinchellur *grama* and became the patron of the *Yagasala*. Udayav-

armman sent his representatives to seek consent from the Brahmins of Kurumattur, who belonged to the Perinchellur settlement. In response, the Talipparamba yogam and sabha of Perinchellur grama assembled at Talipparamba and took a joint decision that; as such a practice has not performed earlier; they did not conduct the ritual on behalf of Kolathiri and also informed that they were only loyal to the Perintriikkovilappan (the chief deity of the *Sanketam* or Rajarajeswaram temple) and never admit political intrusion of Kolathiri over the Sanketam. As Udayavarmman breach the Sanketa Maryada, the Taliparamba *Yogam* and *Sabha* also jointly decided to demolish the Karippathu Kovilakam, the residence of Udayavarmman.

In such a situation the ruling powers brought a bunch of brahmins from, probably, Karnataka to perform rituals of royal consecration for them. This had resulted in the origin of 237 Brahmin households, distributed in the five areas like Cheruthazham, Kulappuram, Arathil, Kunneru Vararuchimangalam in the Perumba river belt and came to known as *Anjudesam* that mentioned in the *Jambu Dweepolpatti* part of *Keralolpathi* (Varier 1984: 54-78) and *Sagara Grandhavari* (Unithiri 2008: 37-57), under the patronage of the Kolathiri in the medieval period. However, as these settlements need the consent from the existing dominant settlement of Perinchellur for performing the rituals for *Kola Swarupam*, Kolathiri was finally forced to pay his obeisance to the Perinchellur *Sanketam* to get the consent. This incident shows the traditional eminence of the Perincellur Sanketam over the political powers of the region, probably from the early historic period.

### Conclusion

The above discussion traces the political geography of Kolathunadu from the early medieval Mushika lineage to the medieval matrilineal *Swarupam* kind of polity. The Mushikas were remained as independent political entity until the beginning of 11th century CE and then accepted the suzerainty of the Second Chera kingdom especially during the time of Bhaskara Ravi. This political linkage must have enabled the Mushikas to make settlement with the leading merchant corporations of south India like Manigramam, Valanchiyar and Nanadesikal and involve in the most profitable overseas exchanges. This would be one reason behind the political dominance of the Kolathiris in the post Chera period in the northern part of Kerala. The Perincellur Brahmin settlement had a significant role in the making of these polities and had the exclusive right to conduct ritual functions through which the rulers were elevated in to the *Kshatriya* status (*Varman*).



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# 200 Years of Babington's *Pandoo Coolies*: A Critique of the Megalithic Studies in Kerala

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Received: 09 July 2023; Revised: 04 October 2023; Accepted: 13 November 2023

Heritage: Journal of Multidisciplinary Studies in Archaeology 11.2 (2023-24): 301-323

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**Abstract:** *Megaliths are mainly the burial or commemorative monuments of Iron Age and Early Historic periods of peninsular India in general and Kerala, in particular. The studies on megaliths in India started with the antiquarian research of J Babington at Chattaparamba, near Farook, Calicut, in 1819. The report of this excavation was published in 1823 as "Description of the Pandoo Coolies in Malabar: with four drawings," in Transactions of the Literary Society of Bombay, (1823: 3:324-330). Babington did not term the monument as Megalith, instead he called it as Pandoo Coolies, probably the anglicised version of local traditions such as Pandu Kuzhi or Pandavar Kuzhi. The present paper attempts to critically analyse the nature of megalithic studies in Kerala for the last two centuries (1813-2023) and argues that it is still remaining in some sort of antiquarian stage.*

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**Keywords:** Babington, Pandoo Coolies, Megaliths, Iron Age, Early Historic, Excavation, Archaeology

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## Introduction

Generally, the megaliths are considered as the burial or commemorative monuments of the Iron Age and Early historic (c.1000 BCE – 500 CE) periods. They are the foremost material evidence for the study of the historic period also. The term Megalith is derived from two Greek words; *mega lithos* means big stone (Herbert 1847, 2010). Megaliths of Kerala are mainly made with laterite, granite and terracotta. The megaliths in laterite include Umbrella stone (*Kodakkal*), Capstone (*Toppikal*), Rock-cut sepulcher and stone circle. These typologies are unique in Kerala and mainly distributed in its northern districts include Thrissur, Palakkad, Malappuram, Kozhikode, Kannur and Kasaragod. The megaliths in granite include Cist, Dolmen, stone circle, menhir etc. found almost all parts of Kerala. The Urn and Sarcophagi were made in terracotta and had no lithic association. Since its size is huge, it is termed as megaliths. Many scholars hesitated to use the term megaliths to denote all typologies made in stone and terracotta; instead, they termed it as Iron Age burial monuments (Lashnik 1974, Gurukkal et.al 1999).

Since the Megaliths were not confined to Iron Age only and continued from Iron Age to early historic and historic periods, the term Megalith will be more apt to denote the

monument as well as its cultural period. There is no consensus regarding the chronology of the megaliths of Kerala. Based on the Porkkalam and Mangadu excavations, a period between 4<sup>th</sup> -3<sup>rd</sup> century BCE and 1<sup>st</sup> century CE is ascribed (Thapar 1952:6, Satyamurti 1992:9) to the Kerala Megaliths. Roughly, a period between 1000 BCE to 500 CE is generally considered as the period of Kerala Megaliths (Gurukkal et.al 1999:127-128). There were two types of megalithic burials; Primary or Extended burial in which the full body of the dead was buried along with his/her belongings and the another one was secondary or fractional burial in which the bone fragments collected from the cremated or exposed contexts were buried in the monument. The secondary type of megaliths was discovered so far from Kerala. The grave goods enclosed in the burials can be classified into four; (1) *Potteries*- Black and Red ware, Red Slipped Ware, Black Ware, Russet Coated Painted Ware etc.; (2) *Metal objects and tools*- Iron spear head, knife, dagger, arrow head, sword, chisel, trident, axe, ploughshare, sickle, hanging lamp, tripod etc.- Bronze utensils- Gold ornaments (only from Arippa and Naduvil sites); (3) *Beads*- semi-precious stone beads – carnelian, etched carnelian, quartz, amethyst, steatite, beryl etc. and glass beads from very few sites like Peringathur (Kannur district); (4) *bone fragments*.

J Babington, a British antiquarian, initiated the study of Megaliths in India in 1819 with the excavation of a cluster of burials which he called *Pandoo Coolies* in colonial Malabar and its report was published in 1823. Many explorations, excavations and salvage operations have been carried out in Kerala, after the publication of Babington, by various academicians and institutions during the colonial and post -colonial periods. The present paper tries to revisit such reports and the historical and archaeological studies on megaliths in Kerala for the last 200 years after the publication of Babington's *Pandoo Coolies*. The paper has three parts; the first part discusses the importance of Babington's *Pandoo Coolies* and how this report was used by the later scholars for their study; the second part discusses the megalithic excavations and salvage operations in Kerala from 1823 to the present; the last part critically evaluates how the academicians were utilised the information related to Megaliths for the study of Iron Age and Early historic society of Kerala.

## **Part- I- Babington's Pandoo Coolies**

The site excavated by Babington was Chataperambah, literally meaning the field of dead, in November 1819 and read the report at the meeting of the Literary Society of Bombay on 26<sup>th</sup> December, 1820. It was published in the *Transactions of the Literary Society of Bombay in 1823*. Babington excavated cap stones and opened a few umbrella stones. He termed these monuments as *Pandoo Koolies / Pandoo Coolies* and did not use the term Megaliths. Later William Logan incorporated the drawings of Babington in his *Malabar Manual* and he used the term megalithic to designate these monuments.

According to the Report, the site was situated on a hill rising abruptly from the southern bank of the Beypoor river and about five miles to the eastward of the Beypoor village (Babington 1823: 326). The site was revisited by SB Darsana and almost

relocated the site at Chattanparambu (Lat 11° 12' 1.1"; Long 75° 50' 24.2"), near Farook, Calicut district (Darsana 2007: 106). Babington's *Pandoo Coolies*, has at least three significances in historical and archaeological perspectives; typological observation; presentation of local myths on the monument; description and drawings of monuments and grave goods.

**Typological Observations:** Babington's report indicated that he was familiar with four typologies of *Pandoo coolies* (megaliths);

- The large Chatty of baked clay or Earthen pot (Urn/ *Nannangadi*)
- Topie Kull (Capstone)
- Kodey Kulls (Umbrella Stone)
- Cave ? at Neelcaperamba (Rock cut chamber)

The report indicates that Babington was confused with the local names of Kodey Kulls (Kudakkal) and Topie Kull (Toppikkal). The drawings and report shows that he actually opened the Topie Kull (capstone), but he used Kodey Kull to designate the monument. He begins his report with the observation regarding the landscape of the monument. Accordingly, "Kodey Kulls, Topie Kulls or Pandoo Koolies are generally to be found on the top of eminences, or on the sloping side of such hills in Malabar as are not wooded. They seem to vary in their shape according to the nature of soil or rock on which they are constructed."

**The Presentation of Local Myths:** As an antiquarian, Babington incorporated all existing local myths and traditions of the natives associated with the monuments in his report. Accordingly, the natives believed that the monuments were the works of the Punduvras (Pandavar) and some others believed that the monument was the creation of gods or genii. He also quoted another myth as follows; "One very absurd origin is given to them, and is the most generally credited; it is, that at some very early period of the world men did not die, but after increasing in stature gradually for a number of years, they dwindled to pygmies of a few inches in length, when they ceased to eat and drink, or to perform most of the other functions of animal life, and were in this state of doubtful existence inclosed in these tombs, with the implements and arms they had used when in the enjoyment of their faculties!" (1823: 326).

Why did Babington use the term Pandoo Coolies? Locally, the megalithic typologies are known variously as Pandavar Kuda, Pandavar Kuzhi, Pandavar Para and so on. According to such local traditions, the gigantic monuments made of laterite or granite were built by the Puranic heroes Pandavars. This myth survives in almost all parts of Kerala even now. As we know, Kerala was part of Tamizhakam in the early historic period and the language was predominantly Tamil. In Tamil, the term 'Mandavar' means the 'dead persons.' The megaliths were locally known as Madavar Kuzhi for a long period in South India. Then naturally a question may arise; how Mandavar kuzhi transformed into Pandavar Kuzhi? It can be logically answered. If one goes through the language of the inscriptions 9<sup>th</sup> to 12<sup>th</sup> century CE will recognize the continuity of

the Tamil influence in Kerala society. This period also witnessed the growth of Temple and temple art forms in Sanskrit traditions in Kerala through which the Puranic stories assimilated into the social memory of Kerala. The growth of Malayalam literature during the medieval times (after 13<sup>th</sup> century CE) led to the degeneration of Tamil influence. Thus the Malayali memory replaced the Mandavar with Pandavar. In other words, *Mandavar* must have erroneously been termed as *Pandavar* (Rajesh 2014a: 17). Babington must have used this local tradition to denote the burial monument and give title as *Padoo coolies of Malabar*.

**Description and Drawings of Monuments and Grave Goods:** The very first report of Babington on megaliths furnished a detailed description of tombs and grave goods with precise drawings. The grave goods unearthed from the tomb includes *trisulam* (trident), the large jar, iron tripod, iron lamp, the highly glazed *chattis* (pottery), various types of iron implements, stone beads in different colours and shapes, bone fragments etc. The drawings of the grave goods show that Babington's collections included Black ware, Black and Red Ware, Red Slipped Ware, Legged jar, ritual potteries, Russet Coated painted ware, pottery lids and stands, semi-precious stone beads; seem to be etched carnelian, quartz and beryl. The iron implements like spears, swords, knives and axes were referred to in the report (1823:330). Besides the drawings of the grave goods, the sketches of Kodey Kulls or umbrella stone (which he termed as Topie Kull) and the excavated Topie Kull or capstone (which he termed as Kodey Kull), were also attached in the report.



Figure 1: Babington's Drawings on Chataperambah site and Grave goods (Babington 1823: 330)

**Wrong Citation of Babington's Site in Later Studies:** A serious mistake occurred in the citation of Babington's site Chetapparambah in the existing dominant archaeological and historiographical studies in Kerala. In many works Babington's site is wrongly cited as Banglamottapparamba in Kannur district (Chedambath 1997, RK Mohanty & Selvakumar 2002: 313, Gurukkal & Raghava Varier 1999:104, Rajendran 2018: xii, Gurukkal & Raghava Varier 2018:43). The mistake was noticed by S Darsana who revisited Babington's site in 2006 (Darsana 2007: 100-108). In fact, the rock cult

cave at Banglamottapparamba was opened and salvaged by William Logan. The only available details on that site is a drawing of the top plan of that cave in *Malabar Manual*. The Babington site is rightly quoted in the appendix of the work *Iron Age in Kerala* (Satyamurthy 1992: 30). However, even after 200 years, the effort of Babington to study the Megaliths is not recognized or cited by the archaeologists and historians properly. Many of the academic works are not even reviewed the original archaeological report of Babington and the reports after Babington. The following part briefly surveys the nature of megalithic studies after Babington.

## Part II- Megaliths After Babington

The history of Megalithic studies in Kerala has been started from the Colonial period. Robert Sewell has done the pioneer attempt to document the archaeological relics of Madras Presidency. His *List of the Antiquarian remains in the presidency of Madras* furnished a Taluk wise distribution list of archaeological remnants including megalithic monuments, inscriptions, archaic shrines etc. (Sewell, 1882: 238-261).

A Multi-Chambered Rock cut cell accidentally found while the laterite cutting was progressing at the plot Challil Kurinyoli of Patinyatumuri Amsam Desam of colonial Calicut Taluk in 1879. William Logan, the Collector of colonial Malabar, immediately excavated the cave and salvaged the burial assemblages with the help of Mr. Kelappan, the Deputy Tahsildar of Taliparamba. It was a four-chambered rock cut cave with a long passage. "All four cells were found to be about half filled with earth and on clearing them out a large number of earthenware pots, a billhook of Iron, a number of small iron chisels, scraper of iron which had formed portions of other bill hooks or weapons, and a double iron hook for suspending a lamp or some other purpose were found buried in the earth". The cells did not contain bone fragments, at the same time Logan found two pots with white substance. Hence, he stated that dead bodies may have been burned and placed the ashes only in the cell. Then he confirmed that the cell was a sepulcher (Logan 1984 [1879]:309-311). William Logan opened another rock cut cave at Banglamottapparamba in Trichambaram Desam, Taliparamba Amsam of Chirakkal Taluk of Colonial period, which is now part of Kannur district (Logan 1887 [2010]:178-181). As mentioned earlier, this site is wrongly quoted as the site excavated by J Babington in many archaeological and historical works (Gurukkal and Raghva Varier 1999, 2018, Selvakumar and Mohanty 2002, P Rajendran). Logan has given the drawings of the ground plan, elevation and the unearthed burial assemblages in his work *Malabar Manual*.

F. Fawcett examined the structural features of the rock cut cave and the burial goods unearthed from Calicut. He gave special attention to trace the structural differences of the excavated caves (Fawcett 1890:371-373). Alexander Rea excavated a prehistoric cave at Perungalam in Tellicherry and furnished a catalogue of antiquities. This site yielded iron swords, hatchet, trident, tripod, Black and Red ware and Red wares (Rea 1910-11: 10-13). L A Cammiade examined the urn burials of Wayanad and furnished a list of burial sites (Cammiade 1930).

A. Aiyappan excavated two rock cut cave toms found in a plot locally known as Chenapparamba at Feroke. Prof. Jouveau- Dubreuil discovered the Feoke site in 1931. In the same year, based on his writings, Aiyappan excavated the site. Dubreuil opened the first cave and recovered the material remains. The second cave was opened by Aiyappan. It yielded various types of potteries included a large pyriform urn and lid of coarse half-baked clay, a sarcophagus (Aiyappan describe it as a large oblong bath-tub like vessel with twelve small solid legs) which contained a few etched tabular carnelian beads, four four-legged potteries, twelve red potteries with “marks” (graffiti) and fifteen small potteries. The Iron implements consisted of one tripod and one dagger. Aiyappan furnished a note on the importance of pottery marks by citing the viewpoint of Yazdani who studied potteries of Madras Museum and argued that the pottery marks had resemblances with the early Brahmi script. Aiyappan (2007: 12-29) said that the Feoke pottery marks have shown their distribution in the Malabar area too.

### **After Independence**

B.K. Thapar excavated an Urn burial at Porkalam in Thrissur district in 1948. A cluster of burial types consists of a rock cut cave, dolmen, porthole cist within stone circles and urns. Excluding the urn, all other types were found disturbed. The remaining pyriform urn, which was placed in a pit, was excavated and unearthed typical megalithic remains include seven pots and their lids and stands, bone fragments, three iron implements and forty-eight etched carnelian beads. Thapar made a comparative analysis of the Porkalam artefacts with other south Indian burial assemblages. Based on the comparative analysis between the artefacts of Porkalam and various sites of Tamilnadu and Karnataka, he concluded that Porkalam belonged to a period ranging from third century BCE to first century CE. (Thapar 1952:3-16).

K.J. John has examined one of the thirteen rock-cut caves at Citrari in Cannanore district, which was opened by the local people, and salvaged potteries consisting of black ware and red ware having the shape of vase and bowls. Few terracotta lids were also found. About thirteen potteries were collected and two of them contained charred bone fragments. Another important find from the site was a Neolithic pinkish ware. John has discovered similar pottery from a rock cut cave at Karaparamba village of Pariyaram in Tellicherry taluk of Cannanore district. He said, A Sundara has agreed that these finds were similar to the pottery shreds discovered at T.Narsipur. Another interesting find from Citrari was a trapezium-like pit found to the south of the rock cut cave. John assumed that “probably it was used by the builders of the cave tombs for exposing the dead body in order to collect the relics to be placed in the ritualistic and to be preserved in the cave tomb”. An unfinished cave to the north of this cave also pointed to the method of cave carving adopted by the megalithic builders. Finally, John stated that the rock-cut cave tomb builders were essentially ancestor worshippers (John, 1974:383-86).

A cluster of cist burials surrounded by stone circles made of granite blocks excavated at Machad and Pazhayannur in Trichur district by R.N. Mehta and K.M. George. The

excavated monuments yielded many antiquities like pottery, beads, metal objects, bone fragments etc. The pottery includes Black and Red Ware, red ware and black ware. About forty-six pieces were discovered that include bowls, dishes, lids, pots in small and big size and pot stands. Graffiti marks occurred on the potteries. The site yielded eleven iron objects consisting of daggers, chisels, hooks and nails and they unrevealed the method of iron metallurgy. About hundred and seventy-five beads of semi-precious stones include agate, carnelian, cherty-jasper, crystal and orthoclase feldspar. They were made in various shapes like barrel, cylindrical, faceted, spherical, oblate and rectangular bicones. There were hundred and twenty-six etched carnelian beads and seven metal pendants. Interestingly, a grinding stone, which shed light on the bead manufacture, was also found. The bones from the burials include the charred human bones fragments like skull, radius and ulna. A period ranging from circa second century BC to second century AD is ascribed to the excavated burials (Mehta & K M George 1978).



Figure 2: Umbrella stone at Kodakuthiparamba of Pythoth near Perambra

K.J. John excavated one umbrella stone (*Kodakkal*) at Kodakuthiparamba of Pythoth near Perambra in 1979 and unearthed burial goods (Fig.2). It includes a pyriform jar of dull red ware with a lid and small red ware, a highly polished bronze-vase, and iron objects like tripod, lamp and double-edged dagger. Both Babington and Logan, who wrongly identified *Topikkal* as *Kodakkal*, believed that this type was a monument not a sepulcher. However, the investigation of John confirmed the sepulcher nature of the *Kodakkal* (John 1982:148-153).



M.R. Raghava Varier and Y Subbarayalu examined a Cist burial at Kuppakkolli in Wayanad in 1987 and unearthed black bowl, legged jar, red dishes, wares etc. The most important evidence from this site was an iron ploughshare (Varier 2021: 49-51).

The Madras Circle of Archaeological Survey of India excavated a cluster of megaliths including capstones, multiple hood stones, umbrella stones etc. at Cheramanparamba in Thrissur district in 1990, which is now under the protection of their Thrissur Circle. The hood stone yielded a pyriform burial urn covered by laterite lid that contained Black and Red Ware bowls, Red Ware vase, Russet Coated white painted ware bowl, Iron object and bone fragments. An Umbrella stone (wrongly identified it as *Toppikkal*) was opened and it contained no burial goods. A granite capstone with an urn interred in a pit was excavated and unearthed eleven red potteries and bones. Three pit burials excavated in a stone circle. The first pit had a burial urn with a granite stone lid. The Urn contained iron objects like four arrowheads, two lamps with hooks, two tripods, a hook, knife, sickle and rod and a copper bowl. Pit two was similar to pit one. The urn unearthed four rods, three ring stands, two arrowheads, two lamps with hooks and a sickle, all made of Iron and a copper bowl. The pit three also had a big urn yielded two tripods, a knife, a lamp with handle, a carved rode and a copper bowl. All these goods deposited over a sand bed at the bottom of the urn. As the Kodakkal and multiple hood stone circles did not yield any burial assemblage, it is argued that they were the symbolic burials.

K.J. John excavated a cluster of stone circles with rock cut caves at Nendravattom of Naduvil 1990, near Taliparamba in Kannur district. It yielded a fragile bronze vase, unidentified bronze equipment, iron sword, iron dagger, tridents, knives, chisels, iron saucer lamps, iron tripod, a crystal bead, a quartz bead, earthen vases, ring stands and pot rests (John 1990. Poyil 2006: 94-95).

About twelve burial urns were excavated at Mangadu in Kollam district in 1992 (Satyamurthy 1992). According to Satyamurthy, Mangadu may be the corrupt form of Tamil *Ema-Kadu*, *ema* meaning funeral and *kadu* denoting *sudukadu* (plot for cremation) or *Idukadu* (plot for exposure) (Ibid: 11). These entire urns were handmade dull red ware without a lid. They yielded pottery, iron objects, beads and bones. The pottery included three categories; the huge urns, the medium sized jars and the associated burial pots. The urns and jars were handmade red pottery and the associated potteries are wheel made Black and Red ware and Red wares. The Iron implements included wedges, long cutting knives, sickles, tanged knives and blades. The absence of war weapons is conspicuous to this site. The beads included carnelian with and without etched marks. Based on Carbon 14 tests it is suggested that the Mangadu urns belonged to a period ranging from 1000 BC to 800 BC. This excavation proved that the Iron Age of Kerala commenced from 1000 BC.

Two cist burials excavated at Arippa in Kollam district by P Rajendran in 1993 and unearthed ceramic types like red ware, Black and red ware, black slipped ware, red slipped ware, grey ware etc. Iron implements included dagger, sickles, hoes, rods and

knives and gold ornaments consisted of three slotted ear rings and a copper bangle. The bone fragments of adult and child human beings and animals along with food grains were also reported from here (Rajendran 1995:684, 2021: 62-64).

The excavation of Iron Age burials at Kurumassery (1997) yielded about hundred and thirty-six beads of various shades and dimensions made of carnelian, jasper, glassware, bone, horn and quartz crystal. The remains of rice husks from this site had more significance (Chedampath 1997).

Thrissur Circle of Archaeological Survey of India has conducted an extensive rock cut cave sepulcher excavation at Ummichipoyil in Kasargod district in 2001 (Ramamurti 2002). About seven sepulchers were excavated and unearthened burial assemblages like various types of red wares, red-legged potteries, black wares, black and red wares and iron objects. Among the pottery the channel-spouted vessel, typical of the Neolithic in dull red ware, were found. This may be valuable information on the continuity of Neolithic tradition in the period of Megalithic builders (Jaysree Nair 2007:118-136, 2008:13-29).

The State Archaeology Department of Kerala excavated a rock cut cave sepulcher at Kuruvattur in Calicut district in 2006. It yielded megalithic burial pots and iron implements. The iron implement included sword, chisel, wedges, tripod, tanged knife, ploughshare and tweezers (Krishnaraj 2015: 14-15).

The State Archaeology Department of Kerala excavated a rock cut cave sepulcher found at Cheliya near Koyilandy in Calicut district in 2008. This site unearthened burial potteries, a small sarcophagus of terracotta and iron objects (Krishnaraj 2015: 14-15).

Three cist burials were excavated at Kadanad by the Thrissur circle of Archaeological Survey of India in 2008. They were located at three localities namely Mattathil Para, Inchukavu and Kurumannu (Nambirajan and C Kumaran 2011:123-128). The burial goods unearthened from the cist burial included black and red ware, red ware and black ware. The types include bowls, shallow dishes, vases, carinated pots, ring stands, miniature pots and lids. Kadanadu yielded a rich deposit of iron implements. The cist 1 unearthened one dagger, chisels, hoes, leaf shaped knife, sword and an object with a hilted handle on one end and carved projection on the other end, a long spear. The cist 2 yielded twelve iron implements like chisel, battle-axe, dagger knife, ladle, a long spear type implement and two implements having edges on four sides. The semi-precious beads from this site consisted of quartz, chert, jasper and etched carnelian. A gold leaf was also discovered from this site. Based on the study of burial typology and burial assemblages a period between 300 BC and 200 BC is ascribed to the Kadanad cists (Nambirajan and C Kumaran: 123-128).

The School of Social Science, Mahatma Gandhi University Kottayam carried out two season excavations at Anakkara in Palakkad district in 2008 and 2009 and unearthened typical burial assemblages from a cluster of Iron Age burials. The excavated

monuments included a stone circle with three urns, another one with three rock cut cave chambers, an umbrella stone containing burial assemblages and two urns. The burial assemblages included Black and Red Ware, Red Slipped Ware, Russet Coated Painted Ware, Black Burnished ware, black ware, Iron objects like tripods, trident, arrowheads, dagger, sword, lamps, an unidentified corroded copper object, etched carnelian and steatite beads with steatite pendants and bone fragments. The charred bone and the exposed bone fragments were discovered from the urns (2008). All the burial goods were placed above the yellowish sand bed filled in the bottom part of the pyriform urns (2008). A number of post holes in a circle in the laterite plateau located very close to the stone circle (2009) were another important feature of this site. The purpose of the post holes is not clear, as it is located very close to stone circles it may not be used as settlement hut. Most probably, it must have been used as a plot for a post burial ritual. The 2008 excavation provided supplementary evidence about the pre-iron age settlement of the region. A trial trench laid out close to the excavated umbrella stone and stone circle yielded about 24 Mesolithic implements made of quartz below the Iron Age layer. Interestingly a layer of Chalcolithic phase between the Iron Age and Stone Age layers was absent in this trench. This evidence sheds light on the distribution of Stone Age settlements in the region and also emphasises on the need of such archaeological investigations in Kerala (Shajan et.al 2013-2014: 25-51).

The State Archaeology Department of Kerala retrieved a small-legged sarcophagus from a rock cut cave sepulcher found accidentally at Kodakal near Atholi in Calicut district in 2014. A pillared rock cut sepulcher excavated at Kakkodi in Calicut district and yielded ninety-six burial potteries, hundred and twenty-five semi-precious beads of carnelian, agate and crystal and pendant and also the iron implements (Krishnaraj 2015: 16-17).

The State Archaeology Department of Kerala excavated, following an accidental discovery of the local people, a rock cut chamber having double chamber with single entrance at Marakkara in Malappuram district in 2015. The cave unearthed about twelve potteries including bowls, ring stand, pot, vessels and lid in both black and red colours. About twenty-four iron implements found from the sepulcher consisted of dagger, arrowheads, knife, sickle, chisels, rods, blades etc. The cave also yielded about thirteen etched carnelian stone beads and one quartz stone bead.

A pillared rock cut cave sepulcher found at Patyam near Koothuparamba in Kannur district. It yielded black and red ware and red ware potteries, broken pieces of iron knife, sickle, dagger etc. and few bone fragments. The local people also opened this cave and therefore most of the evidence was lost. The Archaeology department made a salvage operation in both sites and recovered the remaining artefacts (Krishnaraj 2015: 28-78).

A cist burial excavated at Niramakulam Pathanamthitta district and unearthed the potteries included Black and Red Ware, Red Ware, Grey Ware, Black Slipped Ware, Black Polished Ware, a chocolate coloured ware, 7 Iron implements included sickles

and knives and 15 carnelian beads (Ajitkumar et.al 2014: 166-171). The department of History, Government Arts and Science College Meenchanda, Calicut conducted an archaeology workshop and trial excavation of a cluster of burial urns at Kinalur in Calicut district in 2016 and unearthed typical megalithic burial goods. The remains of a Mesolithic industry below the Iron Age layer are the most striking discovery from the site (Selvakumar 2020: 171-180).

Table 1: Megalithic excavations and Salvage operations after 1954-2022

Sl. No.	Site Name	Excavated By	Typology	Grave Goods/ Remarks
1	Porkkalam	B K Thapar 1948	A rock cut cave, dolmen, port hole cist within a stone circles and urns	7 pots and their lids and stands, bone fragments, three iron implements and 48 etched carnelian beads
2	Citrari, Kannur	K.J. John 1971	A cluster of rock-cut cave tombs. An unfinished cave	Pottery- BRW, Red Ware
3	Machad & Pazhayannurtrichur	R.N. Mehta & K.M. George 1974	Cist Burials	Pottery (BRW etc.), beads (agate, carnelian, cherty-jasper, etc.), metal objects, bone fragments
4	Kodakuthiparamba Pythoth Perambra	KJ John 1979	Umbrella Stone	A pyriform jar of dull red ware with a lid , small red ware, a highly polished bronze-vase, and iron tripod, lamp and double-edged dagger
5	Kuppakkolli Waynad	M.R. Raghava Varier & Y Subbarayalu, 1990	Cist burial at	Black bowl, legged jar, red dishes, wares, Iron Plough share
6	Cheramanangad Trissur	The Madras Circle of Archaeological Survey of	A cluster of megaliths include capstones,	Black and Red Ware bowls, Red Ware vase, Russet Coated white painted ware

		India 1990	multiple hood stones, umbrella stones etc.	bowl, Iron object and bone copper objects etc.
7	Nendravattom Naduvil, Taliparamba Kannur	K.J. John 1990	A cluster of stone circle with rock cut caves at	Bronze vase, iron sword, dagger, tridents, knives, chisels, iron saucer lamps, iron tripod, a crystal bead, a quartz bead, earthen vases, ring stands and pot rests
8	Mangadu Kollam	T Satyamurthy 1992	Twelve burial Urns	Urn were handmade dull red ware without lid. Pottery, iron objects, beads and bones. 1000 BC to 800 BC
9	Arippa, Kollam	P Rajendran 1993	Two Cist burials	Red ware, BRW, Black slipped Ware, Red slipped ware, Grey ware etc, Iron dagger, sickles, hoes, rods and knives and gold ornaments consisted of three slotted ear rings and a copper bangle.
10	Ummichipoyil Kasaragod	ASI Trissur Circle 2002	Rock cut cave sepulchers	Red wares, Red-Legged potteries, black wares, BRW and iron objects. The channel-spouted vessel typical of the Neolithic in dull red ware
11	Kuruvattur Kozhikode	The Kerala State Archaeology Department	Rock cut cave sepulcher	Potteries, Iron sword, chisel, wedges, tripod, tanged knife,

		2006		ploughshare and tweezers
12	Cheliya, koyilandy, calicut.	The Kerala State Archaeology Department 2008	Rock cut cave sepulcher	Potteries, A small sarcophagus of terracotta and iron objects
13	Kadanadu Mattathilpara, Inchukavu and Kurumannu, Kottayam	ASI Trissur Circle Nambirajan &C Kumaran	Three cist burials 300 BC and 200 BC	BRW, Red ware, Black ware. A rich deposit of iron implements- dagger, chisels, hoes, leaf shaped knife, sword, semi-precious beads- quartz, chert, jasper and etched carnelian. A gold leaf
14	Anakkara Palakkad	Rajan Gurukkal, K P Shajan, V Selvakumar 2008-09	Umbrella Stone, Urns Stone Circles Mesolithic Tools	BRW, Red Ware, Black Ware, RCPW, Iron Tripod, Lamps, tridents, sword, dagger, arrow heads, bone fragments
15	Oliyani Kottayam	P Rajendran 2005	Two Cist Burials	Red Ware, BRW, Pottery with Stand, lid, Iron sickle, Dagger, Sword, Spearhead, iron spoon, charcoal pieces
16	Kudakkal Atholi Kozhikode	The Kerala State Archaeology Department 2014	Rock Cut Cave	Sarcophagus, legged Jars
17	Kakkodi Kozhikode	The Kerala State Archaeology Department 2014	Rock Cut Cave with round Pillar	96 potteries, 125 beads of Carnelian, Agate, Crystal, iron implements, Iron hook fixed on the

				roof of cave
18	Marakkara Malappuram	The Kerala State Archaeology Department 2014	Rock cut with two chambers inside	Pottery, pottery stand, Carnelian beads, iron arrow head, Iron Dagger, Chisel, Sickle, rode, hook, nails etc.
19	Patyam, near Thalasseri Kannur	The Kerala State Archaeology Department 2014	Rock Cut Chamber with Pillar	Pottery, three hearth stones, chisel, knife, sickle, hooks, bone fragments
20	Niramakulam Pathanamthitta	Ajit Kumar & Ambily CS 2014	Cist burial	BRW, Red Ware, Grey Ware, Black Slipped Ware, Black Polished Ware, a chocolate coloured ware, 7 Iron implements included sickles and knives, 15 carnelian beads
21	Murugappara, Marayur Idukki	Nihildas 2014: 132-140	Dolmen	Red Ware, Black/Gray Ware, Black and Red Ware, Red Ware, Black/Gray Ware etc.
22	Kinalur Calicut	The Kerala State Archaeology Department 2015	Urn Burials Microliths	BRW, Etched Carnelian Beads,
23	Thriprangode Kodakkal Malappuram	The Kerala State Archaeology Department 2020	Rock Cut Cave	Pottery, Iron implements, Iron Tripod, Swords,
24	Kuttikkol Kasaragod	Archaeology Dept. University of Kerala 2020	Rock Cut Chamber	Pottery shreds of BRW, Legged Jar
25	Enadimangalam	Archaeology	Double	Pottery, Iron objects

	Pathanamthitta	Dept. University of Kerala 2021	Chambered Cist
26	Kudallur, near Anakkara Palakkad	The Kerala State Archaeology Department 2022	Rock cut with RCP, Red Ware, three chambers Pottery Lid, Iron implements, Bone fragments

The table 1 shows that the number of excavations and salvage operations so far conducted in Kerala discovered only a minimum number of megalithic burials. Many of these sites were accidentally discovered by the local people. The number of excavation with the involvement of Archaeological Survey of India is again too minimum. Among the excavated or salvaged burial types, the rock cut chamber, mainly distributed in the northern districts of Kerala, are the largest number. Out of 26 sites, 13 sites are Rock cut chambers, which shows that much excavated or salvaged sites were reported from the northern parts of Kerala.

It does not mean that the distribution of megaliths in the central and southern part of Kerala are scanty. Recent researches carried out Anjunad valley of Idukki district (Nihildas 2014), Pamba river basins of Pathanamthitta district (Ambily 2017), Periyar basins of central Kerala (Krishnan 2017), upper Bharathapuzha basin (Stephen 2017), lower Bharathapuzha basin (Sujatha 2018), Megaliths of Thrissur district (2022) etc. have shown the wide distribution of megaliths and the need of more systematic field surveys and documentations in central and southern part of Kerala. Recently many sites have been systematically explored and reported by the students of archaeology of the department of Archaeology University of Kerala. Almost all these sites unearthed the evidences of burial practices of the megalithic builders. However, the archaeologists could not find any solid proof about the habitation-cum burial sites of megalithic period from Kerala. At the same time recent excavations of Pattanam, an early historic urban settlement with internal and external overseas trade contact, yielded a few black and red ware shreds from the Iron Age and early historic transition layer. These evidences have illuminated the possible spread of Iron Age settlements in the west coast of Kerala (Shajan et.al 2003: 30-37, Selvakumar et.al 2003:38-45, Cherian et.al, 2007-2015). It is hinted at the need of an extensive archaeological exploration and excavation for locating the Iron Age and early historic habitation in the surrounding locale of the Megaliths.

### Part III

This part discusses the nature of interpretative studies based on megalithic evidence. Probably, William Logan is the pioneer scholar who tried to observe the connection of the megaliths with the religion and death rituals of colonial Malabar. He has identified megalith as part of the ancestral worship and believes in life after death of Hindus in Malabar. According to him, "Persons who caused sorrow and trouble in life were after



death supposed to be the cause of further unhappiness, and as such they had to be propitiated with gifts which they would have appreciated when alive. They had to be supplied with the weapons, the cooking pots, the oil receptacles, the lamps, the ornaments, the water jars and the implements which they used during life” (Logan 1887:178-79). He tried to link the megalithic traditions to the death customs of Nayar, Tiyas and the artisan classes of Malabar. Logan has chronologically classified the burials of Malabar into four categories: (1) Megalithic remains (2). Excavated Caves (3) Caves with massive urns (*Kudakkallu*) and Massive Sepulcher urns without caves and (4) Modern sepulcher urns of small size. Thus, he attempted to trace a historical link between the megalithic remains and the death rituals of the previously mentioned caste groups of Hindus of the modern period (Logan 1887:178-181).

L A Krishna Iyer, the earliest social anthropologist of Kerala who studied the life of the megaliths builders based on megalithic evidence and the ethnographic survey among the living tribes of Kerala like Malapantaram, Malayarayan, Kadar, Paniyar, Muthuvan, Urali, Malapulayar, Kurumbar, Cherumar, Kurichiyar etc. He observed the survival of burial rituals among the living tribes and tried to correlate it with the megalithic tradition. According to him, “Megalithism prevails to some extent among certain of these tribes. The Malayarayan tract is strewn with a large number of dolmens, which formed the graves of their chieftains. They now erect miniature dolmens when a man dies an unnatural death. The Malapulayas plant a stone at the head, feet, and breast of the deceased. The Nayadis make stone representations of the departed, and they are planted in a circle.”

K Damodaran made a serious attempt to corroborate the megaliths with the burial practices of early Tamizhakam based on the references in the *Sangam* literatures. He treated the megaliths as the archaeological evidence of Iron Age and early historic society (Damodaran 1967). A Sreedara Menon has given a fine opening to various types of Megaliths of Kerala and explained the sepulcher nature of Cists, Dolmen and Rock cut caves exhaustively. He said, “The megalithic builders who chose rock ground for burials also dug irrigation tanks in the alluvial plains, indicating that they were not only settled people but also practical agriculturists”. By quoting H D Sankalia’s view, Menon stated that the megaliths represented “a fairly well-established and prosperous social organisation” (Menon, 2003 [1967]: 50-56).

B.K. Gururaja Rao has given a detailed survey of the megaliths of Kerala (1971: 42-62). K.J. John has studied the Megaliths and described different typologies of the burial of Kerala 1991:9-19). T. Satyamurthy argued, “the occurrence of large numbers of agricultural implements and the location of the monuments overlooking arable land show that the builders of these megaliths were primarily agriculturalists” (1992: 21). Rajan Chedampath’s doctoral thesis on the megaliths of Periyar and Ponnani river basin of Kerala extended the socio-economic milieu of the megaliths and early historic period. The study argued that the megalithic early history society was based on agricultural production in the wet, garden and hillock region (1997).

As a collective scholastic effort Rajan Gurukkal and Raghava Varier edited a work entitled *Cultural History of Kerala* and gave an updated information regarding the Megaliths of Kerala (1999:101-156). This work characterised the Megalithic culture as the 'Iron Age Culture' and showed the overlapping of the megaliths in the Iron Age and Early historic period. They have pointed out that megalithic tradition reached Kerala probably around the mid-first millennium B.C and continued until mid-first millennium A.D. The chapter on Iron Age described all megalithic typology and its distribution in Kerala. Based on the megalithic distribution of Kerala, where the Iron Age habitation remains are absent, they ascribed a 'dispersed settlement pattern' to the Iron Age society. Accordingly, the Iron Age society involved in mixed means of subsistence includes hunting and gathering, animal husbandry, agriculture and craft production. The Iron Age society was familiar with metal, craft and ceramic technologies. The burial monuments have shown that they had architectural knowledge. "The use of pillar and door-jambs in the rock cut caves shows the rock-cut architecture to be the prototype of what has been evolved in wooden architecture" (141). The inter-regional and intra-regional exchanges, the nature of social organisation, the political power and the belief system and ideology of the Iron Age period has been examined in this work.

Jenee Peter has examined the distribution of Iron Age burials of central Kerala (2002). Peter observed the diversity in the typology of monuments in Central Kerala as an indication of cultural diversity. 'The presence of agrarian tools, the distribution of sites in the Midlands and the Lowlands, which are ideal for rice cultivation and the presence of paddy husk from one site, indicates that agriculture was a major form of subsistence during this period'.

Ajit Kumar studied the ethno- archaeology of the Cholanaikans of Nilambur, Malappuram district and explored the survival of megalithic tradition among them. He observed the survival of the megalithic beliefs in life after death in the contemporary burial practice of the Cholanaikans, who practised primary extended burial. He stated that the Cholanaikans put all belongings of the deceased in the burial pit and there are little changes in the burial forms of men, women and children. For the deceased man they put iron axe, knife and other objects related to his life, for women they placed dresses and vessels containing food and prepare a hearth in the left side of the dead body and left burning after burial, which shows that women are the responsible person in the cooking even in the otherworld. For a deceased child they put dresses on the parents and placed milk, toys and all other things used by the child. Thus, he argues that the Cholanaikans still believed in the soul and its rebirth. Ajit Kumar also made an excellent justification about the absence of the primary burials in the megaliths of Kerala based on landscape archaeological perspective. According to him, "primary burials rarely have been found in the megalithic burials excavated in Kerala. Land use may be a factor for such a dichotomy. In a hunting gathering economy of the forest where land is in plenty, scattered extended burial practices could be practised without any hindrance. In midlands and plains, where there are

constraints for usable agricultural land, pastoral lands megalithic builders opted for cremations, group or collective burials and symbolic burials centred around relatively unproductive areas." It shows that the fractional burials seem to have represented a populace agrarian settlement of Iron Age and early historic society in Kerala (Kumar 2007:87-99).

Manjula Poyil has attempted to study the mortuary practices of the tribal population of north Kerala and found the survival of megalithic traditions in their burial practices. She argued that there is a striking parallel between the megalithic cultural traits and the burial practices of the present day tribes of Kerala. The tribes practised the erection of commemorative stones and believed in the life after death and therefore they enclosed all belongings of the deceased in the grave (2006, 2007:109-125).

Jaysree Nair accentuated the importance of the micro level inquiry of the Megaliths in Kerala through her research on the Megaliths of Kasaragod. According to Jaysree Nair, Megalithic people practised a combination of several means of subsistence like pastoral agricultural, crafts manufacturing like pot making and iron working. She stated that, "a full time nomad cannot construct monuments but this could be credited with a sedentary community, which structured the principal economy in all ways to whom the idea of a fixed place was visually drawn out establishing the relationship between people and land through the construction of these monuments". Her case study on Ummichipoyil sepulchers furnished new insights on the survivals of the Neolithic in the megalithic culture and traced the transformation of a particular area from a Neolithic stage to the megalithic phase (Jayasree Nair 2007). V.P. Devadas has surveyed the megaliths of Eranad as part of his doctoral thesis and also other extensive field surveys being part of his Major Research Project of UGC, which still remain unpublished. The present author has also made a study on the cognitive aspects of the Iron Age burials of Malabar as part of the UGC Minor research project in 2016 (Rajesh.2016).

## **Conclusion**

Megaliths are the largest tangible archaeological evidence for the study of the ancient past of Kerala. They were found in almost all districts of Kerala. Many of the sites have been discovered accidentally by the local people and in most cases such sites were destroyed shortly after the discovery. The number of efforts for documenting such sites and grave goods are too meagre. The above discussion proves that after 200 years, the institutional approach on Megaliths still remains in the antiquarian stage. Unlike the other parts of south India, the institutional attempt to conduct excavations and the publication of the reports are too inadequate in Kerala. The nature of megalithic studies in Kerala after 200 years of Babington's excavation reveals the urgent need of a serious academic involvement to document the existing megalithic burial monument and also demand institutional initiatives to find possibilities for documenting and protecting such sites with the cooperation of local people. Since the Megaliths belonged to the Iron Age and Early historic period, the early Tamil literatures, early Tamil

epigraphs, coins etc. can be used for a corroborative analysis of the megalithic society. Recently few studies on ancient Kerala have attempted to corroborate the archaeological data of Iron Age and early historic times with the contemporary literary and epigraphical data (Rajesh 2017: 486-506, Krishnan 2017, Nair 2020: 44-125). Thus the discussion made in this essay also demands a revisit to the past of ancient Kerala based on available archaeological reports and other contemporary historical data.

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अंक-1, वर्ष-1

मार्च-2024

# शोध प्रयाण

(वार्षिक शोध पत्रिका)

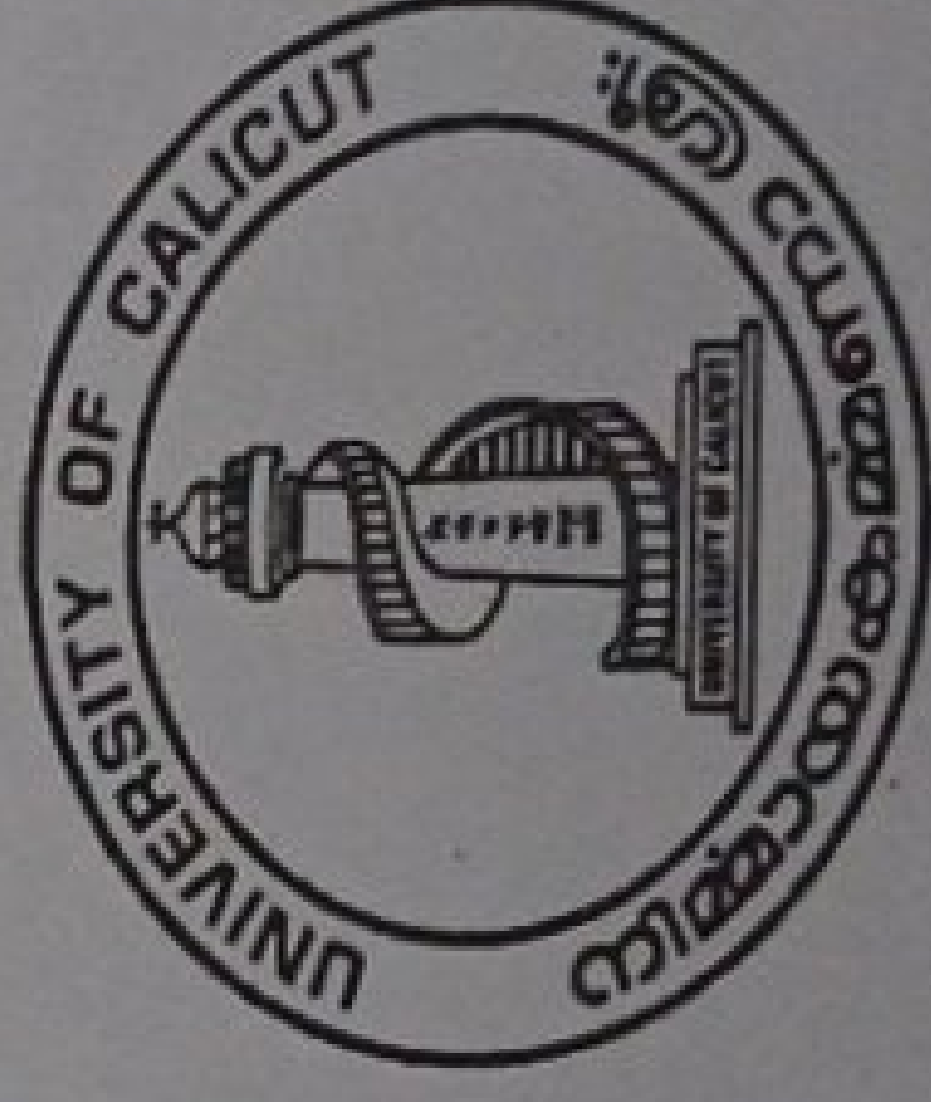
(A peer reviewed yearly National Research journal in Hindi)

# शोध प्रयाण

(वार्षिक शोध पत्रिका)

अंक-1 वर्ष-1 मार्च 2024

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हिंदी विभाग

कालिकट विश्वविद्यालय

केरल-673 635

# शोध प्रयाण

(वार्षिक शोध पत्रिका)

अंक-1 वर्ष -1 मार्च 2024

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प्रधान संपादक

प्रो. वी. के. सुब्रह्मण्यन

संपादक

प्रो. प्रमोद कोवप्रत

सहायक संपादक

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## समकालीन संदर्भ में लीलाधर मंडलोई की कविताएँ 'एक बहुत कोमल तान' के विशेष संदर्भ में

-डॉ. सजिता पी.

लीलाधर मंडलोई का जन्म मध्यप्रदेश के छिंदवाड़ा जिले में १९५३ में हुआ था। अंग्रेजी में बी ए. इसके बाद वे लंदन चले गए जहां से प्रसारण में उच्च शिक्षा ग्रहण की। पत्रकारिता में स्नातक और एम. ए. हिंदी में किया। प्रसार भारती के निर्देशक रहे। नये ज्ञानोदय के संपादक रहे। प्रमुख कृतियाँ हैं—घर-घर घूमा, रात बिरात, मगर एक आवाज़, यह बदमस्ती तो होगी, देखा अदेखा, लिखे में दुःख, एक बहुत कोमल तान, मनवा बेसबाह, अंदमान निकोबार की लोक कथाएँ, पहाड़ और परी का सपना, चांद पर धब्बा, पेड़ बोलते हैं आदि।

उनका बचपन पेड़, पर्वत, जंगल के बीच बीते। उनकी कविताओं में माँ का जिक्र हमेशा आता रहता है। बचपन उनका अभावों में बीता था, माँ-बाप जंगली पहाड़ों में जाकर खाने के लिए कुछ लाते थे, हफ्ते में ३ दिन उनको काम मिलते थे, बाकी दिन अभावग्रस्त जिंदगी जीते थे। माँ-बाप बच्चों से बेहद प्यार करते थे। अर्थिक अभावों में भी बच्चे उस प्यार और आत्मीयता में पले। पर्यावरण से निकट संबंध रखने के कारण प्रकृति उनकी कविता में पूरे हावभाव से विद्यमान है।

'एक बहुत कोमल तान' संग्रह में पर्यावरण से जुड़ी हुई कई कविताएँ हैं। परिंदा, नदी, पॉलिथीन, बदले हुए तट, देखता है स्वप्न, गिरगिटान, अव्यक्त दुःख आदि पर्यावरण प्रदूषण के खिलाफ और प्रकृति से प्यार और ममता दिखाने वाली कविताएँ हैं। शुद्ध हवा के खोज में आज के जीव विशेषकर मनुष्य भड़क रहे हैं जंगल या प्रकृति के जीव जंतु अपनों के साथ खुश रहते हैं। जब मानव उन जीव जंतुओं के बीच घुस जाता है तो सर्वनाश होता है। 'परिंदा' नामक कविता में प्रकृति में खूब विराजित चिड़िया का चित्रण है। अपने इच्छानुसार परिंदा खूब सैर करते हैं। जीने के लिए जो भी उन्हें चाहिए वे सब प्रकृति देती है। हवा उसे चाहिए, पानी भी उसे चाहिए, अपना खाद्य पदार्थ भी वह प्रकृति से अर्जित करता है। जिस प्रकार हवा के संदर्भ में काफी चिंता हो रही है, उसी प्रकार पानी भी आज समस्या ग्रस्त है। धरती के जीव-जंतु एवं नदियों से मोहब्बत करती है, और एक स्थिति यह भी रही थी कि वे नदियों की चौकीदारी करते थे। लेकिन किसी भी समय वे खतरे में पड़ जाएंगे। कवि उसकी महफूज या रक्षा खुदा पर सौंपते हैं। उनकी रक्षा करने वाला जीवित कोई नहीं है। मानव -प्रकृति -प्राकृतिक जीव-जंतु इस प्रकार का एक मजबूत शृंखला का मानव ही नष्ट कर देता है। जंगल को काट देते हैं, नदियों के जल का खूब उपयोग करते हैं, उपयोग से ज्यादा उपभोग करते हैं, वृक्ष को गिरा देते हैं। विवेक शून्य मानव से बढ़कर परिंदा प्रकृति से मोहब्बत करते हैं।

सुर्ख नीले रंगों वाला

वो आबी परिंदा

मोहब्बत करता है दरियाओं से

उसकी दरबानी करता है

खुदा उसे महफूज रखे।  
 खुदा उसे नहीं रहेगा, वृक्ष नहीं है तो परिदा नहीं रहेगा  
 नदी लट पर विकसित हुई मानव सभ्यता नदी को भूल जाते हैं। अपने अस्तित्व को भूल जाते हैं। नदी से और  
 प्रकृति से संबंध नष्ट कर देने वालों पर सिखी गई है "रिशतों की नमी" नामक कविता। प्राकृतिक जल स्रोतों से  
 आज मानव दूर होता जा रहा है। जो नदी को भूल जाते हैं वह अपने अस्तित्व भूल जाते हैं। अन्य वन्यजंतुओं जिनसे  
 से भी वह आत्मनिष्ठा नहीं रख पाते। कवि लिखते हैं—

जिनके रिश्ते टूट जाते हैं नदी से  
 उनके संबंध सूख जाते हैं अपनों से  
 वे ताउम तरसते रहते हैं  
 रिश्तों की नमी के लिए  
 वे अकेले पड़ जाते हैं। \*

मानव के अंदर जो मानवीयता है वह मन की नदी है। बचपन की मासूमियत बड़े होने पर कूट भूत  
 जाते हैं या उनसे नष्ट हो जाते हैं। पानी का विस्मरण स्मृति मात्र रह जाती है। जो नदी से, प्रकृति से आत्मनिष्ठा  
 नहीं रखते अपनों से रिश्ता भी नहीं जोड़ पाते। ऐसे मनुष्य की नियति अकेलापन ही है।

समकालीन दौर में कवि सीधे विषय की ओर आता है। कहता है प्रकृति से छेड़-छाड़ करना मानव को  
 शोभा नहीं देता। नदियों पर फेंकी जाने वाली पोलिथीन थैलियों के दम घुटने लायक है।

करोड़ों

या

अरबों

कितनी हो सकती है

पॉलिथीन की थैलियाँ

कितनी नदियों का

दम घुट सकता है

इन थैलियों से।\*

जितनी भी पॉलिथीन थैलियाँ बनती हैं वे सब मानव के उपयोग के बाद नदियों में या जल स्रोतों में  
 फेंक दिए जाते हैं। उनकी संख्या जितनी अधिक होती है उतनी ही नदियों का क्षास बंद हो जाता है।

लोग नदी को माँ के रूप में मानते आए हैं। नदी को धार्मिक रूप से श्रेष्ठ माना जाता है। बूढ़ी माँ की  
 हलत दबाइयों से ठीक नहीं हो रही, तो उन्हें अपनी गंगा माता पर पूरा विश्वास है। नदी से जो मानसिक संबंध  
 मानव रखते आए थे उसका परिणाम स्वरूप ही इस प्रकार होता है। गंगा के जल से माँ ठीक हो जाती है।  
 आज भी हिंदू धर्म के लोग गंगा की तीर्थ यात्रा करते वक्त वहाँ से कुछ जल बोतल में भरकर लाते हैं, और लंग  
 ग्रस्त अपने बंधुजन और मित्रों को दे देते हैं। यह एक संस्कार है। मानव की सभ्यता नदी तट पर विकसित

हो गई थी। नदी ही मानव को जीवन जीने का हौसला देता रहा। वही मानव जल और नदी को बिकाऊ बनाए

लाख कोशिश की  
कि चल जाए  
दवाइयों का जादू  
सेवा से हो जाएं ठीक  
नहीं हुआ चमत्कार लेकिन  
माँ की आँखें  
उस गंगा जली पर थी  
जिसे भर लाई थी वे  
अपनी पिछली यात्रा में।<sup>4</sup>

कविता में आज के चिकित्सा तंत्र और दवा कंपनी से जुड़े हुए तंत्र पर भी जिक्र है। पर्यावरण प्रदूषित होता जा रहा है। जल प्रदूषण, ध्वनि प्रदूषण, वायु प्रदूषण आदि रोजाना बढ़ते जा रहे हैं। इससे धरती में अनेक परिवर्तन समय से पहले आ जाते हैं। वायु प्रदूषण और ताप वृद्धि कार्बन मोनोऑक्साइड के कारण है। मोटर गाड़ियाँ और इलेक्ट्रॉनिक उपकरण इतने बढ़ गए हैं कि प्रकृति की चीजों पर रासायनिक परिवर्तन करके उसके नाश करने लायक है। समय से पहले वर्षा आती है। समय बीतने पर भी वर्षा नहीं रुकती। कभी कभी वर्षा नहीं आती। जीवन भी खत्म हो जाता है।

कहाँ से आती है इतनी  
कार्बन मोनोऑक्साइड  
की बर्फ पिघलती है  
समय से पहले  
धंसकते हैं पहाड़ धीरे-धीरे  
धीरे-धीरे खत्म होता है जीवन।<sup>5</sup>

नदी पर होने वाले प्रदूषण पर गहरा दुख प्रकट करते हुए कवि लिखता है।

नर्मदा का पाट यही  
कितना विशाल था  
कितनी जलदाशि थी यहाँ  
अब यह एक क्षीण जल-रेखा बची।<sup>6</sup>

प्रकृति संरक्षण के लिए अनेक आंदोलन चलते रहते हैं। नदी बचाओ, जंगल बचाओ, पानी बचाओ इत्यादि। नदी की चिंता क्या रहेगी? कविता इस पर विचार करती है।

नदी अपने तट बदलते हुए देखती है। मिलें हैं, इमारतें हैं, फैक्ट्रियाँ हैं। इन सब के आ जाने पर नदी की जल राशि क्षीण जल रेखा पर बदल गई। भारत की अधिकांश नदियों की यह स्थिति है। नर्मदा नदी की जल रेखा में केवल मुख झाँक सकते हैं। पानी पीने लायक नहीं है। अगर आप उसमें अपना मुख देखेंगे तो मलिन मुख देखने को मिलता है, मानव के अंदर की जो मलिनता बाहर भी आ गई है और मुख में दिखाई देती है।

पर्यावरण में अनेक छोटे-छोटे कीड़े होते हैं, वे अपने पंख बिछाकर आसमान में उड़ने लगे हैं। कवि उन कीड़ों के उत्सव में भाग लेने की आशा करते हैं। ये कीड़े बड़े नृत्याकार के समान आसमान में उड़ कर नृत्य करते हैं, उनके प्यार के फलस्वरूप संततियों का जन्म जरूर अगले मौसम में होंगे। अगर यहाँ कवि, प्रकृति आसमान की आँखों में जल बचे हैं तो। कवि का तात्पर्य है कि अगर पर्यावरण में जीव जंतुओं के जीने का वातावरण है तो ही वे जी सकेंगे।

एक साथ कई नर और मादाएँ

ऐसी सामूहिक नृत्य मुद्राएँ

मानो वहाँ पे कोई उदय शंकर नृत्य सम्राट

नृत्य में उड़ते हुए ऊपर

जैसे समागम में समाधिस्थ ।<sup>7</sup>

मानव पर व्यंग्य करते हुए कवि कहते हैं मानव जब भी प्रकृति में घुस जाते हैं तो उनकी हिंसात्मकता बाहर आती है। दूसरे जीव जंतु जंगल, पेड़-पौधे, जड़ी-बूटी पर वह अपनी मनमानी करने लगते हैं। प्रकृति में एक जंतु है गिरगिट जो अपना रंग बदलने में माहिर है। प्रकृति में ही अपनी एक जगह डूढ़ कर आराम से शिशु भाव से रहता है। मानव अपने स्वभाव के अनुसार उस पर पत्थर फेंकते हैं। मानव का आनंद उसके रंग बदलते देखने में है। मनुष्य का दंभ और दूसरे जीवों के प्रति अमानवीयता उसने नहीं देखा, अगर मानव का रंग बदलना वह देखा होता तो ईश्वर से शुक्रिया करता मनुष्य योनि नहीं मिलने से। गिरगिट का सुंदर चित्रण कवि ने इस प्रकार पेश किया है—

किसी पेड़ की शाखा

कुएँ की जगत

या किसी चट्टान की छाँव में

जब कभी कर रहा होता है आराम

देखो उसे

कि जैसे देखते हो किसी बच्चे को

उसकी आँखों का शिशु भाव

कितना तरल होता है

डुकुर-डुकुर ताकते हुए।<sup>8</sup>

कवि बहुत सारा बाता का लकर आता है, कविता लिखने का एक बहुत बड़ी माध्यम है भाषा, कभी-कभी कविता की भाषा सरल है, तो कभी कुछ तीखा बन जाती है, तो कभी आग की तरह । कवि कहता

### दीमक का घर

कमाल सुंदर

लेकिन कितना जटिल

लिखता है अपनी कविता

दीमक की भाषा में ।<sup>9</sup>

कुछ बातों को दीमक की भाषा में बताना पड़ती है, तो कुछ बात आग बन जाती है। जब लिखने के लिए तैयार हो जाते हैं तो शब्द शब्द से टकराते हैं। समय-समय पर कवि को अपनी भाषा और शब्द बदलना पड़ता है, चिंगारी उठकर आग की तरह बदलती है—

मेरी मेज़ पर

टकराते हैं

शब्द से शब्द

एक चिंगारी उठती है

और कविता में आग की तरह

फैल जाती है

आग नहीं तो कविता नहीं ।<sup>10</sup>

अर्थात् सामाजिक विसंगतियाँ और विद्रुपाएँ इतनी बढ़ गई हैं कि प्रतिरोध कुछ तीखा करना है शब्द कुछ तीखा बनाना है ।

प्लास्टिक फेंकते-फेंकते धरती पचा नहीं पा रही थी। लेकिन अब परमाणु कचरे के स्वागत में सरकार व्यग्र है। 'परमाणु स्वीकारना' इसका मतलब है 'जीवन का अंत होना'। सन् 1945 में जापान के हिरोशिमा और नागासाकी पर परमाणु हमले किए गए थे। इमारतें बुरी तरह तबाह हो गई थीं। लाखों लोगों की मौत हुई और साल अंत तक लोगों की जान जाती रही । आज भी वहां के लोग रेडिएशन से पीड़ित हैं । दुनिया का सबसे विनाशकारी हथियार परमाणु ही है। भारत ने भी राजस्थान के पोखरण में अपना पहला भूमिगत परीक्षण किया था। इस परीक्षण को "स्माइलिंग बुद्धा" का नाम दिया गया था । 1974 में भारत को दुनिया के परमाणु संपन्न देशों की कतार में खड़ा कर दिया गया—

कौपलों और फूलों की क्या कहे

नन्हें बच्चों के जीवन के बारे में

सोचना कब बंद हुआ। "

मानव का जीवन ही बहुमूल्य है, अगर देश परमाणु विस्फोट में लग जाएगा तो पूरा मानव राशि और पर्यावरण को इसका दुष्परिणाम भोगना पड़ेगा।



वन विनाश (फॉरेस्ट डिकंस्ट्रक्शन) आज की एक ज्वलंत समस्या है। अक्सर वन तो काटे जा रहे हैं लेकिन पुनर्स्थापना नहीं होती। वन से पर्यावरणीय संतुलन बना रहता है। वन विनाश पर्यावरण में असंतुलन उत्पन्न करती है। कवि इस की ओर संकेत करते हुए कहता है—

अब कहां है वे वन

जिनमें फल ही फल होते थे

शहद के छत्ते भरपूर

चींटियों की कतारें

कंद-मूल और

अमलतास की पकी फलियाँ होती थी।<sup>12</sup>

हमारे शास्त्रों में पेड़ लगाने की बड़ा पुण्य कार्य बताया गया है। एक पेड़ लगाना एक यज्ञ करने के बराबर है। वनों के समाप्त होने का मुख्य कारण इनका अंधाधुंध काटा जाना है। आरंभ में पूरी धरती पर प्रकृति का साम्राज्य था। लेकिन जब से मनुष्य ने पृथ्वी पर अपने पैर रख दिए, प्रकृति पर अधिकार जमा लिया, चारों तरफ सीमेंट की बड़ी- बड़ी दीवार और आपस में मिलना भी नामुमकिन हो गया। प्रकृति ने बहुत ही प्रेम करके अपनी गोद में रखा था, आपने छेड़-छाड़ वहाँ भी शुरू कर दिया, प्रकृति को धोखा देने लगा। प्रकृति ने भी अपना विराट रूप दिखाया और वही आज हम देख रहे हैं बाढ़ के रूप में, अकाल के रूप में अनियंत्रित प्रकृति परिवर्तन के रूप में। आज अति आधुनिक साधन मनुष्य के पास उपलब्ध है। उसके पास जो कुछ भी है वह प्रकृति की देन हैं। यह सच है कि मनुष्य का अपना कुछ भी नहीं है। उसने जो पाया है वह उस प्रकृति रूपी वासस्थान से पाया है।

आज का युग सोशल मीडिया का युग है। आज के युग में लोग हमेशा व्यस्त रहते हैं, लेकिन वे तो आपको ऑनलाइन पे कभी भी मिल जाएंगे। अगर आप उसे फोन पर बुला लीजिए नहीं मिलेगा। लेकिन ऑनलाइन में जरूर होगा। कवि इस की ओर इशारा करता है। इसको वायदा कारोबार कहता है कि किसी आगामी तारीख के लिए किया जाने वाला कारोबारी सौदा जिसमें शेष भुगतान और डिलीवरी उसी आगामी तारीख की होती है। उत्पादक भविष्य में कीमतों की गिरावट की संभावना को देखते हुए वायदा कारोबार को सुरक्षा कवच के रूप में अपनाते हैं। यहाँ एस. एम. एस. का वायदा कारोबार खुला है। वहाँ हर पल मैसेजेस फॉरवर्ड होते जा रहे हैं। अश्लील एवं हेय मैसेज कुछ स्त्रियों से संबंधित हैं कुछ सरदारों से जिसे सरदार जोक्स कहते हैं। यह देखकर हंसने वाले जेंटलमैन अनेक है लेकिन वे दूसरों के बारे में नहीं सोचते, इस पर रने वाला भी है। बिना सोचे समझे लोग मैसेज फॉरवर्ड करते रहते हैं कवि कहते हैं—

हंसने वाले महाशयों सुनो

इस हँसी के पार्श्व में

किसी के रोने की आवाज आ रही है।<sup>13</sup>

जो बातें हम आपस में नहीं कहेंगे उसे फेसबुक या व्हाट्सएप में जरूर कहेंगे और इस प्रकार कमेंट भेजते रहेंगे जैसे दूसरे आदमी ने जीवन में पहली बार इस प्रकार की गाली सुनी है। सोशल मीडिया का उपयोग सामाजिक विकास और लोगों में कई विषयों को लेकर जागरूकता फैलाने के लिए किया जाता है। कई लोग

सामान्य गलत उपयोग करते हैं। साइबर क्राइम के तहत कई लोग इसका गलत तरीकों से दूसरों को हानि पहुंचा देते हैं। देश के बहुसंख्यक लोग सोशल मीडिया का उपयोग करते हैं। युवा वर्ग के ध्यान और फोकस पर बुरा असर पड़ता है। वे मानवीय संबंधों से दूर सोशल मीडिया के दुनिया में खो गए हैं। संदेश की प्रभावित देखे बिना जाने बिना इसे फॉरवर्ड करते रहते हैं।

प्रस्तुत संकलन में मां से जुड़ी हुई कविताएँ हैं। मंडलोई जी का बचपन अभावों में बीता था। बच्चों के जीवन में माँ की एक सशक्त भूमिका है। माँ के मरने के बाद उसकी शेषक्रिया में बड़े दुःख से साक्षी होने वाले बच्चे का चित्र कविता में है। हिंदू धर्म में मृत्यु के बाद शव को जलाया जाता है। इसके साथ ही एक ऐसी श्रद्धा भी की जाती है कि शव के जलाने के बाद खोपड़ी शेष न रह जाए। इस क्रिया को कपाल क्रिया कहती हैं। माँ से बहुत प्यार करने वाला बच्चा इस क्रिया के करते समय बहुत खिन्न हो जाता है और अपने भाई को रोक लेता है।

मैंने थाम लिया

भाई का हाथ

और बोला हठात्

“जरा होले से”

और बंद कर ली आँखें।<sup>14</sup>

‘नींद आज’ कविता में कवि अपनी गरीबी और अभावग्रस्त घर का वर्णन करते हैं, वहाँ परिवार एक ऐसी प्रार्थना में जुड़े हुए की वर्षा न हो रात में क्योंकि घर के ऊपर से पानी नीचे आ जाता है। माँ घर में बीमार पड़ी है, अगर पानी कम आता तो सिर्फ टप टप आवाज ही आती, बीमार माँ तो आराम से सो सकेगी।

यह कच्चे मकान में उतरती बारिश है

जगह-जगह टपकती-घेरती भीतर

और हम

बचाते सूखी जगह

अम्मा, ददा, भैया, मुन्ना, मुन्नी

सिर्फ इतनी

कि रात को कुछ कुकड़-मुकड़ के सही

सो सकें।<sup>15</sup>

गरीब मजदूर लोगों का चित्रण प्रस्तुत संकलन में है। गरीब किसान अपने घर के सामने खेती करके कुछ उगाते हैं। उनको अच्छा या संकर बीज नहीं मिलता, भूमि भी उपजाऊ नहीं है। दो जून रोटी मुश्किल से जुटा पाते हैं। अगर उस भूमि में कुछ उग आते तो वह है कुछ टमाटर और मिर्च के पौधे। भूख मिटाने के लिए कुछ नमक की जस्तुरत है। किसी बाजार से पाने वाले चीज से ज्यादा सुक्ति उनको मिलती है—

भेजरे की हंसी में डूब जाता है परिवार

और अघायी हकार के साथ

सो जाता गहरी नींद में बेफिक्र

उनके सपनों में नहीं लग पाता

बाजार कोई सेंध

कि इतनी अपूर्व तृप्ति।<sup>16</sup>

बाजार के खाद्य पदार्थ विज्ञापनों के साथ आज के परिवार के सम्मुख उपस्थित हैं। लेकिन दो जून रोटी के लिए तड़पने वाला अपने मिले भोजन पर तृप्त है।

जैसे मशहूर कवयित्री अनामिका नारी की बेजगह होने की बात कहती हैं उसी प्रकार नारी की परीक्षा के बारे में कवि ने बताया है। 'इम्तहान' कविता की नारी तो पढ़ती है, अब्बल भी है, लेकिन स्कूल की पढ़ाई नहीं है। घर का सारा काम करना वह पढ़ती है। हर वक्त हर समय दूसरों के लिए घर के लिए काम करती ही रहती है। उसका नाम घर के किसी भी सामग्री पर नहीं है। अगर कामकाज का इम्तहान आ जाए तो वह अब्बल हो सकती है।

झाड़ू-पोंछा

चूल्हा-चौंका

बहन-भाई की चौकीदारी

यही हैं मेरे काम।<sup>17</sup>

बरसों से स्त्री को दूसरे स्थान पर रखा गया है। इसका उत्तम उदाहरण है प्रस्तुत कविता। खाना पकाना, झाड़ू लगाना और अपने भाई-बहन की सेवा करने को कहा गया है।

प्रस्तुत संग्रह में जीवन के अनेक पहलुओं को छूने वाली कविताएं हैं। नारी जीवन के विविध पहलू हैं, मां है, प्रकृति से जुड़े मनुष्य हैं, पर्वत है, पेड़ है, पहाड़ है, भाषा है, जीव जंतु है, अकेलापन है, सोशल मीडिया है। विविध विषयों से कविता जुड़ जाती है। कवि मनुष्य होने का सही वक्त इसी समय को मानते हैं। कवि खुद कहते हैं-" देखो यही मनुष्य होने का सही वक्त है। इस प्रार्थना को सुन लेना इस समय शायद, दूसरी ऐसी किसी प्रार्थना की बदनसीब आवाज़ से बच जाना है...। भविष्य याद रखें तुम्हें, इसलिए बंद न करो अपने कान। कोई पुकार रहा है प्रार्थना के स्वर में, सुनो और उठ खड़े हो कि यही मनुष्य होने का सबसे सही वक्त है।"<sup>18</sup>

समकालीन कविता का विषय अनेक रहा है। सोचने के लिए चिंतन मनन के लिए लायक है। कवि सामाजिक सांस्कृतिक विडंबना को संबोधित करते हैं। समकालीनता की परिभाषा को इस समय के वर्तमान में जीना समझे तो वर्तमान और भविष्य को देखने वाले समकालीन हैं। बहु आयामी समकालीन कविता के विविध सरोकार प्रस्तुत काव्य संकलन में प्रतिफलित है। समकालीन कविता की दृष्टि समाज के अनेक स्तरों पर गहरे तौर पर पड़ी है।

मूल ग्रंथ  
एक बहुत कोमल तान  
लीलाधर मंडलोई  
अंतिका प्रकाशन  
गाजियाबाद

संक्षेप सूची :-

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श्रीलक्ष्मण  
श्रीमल तान  
पौरी

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**THE WAYS WITHIN THE TRAJECTORIES OF YAKSHI CULT REFLECTED IN  
AITHIHYAMALA**

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**Abstract**

Kottarathil Sankunni's Aithiyamala is the most celebrated collection of legends, among Malayalies. This work contains 126 legends that centre upon themes like traditional beliefs', customs sacred places and lives of supra human beings. A rational evaluation of these legends brings out that they contain elements of social truth. Having been orally handed down from generations to generations, legends present a clearer reflection of society than other literary forms do.

The legends of *Yakshies* are very significant among the popular folklore of Kerala. Most of the legends are intimately associated with charismatic tales regarding the acts of black and white magic. Kottarathil Sankunni has collected six such legends in his master piece, *Aithiyamala*. Childless women who die young resurrect themselves and these spirits are believed to be *yakshies*. But contrary to this common belief, the *Yakshies* of *Aithiyamala* are strange creature who are invoked by strong magical incantation and later enslaved by the magicians. *Yakshies* who wear a sweet external and get along well with human reveal their real form at times. They turn out to be horrible witches with cannibalistic tendencies. There are quiet and noble *yakshees* who never exhibit the thirst for blood. The legends of *Aithiyamala* centre round both these types. In this paper the author intends to reveal the real concept of *yakshi* from all sorts of adjectives and other fables and to assess the real concept.

**Keywords:**

Myth, Folklore, Fairytale, Yakshi, *Aithiyamala*, Kerala

The study of social history will be incomplete without the references of myths, legends, belief systems or the ideological subsistence of culture. They include the religious beliefs, values, mythological stories, rituals, fine arts, customs, folktales etc. A rational evaluation of these legends brings out that they contain elements of social facts and a clearer picture of the society. The religious beliefs and the myths of the people play key role in shaping the society [Dundes, 1984]. Indian has a very rich mythology in which the chief characters include gods and goddesses, heroes and heroines, kings, mountains, trees and animals, *nagas*, earth, moon etc. the *yakshas* and *yakshees* are charismatic heroes and heroines of the mythological as well as folk stories that are popular throughout India with slight regional differences in presentation. The content and the context of the stories are somewhat same and this similarity points out the fact that these tutelary gods were the folk deities of the original inhabitants of the land and worshiped throughout India before the beginning of aryanization and in course of time they were accommodated to the new religious sects originated in India. References about the *yakshas* and *yakshees* are found in the *puranic* literature and in the *Jaina Agamas*. The folk stories and the myths are made correlating the epic heroes, legendary heroes, Buddha, Mahaveera etc with the *yaksha* and *yakshees*.

The earliest reference of yakshi was found in *Mahabharatha*. The *yakshi* temples of *Kurukshetra* and *Rajagir* are mentioned in it. In the *vanaparva*, Panchali is supposed to be a *yakshi*. In the story of Nala and Damayanti, Damayanti is also compared to a *yakshi*. The *yakshees* are mostly depicted as beautiful and voluptuous, with wide hips, narrow waist, broad shoulders and exaggerated, hemispherical breasts. The *tantra raja tantra*, says that these beings are givers of whatever is desired. They look after the earthy pleasures and resemble fairies. The *Deedarganj yakshi* is a fine example of the above concept. Almost 2000 years old, it is an exquisite carving and almost true to life. She stands in the *tribhanga* pose, bending at neck, waist and hip to form a gentle 'S' shape, the quintessence of feminine beauty. In south India, especially in Kerala, *yakshees* are not considered as benevolent beings, they are reputed to way, lay men with their beauty and drink their blood. *Yakshi* in *Kerala* folklore is actually a blood thirsty woman who can take the form of a lovely lady with fantastic figure and lure you into her arms.

She is accompanied with the fragrance of jasmine or *paala* flowers, sometimes for stimulating the male senses. Kerala has a lot of such stories in which the *yakshees* enchanting the male victims and feasting on human flesh and blood. *Aithihyamala* [Sankunni, 2011], a celebrated collection of legends combined by Kottarathil Sankunni mentions about six *yakshi* stories - five of them are connected with Namboodiri brahmins who are proficient in magic and *tantrism* and the one is connected with the celebrated legendary hero Kadamuttathu Kathanar. The popularity of these legendary stories reveals the fact that the *yakshi* and the cult had influenced the culture and the religious life of the people of Kerala.

A common belief about the *yakshi* is that a childless woman who dies young will resurrect themselves as *yakshees*. Another variation of the story projects 'a wronged women motive, the women after death turning into a revenge seeking *yakshi* full of blood and lust'.

The most famous *yakshi*, ferocious, unstoppable and all powerful was Kalliyankaattu Neeli. The famous ballad, *thekkan pattukal* describes the story of Neeli as the rebirth of a poor *devadasi* girl who was cheated by her lover, the priest of a nearby temple. The story is taking place in a village called Pazhakanelloor- situated in the Kerala Tamil Nadu border- now it is identified as Palukal. Neeli the daughter of a *devadasi* had sincere love with the priest of the nearby temple, the Nambi. The Nambi had been welcomed by the *devadasi* and was provided with all pleasures of life. The Nambi who maintained a strong relation with the *devadasi* daughter presented all his wealth and soon became bankrupt. The unscrupulous mother expelled him from their house while the daughter who had a sincere love with the Nambi went in search of him and joined with him after apologizing for the treacherous deeds of her mother. After a compromise, the poor girl fell asleep by keeping her head in his lap. But Nambi, who had vengeance and hatred to her mother, had killed her by striking a stone on her forehead and took away all her ornaments.

However, fate was waiting for him in the form of a serpent. While trying to have some water from a well, the serpent bit him and he died in the spot itself leaving the pouch of ornaments. Neeli's brother who came in search of her committed suicide by striking the same stone on his head with which the Nambi killed his sister. Neeli, the priest and her brother had their rebirth. Neeli and her brother as twin children of the Chola king and Nambi as a merchant in the Kaveri Poompattanam. Here starts the second part of the story. Neeli, using her supernatural powers managed to get out of the palace and reached Pazhaka Nelloor. The Nambi who had his birth as a merchant reached pazhakanelloor as a part of his business, there Neeli was eagerly waiting for him. She disguised herself as the wife of the businessman and reached the *urusabha* and complained that the merchant had deserted his wife. She had taken the branch of the cactus plant which witnessed her murder and transformed it into a child. The *uruvar* who were so convinced with her planning, asked the merchant to be with his wife and child in that night. In the presence of the cactus plant, the only witness for her death, she fulfilled her vengeance. She did not spare the *uravars*. Disguised herself as the mother-in-law of the dead merchant and appeared before the *sabha* accusing them for the responsibility for killing her son in law and plundering the wealth she had with him. The *uravar* made a huge fire and committed suicide by jumping into the fire. Thus Neeli was not pacified by fulfilling her vengeance and punished even innocent *uravars*. It was the beginning of her hunt for the human flesh and blood.

It is doubtful whether the Kalliyankattu Neeli herself is the Panchavankattu Neeli. The famous historic novelist CV Raman Pillai has mentioned this in his novel *Marthanda Varma*. It is believed that the novelist who was familiar with the *thekkan paattukal* might have introduced the *yakshi* with slight modifications. Panchavankaadu is a bushy forest full of palm trees, *pala*, *ilanji* etc. In this background, the *yakshi* character suited very much to the theme. The novelist introduces her as the rebirth of a poor orphan girl who was betrayed by a Tamil *Brahmin*. When she was conceived, the *Brahmin* took her to Panchavankaadu and killed her by striking her head with a stone. The unnatural death made her *yakshi* years after the *Brahmin* happened to be in Panchavankaadu on his way to Padmanaabhapuram. The *yakshi* appeared before as a beautiful woman and by provoking him, she led him to the spot of her death. She regained her monstrous appearance and killed him. But after vengeance the *yakshi* continued to be there. If any unfortunate victim crossed to the forest, he would definitely be a delicious food for the *yakshi*.

In the *Aithiyamala*, Kottarathil Sankunni presents the *yakshi* characters contrary to the common beliefs of resurrection and vengeance. They are strange female being with strong sexual instinct and wander in search of male counterparts. They wear a sweet external and get along well with humans and reveal their real forms at times. They turn out to be horrible witches with cannibalistic tendencies. They are evoked by strong magical incantation and are enslaved by *tantric* scholars or magicians. They are terrified by iron nails and holy books. So if one held up a nail, he was saved. The iron nail is a reminiscent of nails used to nail truant men to the stake from the ancient times. The use of holy books may be an adaptation from the *Shaktism* or from *tantrism* or sometimes from the missionary activities.

The *yakshi* character Panchavankaattu Neeli is associated with the christian clergy Kadamattathu Kathanaar who is famous for his ritual magic. Panchavankaattu Neeli killed many people. She is even continued to provoke people in the day time also. People approached the clergy asking to protect them from her vicious circle. *Kathanaar* influenced the *yakshi* and brought her under his control, by piercing a nail on forehead. Soon he took her to his relative family where an old lady accidentally pulled away the nail from her forehead. When *Kathanaar* knew this, the *yakshi* had already left the place after becoming invisible. *Kathanaar* followed her and using his magic he brought her again under his control. Then the *Kathanaar* asked her to be seated in the *Badhrakaali* temple at Panayannar kaavu. Then he asked her to be seated without disturbing the innocent victims. Otherwise, he threatened her to be made into ashes. *Yakshi* agreed to sit in the temple as a pacified goddess without causing any disturbance to the people. In the later days, she came to be known as Parumala *yakshi* or Panayannarkaavu *yakshi*.

Another legend is connecting *yakshi* to the famous magician Soorya Kalady. The *Bhattathiri* of this *illam* and his friend were on their way to Thrishivaperoor to see the *pooram* festival. On their way, they were bewitched by two extra ordinary beautiful women and they were enchanted and solicited to their home. They decided to cancel the *pooram* programme and spend the night with the beautiful women in a house shown by themselves. Both of them were engaged by each woman. Unfortunately, the *Bhattathiri* had not kept *Devimahathmyam* with him and he was devoured by the *yakshi* who had disguised herself as his sexual partner for that night. The other *Namboodiri* had the sacred text book with him and did not listen to the repeated request of the woman to keep away the text book. Next morning, when the *Namboodiri* woke up he was surprised to see himself seated on a tall palm tree and his friend was killed by the other *yakshi*.

*Bhattathiri's* wife was pregnant at that time and she gave birth to a son. Knowing everything from his mother, he practiced ritual magic and severe penance, for giving strength to avenge the death of his father. After attaining proficiency in the ritual magic, he conducted a sacrifice in which all the *yakshees* were evoked and enslaved as he was unaware of the particular *yakshi* who was behind his father's death. He spared all the *yakshees* except the culprit and she was turned into ashes with his magic. Thus, the Brahmin boy avenged the death of his father by sacrificing his own life for the *yakshi* cursed him to have a suffocated death within 41 days of her destruction. Accordingly, the Sooryakaladi met with his death at Thiruvallor temple.

Another legend is connected with the Venmani *illam* and Thrishivaperoor temple. It is told that the Venmani *namboodiries* are descendent of a Brahmin who was blessed by a *yakshi*. The legend describes her as a lustful *yakshi* who evoked herself to a beautiful mural painting on the walls of the Vadakumnadha temple. She used to visit the youthful male inhabitants of the locality to satisfy her sexual instinct, those who were not strong enough to satisfy her sexuality were found dead in the morning. At the same time the strong and brave used to enjoy her divine sex by inviting her to spend a night with him, as she was ready to visit anybody who came in front of the picture and invited her.

A Brahmin youth from Venmani *illam* had a sexual union with the *yakshi* and she was pleased with him and used to visit him daily. This relation continued even after the *Namboodiri* had his marriage with an *antharjanam*. The tragic episode of the legend happened when the *yakshi* participated in *upanayana* ceremony of his son, disguising herself as an *antharjanam*. The socially approved wife and her relatives insulted the *yakshi* by throwing out the gathering and she decided herself to fire. The *illam* is famous for versatile generous and it is believed that the blessings of *yakshi*

was with the next generation also.

Vayaskara *illam* is also connected with a legendary *yakshi*. The famous magician of this *illam* Chathurvedi *Bhattathiri* fell in love with a *yakshi* during his visit to the Zamorin of Calicut. Both the *Bhattathiri* and *yakshi* had conjugal life for several years and they had a girl child also. After the birth of the child, *yakshi* returned to her aboard. Still now a *yakshi* is worshiped and propitiated in this *illam* by conducting *kalampattu* considering her as the daughter of Chathurvedi *Bhattathiri*.

Another *Namboodiri* family of Kumaramangalam is also connected with a *yakshi*. The *Namboodiri* of this *illam* was proficient in *tantric* rituals, met a cruel cannibalistic *yakshi* on his way to *illam* after a pilgrimage. Using his *tantric* knowledge, he enslaved the *yakshi* and made her confined to the *illam* by piercing a magic nail on her head. The *yakshi* managed to escape by persuading his wife, but the *Namboodiri* brought her back and nailed her to a palm tree and put her to death.

A close analysis of these legends points out some social facts that help us to reconstruct the social structure of medieval Kerala. The story of Neeli [Prasad, 2006] is occurring in the society where femininity was considering as innocent, loving, and trustworthy, but if cheated she turns to be cruel and revengeful. It should be noted that the culprits belonged to a higher cast, especially a Brahmin and he was punished by the serpent bite. The snake is a non-Brahmin element and a non-Brahmin representation of the society is the punishment to the unscrupulous deeds of the Brahmin. The serpent is an element of fear to the Brahmins. The Parasurama legend mentions that the first settlers of Brahmins went back fearing the serpents and in the second phase, they started worshiping the serpents. There is a reflection of the Brahmins establishing supremacy in the name of temples, receiving charity and gifts, leading to the development of feudal system and the beginning of landlord tenant relationship. The *devadasi* mother and trustworthy daughter and the trustworthy daughter are the two sides of femininity - a treacherous woman and a trustworthy wife dedicating herself to the husband. The story is referring to the deteriorated position of *devadasi* to mere prostitution. The origin of the institution was related with the devotional cult and the *devadasis* enjoyed a higher esteem in the society at that time. With the subjugation of the primitive and the other rivals of the society, the institution was neglected. The *Namboodiri* Brahmins were enjoying a higher esteem in the society, with all pleasures of life, receiving *dhaana* and *dhakshina* of the society for serving the religious duties. Wandering from temple to temple, they made marriage relations with the women in the locality, especially a Nair or *Ambalavaasi* women. The Brahmin used to maintain that relation until he left that locality. The *sambhandham* system of marriage and the matriarchal system of inheritance are the result of this Brahmin supremacy. All these social customs and traditions are reflecting in the theme of the legend.

It is very strange and amazing that the *yakshees* of the legends mentioned in the *Aithiyamala* were crazy about the Brahmin nobility alone. And the encounters are between the Brahmins and the *yakshees*. In the climax of the legend, the *Brahmanis* are enslaving the *yakshi*, a way of surrendering without any resistance. It should also be noted that the *yakshi* killed the Sooryakaladi *Bhattathiri* as he had not taken the holy book of *Devimahathmyam* and his son destroyed the culprit *yakshi* by attaining proficiency in magic and *tantrism*. The worship of Soorya is a form of *tantric* cult which was followed by the Brahmin boy. The social background of this legend can be connected with the spreading of *tantric* cult in Kerala. The same thing is found in Vayaskara legend, as the *yakshi* is asking the magician to keep the sacred book away. Hence, this legend also might have been incepted during the same period. The *tantric* cult included the worship of Shiva or Shakthi, Soorya, Ganesha etc. and the sacred book *Devimahathmyam* is connected to the *tantric* cult.

The magician of Kumaramangalam is also enslaving a *yakshi* using his power in ritual magic. The other side of the legend reflects a social perspective. It should be noted that all the *yakshees* are approaching the *Namboodiri* pilgrims with an uncontrolled sexual instinct or as a woman who is bold enough to express her desire for a conjugal life. The *Namboodiri* Brahmins were easily trapped and in some cases the *yakshees* killed them after satisfying her biological need. This can be taken as evidence for the existence of concubine and prostitution. The *yakshees* provoking travelers and inviting them for the sexual union may be a public woman or a prostitute. The background of the legends is nearby trade centers or towns like Calicut, Thrishivaperoor or Thiruvananthapuram. Probably being trade centers or port cities, the prostitution and the plundering might have occurred. At times, the



travelers may be provoked and led to lonely places and put to death for plundering wealth. The *yakshi* of Thrishivaperoor temple who used to visit the youths of the locality may be a public woman or a *devadasi* who utilized her beautiful appearance for plundering purpose.

The *Namboodiri's* being luxurious and pleasure-seeking nobility were leading a loose morality. The *Namboodiri* characters of the legends were keeping the *yakshees* as their subservience or concubines. The two different faces of femininity is found parallel in the society. The suppressed femininity- the private women who is confined to the four walls of the *haram* while the most expressive and outspoken femininity- the public woman labeled as *yakshi*. [Dundes, 1980]

Black magic and mesmerism were a common feature of the society. The *Namboodiri* from Kumaramangalam *illam* and Kadamattathu *Kathanaar* are told to have enslaved the *yakshi* by piercing iron nail on her head. Both the *Kathanaar* and Kumaramangalam might have practiced mesmerism with which they made the public woman believed to have a nail pierced on her forehead. The only difference was that the *Namboodiri* was keeping *yakshi* with his family itself while the *Kathanaar* kept her with his relatives. In both cases, the *yakshi* is escaping from the mesmeric effect but brought back by threatening to be burned into ashes. *Namboodiri* is nailing the *yakshi* to a palm tree while *Kathanaar* is rehabilitating her in the river side near Panayannar Kaavu after compelling her to lead a peaceful life. The social aspects behind these legends are common. The women when disobeyed the *Namboodiri* and escaped from the *illam* with the help of his socially approved wife might have been brought back and punished severely by fastening to the palm tree and sometimes might have been put to death. It should be remembered that in the western medieval societies also, there were references for burning outspoken and expressive women to ashes considering them as witches. The legend of Kadamattathu *Kathanaar* some resemblance with the biblical character Magdalena Miriam who was rescued from the public attack by Jesus Christ and persuaded to be a worthy woman.

The *yakshees* are still worshiped in Kerala in association with *Kavus*, structural temples etc. Their worship is closely related with the trees like *pala*, *ilanji*, *kanjiram*, *chembakam* and palm trees that are grown plenty in the forests and hillsides of Kerala. Each of these trees have some peculiarities worthy to be noticed. The fragrance of *pala*, *ilanji*, *chembakam* etc is highly stimulating and provoking. The fruit of *kanjiram* is like golden balls hanging from the branches. Similarly, the flowers of palm tree are hanging down as the lone beautiful and lustrous hair of a woman. The primitive people of the land might have noticed all these peculiarities and considered sacred as the abode of the tree spirit. *Yakshees* may be tree spirits worshiped by the ancient native society. This sort of worship was common all over the world and traces of this kind of worship still can be seen. The belief that the arrival of the *yakshi* is intimated by the fragrance of the above-mentioned tree flowers itself strengthen the argument connected with the *yakshi* as tree spirit. This beautiful concept associated with the fragrant flowering trees should never be ferocious or cannibalistic or blood thirsty. The nature of the tree has some connection with the deity associated with it. For example, *naga yakshi* is commonly associated with the *kanjiram*, the roots of *kanjiram* having poisonous effects and its fruits and leaves are bitter in taste. Hence it may infer that the tree spirit associated with the beautiful fragrant flowering trees may be good natured and sweet faced.

The transformation of sweet-faced tree spirit to a blood thirsty witch reflects the secret design of the intelligent intruders who gradually encircled the existing inhabitants. It was the sign of dominance of the elite classes through assimilation and absorption and trying to maintain the social structure stable. At the same time, the Jaina and Buddha intrusion never tried to degrade the religious beliefs or the worshipping deities. During the hay days of Jainism, the *yakshas* and the *yakshees* were worshiped as *shaasana devadaas*. In course of time, the *shaasana devadaas* were lifted to a position of goddesses due to the introduction of tantrism. A number of factors were responsible for this assimilation and accommodation of primitive deities of Jaina order. The changed socioeconomic conditions compelled the Jaina monks to change the norms of their religious order. The adoption of idolatry temple cult settled life of the monks etc helped the Jaina monks to penetrate into the core of the society and bringing them into closer contact with the lower strata of the society and with their mode of worship and religious practices. It was a mere absorption and assimilation for propagating their faith among laymen. But the Brahmin settlement aimed at the subjugation and establishment of

supremacy over the inhabitants as well as other existing religious sects. The transformation of *yakshees* into ferocious and cannibalistic demons was a purposeful attempt of establishing religious supremacy over the land and for gaining the cooperation of the toiling class for the forest clearing and farming.

The yakshi story elaborates according to the view points and perspectives of A. K. Ramanujan “as a travelling metaphor” [Ramanujan, 1999] which derives new dimensions and new meaning in each retelling. The oral narratives forms interpreted, reinterpreted, extrapolated and enriched through each retelling. The narrator is diseased, forgotten or vanished but his contribution – that is the narrative still alive and it passes through generations, continues as time passes.

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### Notes

Yakshi- female ghost

Illam – upper cast households in Kerala

Bhattathiri – learned upper cast Malayali Brahmin

Mantrikan – magician, sorcerers (considered good as opposed to black magicians)

Utchatanam – elaborate ritualistic practice of exorcising the ghost. It involves chanting mantras and colorfully lit ambience.

Namboodiri – Kerala Brahmin caste (the term also refers to a male member of the caste)

Kathanar – Syrian Christian clergy

Bhadrakali – mother goddess of Kerala.

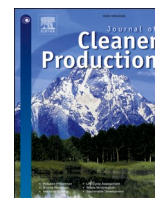
Upanayana – initiation ceremony of a Kerala Brahmin boy.

Devimahatmyam – the ritualistic holy book of Hindu pantheon

Pooram - an annual Hindu temple festival held in Kerala.

Devadasi – a girl considered who is given in marriage to God.

Nambi – temple priest of south India



# Polyvinyl alcohol-soy protein isolate hydrogels: Controlled release of fertilizer and matrix nutrients for sustainable agriculture

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## ARTICLE INFO

Handling Editor: Maria Teresa Moreira

### Keywords:

Polyvinyl alcohol  
Soy-protein isolate  
Hydrogel  
Controlled release  
Water retention  
Sustainable agriculture

## ABSTRACT

Controlled release of fertilizers using hydrogels is one of the sustainable methods for increasing the effectiveness of chemical fertilizers and reducing their adverse effects on the environment. Here, we report an eco-friendly hydrogel based on polyvinyl alcohol (PVA) and soy-protein isolate (SPI) crosslinked with citric acid (CA) for the controlled release of fertilizer. Initially, PVA-SPI blends (PS) were prepared by solvent casting method and studied their physiochemical properties. The optimized blend (PS 8/2) was crosslinked with various weight percentages (5–30%) of citric acid (CA). Hydrogels with 20% CA exhibited optimum properties which were then loaded with urea to prepare controlled release fertilizer hydrogel (CRFH). Spectrophotometry studies showed that 74.1% of urea was released by the samples in 28 days. Additionally, the soy-protein matrix released the nutrients along with urea, which can be considered an added benefit. Kinetics study revealed that the release of nutrients followed the Ritger-Peppas model. The water retention study indicated that the samples could retain water for up to 30 days with an increase in gel content. Plant growth performance, germination and drought resistance study were evaluated using amaranthus and pea seedlings as model plants. The results indicated a significant improvement in the growth performance of the plants. Also, a degradation rate of 65% was attained for hydrogel samples when it was buried in the soil for 100 days. The prepared hydrogels can therefore be regarded as a potential candidate for sustainable agriculture due to their controlled-dual release properties, water-retaining capacity, affordability, non-toxicity, and environmental friendliness.

## 1. Introduction

Sustainable agriculture aims to provide a constant production of food while maintaining natural resources, environment, and global climate (Anderson et al., 2016; Scott et al., 2018). Effective fertilization is essential for agricultural production in order to satisfy the needs of the booming population which is forecasted to hit 10 billion by 2050 (Scott et al., 2018). Unsustainable agricultural practices like excessive application of conventional fertilisers result in low fertilizer efficiency and serious environmental problems such as eutrophication, groundwater contamination and even ozone layer depletion (Gil-Ortiz et al., 2020; Messiga et al., 2020; Savci, 2012). Controlled release fertilizer (CRF) is considered as a possible solution to mitigate these dilemmas. As per the European Standardisation Committee (CEN) Task Force's criteria of CRF, no more than 15% of the nutrients may be released in 24 h, no more than 75% may be released in 28 days and at least 75% of the nutrients

must be released within the designated release period (Trenkel, 2010). CRF allows the sustainable release of nutrients by its slow diffusion to the soil. Also, it saves time, money, and labour because only a single application is needed. On the other hand, water is a key factor that affects agricultural productivity, which is expected to decrease by 18% by 2050. Hence controlled-release fertilizer hydrogel (CRFH), a combination of CRF and hydrogel became the latest trend in the hydrogel research area since it can not only deliver nutrients in synchrony with the plant's needs but also can hold a lot of water and release it under water-limited conditions (Zhang et al., 2014). Thus, it is treated as a mini reservoir for plant species (Saruchi et al., 2015).

Polymer-incorporated CRFHs appear potential for broad usage in agriculture due to their ability to be tailored to release nutrients in a more regulated manner. However, the majority of commercially available CRFHs are nonbiodegradable and cause serious environmental problems. Since green chemistry and environmental sustainability are

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<https://doi.org/10.1016/j.jclepro.2024.141827>

Received 21 October 2023; Received in revised form 31 January 2024; Accepted 18 March 2024

Available online 6 April 2024

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**Table 1**  
Formulation of PS blend films based on volume (ml).

Sl.No.	Composition		Sample Code
	10% PVA	5% SPI	
1	10	0	100% PVA
2	8	2	PS 8/2 (selected)
3	6	4	PS 6/4
4	4	6	PS 4/6
5	2	8	PS 2/8
6	0	10	100% SPI

**Table 2**  
Formulation of PSC hydrogel.

Sl.no	Selected PS blend	Citric acid (wt%)	Sample code
1	PS 8/2	5	PSC-5
2	PS 8/2	10	PSC-10
3	PS 8/2	20	PSC-20
4	PS 8/2	30	PSC-30

key concerns, the use of renewable biobased materials have received much attention. Polyvinyl alcohol (PVA), is the most widely produced synthetic, biocompatible, polymer in the world which is employed in agriculture due to its hydrophilicity, gel-forming ability, biodegradability, nontoxicity, cost-effectiveness, and ease of processing (Kumar et al.; Hendrawan et al., 2016a). Recently, polyvinyl alcohol-poly lactic acid core-shell fibers have been employed to induce the controlled release of NPK fertiliser at a rate of about 80% for 28 days (Nooeaid et al., 2021a). In another work, PVA hydrogel was formed by the crosslinking of poly (ethylene glycol) and sodium sulphate for the urea release and uptake of Fe (III). PVA is often combined with natural polymers like alginate, starch, cellulose etc. Recently, a combination of alginate-cellulose-pva hydrogel has been used for the controlled release of NPK fertilizer (Liu et al., 2021) whereas the gradual release of Cu-Zn and carbon nanofibrils as nutrients are achieved by a pva-starch blend (Kumar et al., 2018). Soy protein isolate (SPI) a plentiful source of plant protein, is produced as a byproduct in enormous quantities by the soybean oil industry. Owing to its abundance, sustainability, affordability, biocompatibility, and good biodegradability it could be processed into gels, films and sponges. It is widely employed for biomedical and packaging applications (Las Heras et al., 2020; Tian et al., 2010). However, only a few works were reported on the application of SPI in the agriculture field (Calabria et al., 2012; Wang et al., 2022). SPI hydrogel films generally offer poor mechanical performance and greater moisture sensitivity which can be ascribed to the innate hydrophilicity of natural proteins. This problem could be resolved by blending it with a synthetic polymer like PVA. Furthermore, soy protein is substantially more affordable than PVA, which broadened the application of this “green blend” into various fields like tissue engineering (Zhao et al., 2022), wound dressing (Varshney et al., 2022), packaging etc (Gautam et al., 2021). To the best of our knowledge, the PVA-SPI blend system has not yet been used in the agricultural sector. Since both polymers have a hydrophilic nature, PVA- SPI based CRF results in an immediate release of nutrients. To decrease their hydrophilicity and to offer long-term usage, crosslinkers can be used to customise the polymer network structure (Nooeaid et al., 2021b). Citrus fruits contain substantial amounts of citric acid (CA), which has recently acquired popularity as a green crosslinker due to its non-toxicity and cost-effectiveness (Durpekova et al., 2020).

Taking into account the favourable characteristics of PVA, SPI and citric acid, we attempt to develop a novel citric acid crosslinked PVA-SPI controlled release fertiliser hydrogel (CRFH) having dual properties – urea and matrix nutrients releaser as a promising candidate for sustainable agriculture. The term ‘matrix nutrient’ refers to the protein released from soy protein isolate, which is an abundant source of the

most important macronutrient nitrogen. The Investigation includes the chemical and physical characteristics of the fabricated films, the effect of crosslinking, nutrient release ability in soil and water, and biodegradation study. Finally, field experiments are used to study the impact of CRFH on the growth of potted vegetables and compared it with the performance of conventional fertilisers. This study will pave the way for the usage of CRFH in the agricultural industry.

## 2. Materials and methods

### 2.1. Materials

Polyvinyl alcohol (PVA) (Mol. Wt. 14000) and citric acid monohydrate (CA) were obtained from SD Fine Chemicals, India. Soy protein isolate (SPI) (90% protein content, ProFoods brand) was purchased from a nearby market. Sodium hydroxide pellets (reagent grade 97%) were supplied by Qualigens. Urea (reagent grade, 99%) was provided by SRL Pvt.Ltd., India.

Distilled water was employed for the entire study. All the chemicals were used without further purification.

### 2.2. Preparation of controlled-release fertilizer hydrogel (CRFH)

PS blend films were prepared using the solvent casting method based on a reported method with slight modifications. Initially, 10% (w/v) PVA solution was prepared in distilled water by heating it in an oil bath at 90 °C while stirring it continuously at 300 rpm for 2 h. 5% (w/v) SPI solution was also made in distilled water, and its pH was then brought to 10 by adding 2 molL<sup>-1</sup> NaOH solution at 70 °C by continuously stirring at 200 rpm for 2 h. Then the prepared PVA and SPI solutions were blended in various volume ratios (PVA/SPI) such as 10/0, 8/2, 6/4, 4/6, 2/8, and 0/10 under stirring at 400 rpm for 1 h and were coded as shown in Table 1. A petri dish with a specified diameter was filled with the same volume of this homogeneous solution to obtain uniform film thickness, and it was dried for 5 h in a hot air oven at 40 °C. Then the resulting films were analysed by various characterization techniques. For the synthesis of CA crosslinked hydrogel films (PSC), different weight ratios of CA ranging from 5 to 30% based on PVA were added to the chosen blend ratio of the PS solution and were abbreviated as displayed in Table 2. For the crosslinking of PVA, this solution was subjected to heat at 80 °C and stirred at 200 rpm for 30 min. Citric acid addition changed the colour of the solution from pale yellow to off-white which can be considered as a visual confirmation for the crosslinking reaction. The obtained homogeneous solution was cast as before and allowed to dry at 40 °C for 6 h. The optimum cross-linking percentage has been found based on swelling and tensile strength studies. To the optimised CA crosslinked PS solution, 1g urea was added and agitated for 15 min at 100 rpm and poured into the petri dish to form controlled release fertilizer hydrogel (CRFH).

### 2.3. Characterization

To investigate the interaction and bonding in PS blend films and PSC hydrogel samples FTIR Nicolet 5700 was employed and the spectra were recorded in the range of 400–4000 cm<sup>-1</sup> in ATR mode. The surface morphology of blend films was analysed using a field emission scanning electron microscope FESEM Hitachi 6600. Environmental scanning electron microscopy (ESEM) FEI Quanta 200 was used to study hydrogel samples. Using a Universal Testing machine (Shimadzu Autograph, AG-X plus series) and an applied load of 10N, the tensile strength of the samples with a dimension of 0.5×5 cm was investigated. Mitutoyo Digimatic Micrometer (precise to 0.001 mm) was used to quantify sample thicknesses. The measurements were made three times, and average values were computed. The average thickness of the PS blend films was found to be 0.15 mm whereas that of controlled release fertilizer hydrogel film was 0.2 mm.

## 2.4. Swelling study in water

Swelling studies were performed by immersing the pre-weighed rectangular dry sample ( $W_d$ ) of dimension 2 cm  $\times$  2 cm in 50 ml distilled water at 25 °C and allowed to swell. The swollen samples were taken out at predetermined intervals, the excess water was wiped out using tissue paper, and the wet sample ( $W_s$ ) was weighed gravimetrically using the following equation.

$$\text{Swelling ratio} = \frac{(W_s - W_d)}{W_d} \times 100 \quad (1)$$

## 2.5. Controlled release study of CRFH

To ascertain the nutrient release in soil and water following experiments were performed.

- i) Release in soil – 100g of field soil was collected, sieved and dried to get constant weight. CRFH was placed 5 cm beneath the soil surface, and 50 ml water was added. The leachate from the soil was collected and the concentration of urea was quantitatively estimated using UV-Visible spectrophotometer (Shimadzu Spectrophotometer-1800) by employing para-Dimethyl amino benzaldehyde (p-DMAB) complexing agent at  $\lambda_{\text{max}} = 420$  nm (Indriana et al., 2019). Protein release from the soy protein isolate was analysed using the Kjeldal method (Jiang et al., 2014) The cumulative release was determined using Equation (2).

$$\text{Cumulative release (\%)} = \frac{M_t}{M_\infty} \times 100 \quad (2)$$

Where  $M_t$  indicates the amount of nutrient released at any time  $t$  and  $M_\infty$  indicates its initial concentration. Organic N from the soil was neglected in this study. All of the fertilizer release measurements were done in triplicate.

- ii) Release in water- Nutrient leaching in water was also found by following the above procedure. 1g of the prepared CRFH was placed in a beaker. 50 ml of water was poured into it, serving as the releasing media. It was kept overnight and then filtered. Filtrate was collected and at the same time, an equal amount of fresh water was added to serve as the releasing media for the next measurement and tested for fertilizer release as before.

### iii) Kinetics of release

Four mathematic models, namely zero-order kinetics, first-order kinetics, the Higuchi model, and the Ritger-Peppas model were used to obtain insight into the slow-release mechanism and kinetics.

Zero-order kinetics model:

$$\frac{M_t}{M_\infty} = K_0 t \quad (3)$$

First-order release kinetics model:

$$\ln \left( 1 - \frac{M_t}{M_\infty} \right) = -K_1 t \quad (4)$$

Higuchi model:

$$\frac{M_t}{M_\infty} = K_H t^{1/2} \quad (5)$$

Ritger-Peppas model:

$$\frac{M_t}{M_\infty} = K_H t^n \quad (6)$$

where  $\frac{M_t}{M_\infty}$  was the fraction of fertilizer released at any time  $t$ .  $K_0$ ,  $K_1$ ,  $K_H$ , and  $K$  represent the rate constants of release for zero order, first order, Higuchi and Ritger- Peppas models respectively. The release

exponent,  $n$ , provides information on the mechanism of fertilizer release.

## 2.6. Measurements of largest water holding capacity and water retention of soil

The largest water-holding capacity was assessed to examine the impact of CRFH on soil's water holding capacity of soil. Initially, the soil was dried and sieved. 100 g of soil was mixed with 2, 4 and 6 g of CRFH and placed in three different PVC tubes. A nonwoven fabric was used to seal the bottom and weighed ( $W_1$ ). Water was slowly poured onto the soil sample from the top of the tube till water leaked from the bottom. When no water leaked at the bottom, the weight of the tube was noted once again ( $W_2$ ). The control experiment (without CRFH) was also performed. From equation (7), the largest soil water holding capacity (WHC %) was determined (Zhang et al., 2014).

$$\text{WHC \%} = \frac{(W_2 - W_1)}{W_1} \times 100 \quad (7)$$

To assess the water retention behaviour of CRFH, the soil samples were stored in a glass beaker and their weight was recorded ( $W_0$ ). The soil was gradually saturated with a suitable amount of tap water (the greatest WHC was identified in the previous phase). The beaker was then weighed once more ( $W_1$ ). The beakers were positioned in the lab at ambient temperature, weighed every three days ( $W_n$ ), and the observation was made for up to 30 days. Meanwhile, a control experiment was also conducted. The following equation was used to compute the water retention ratio of soil (WR %):

$$\text{WR \%} = \left( \frac{W_n - W_0}{W_1 - W_0} \right) \times 100 \quad (8)$$

## 2.7. Plant performance assessment

Plant growth assessment was done by applying different amounts of CRFH in comparison to bare soil (without any fertilizer), and traditional urea fertilizer. To ensure the acceptance of the produced CRFH, the green Amaranth plant (*Amaranthus Viridis*), a common vegetable in many parts of the world was used. Experiments were conducted during the months of February to March 2023. All the plants were kept under similar environmental conditions. The daytime temperature was around 29 °C and humidity was 70%. The tests were run in triplicate for each experiment. At first, seeds were sown in bare soil. After seed germination, healthy seedlings with four leaves and a height of two inches were selected and transplanted to pots containing an equal amount of soil with five different treatments:

- (i) Bare soil without any fertilizer as control (BS)
- (ii) 1g traditional urea fertilizer (TU-1)
- (iii) CRFH containing 1g traditional urea (CRFH-1)
- (iv) 2g traditional urea fertilizer (TU-2)
- (v) CRFH containing 2g traditional urea (CRFH-2)

The plants were initially irrigated with equal water, and the growth was monitored up to 30 days after transplanting. At the end of the experiment, a visual assessment of the test species growth performance was made using digital pictures. The harvested plants were separated and the growth was evaluated by counting the number of leaves, measuring the leaf area, plant height, dry weight, stem diameter chlorophyll and nitrogen content in leaves. Chlorophyll content in the plants was estimated using Arnon's method (Banu, 2013) while nitrogen content was determined using the Kjeldal method.

## 2.8. Seed germination and seedling growth under water-stressed circumstances

To examine the impact of developed fertilizer hydrogel on the germination efficiency, early growth and survival rate under water-

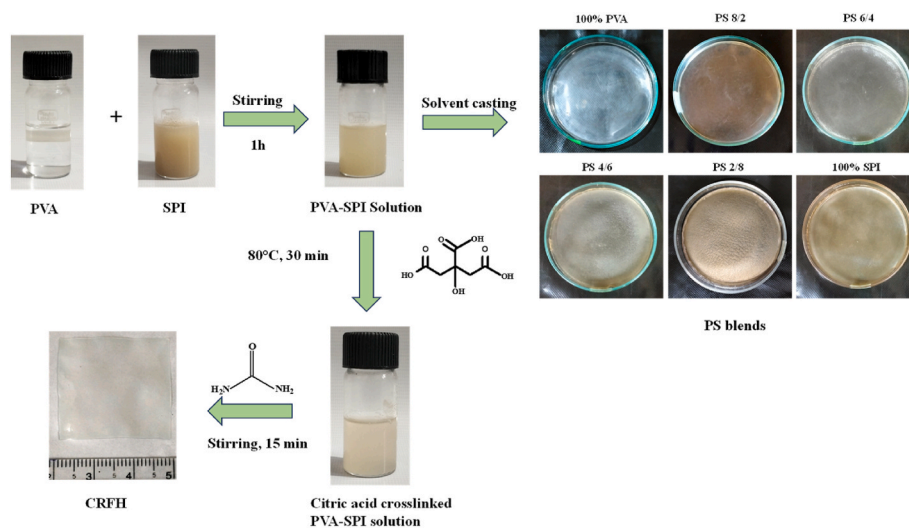


Fig. 1. Schematic diagram for the preparation of PS blends and CRFH.

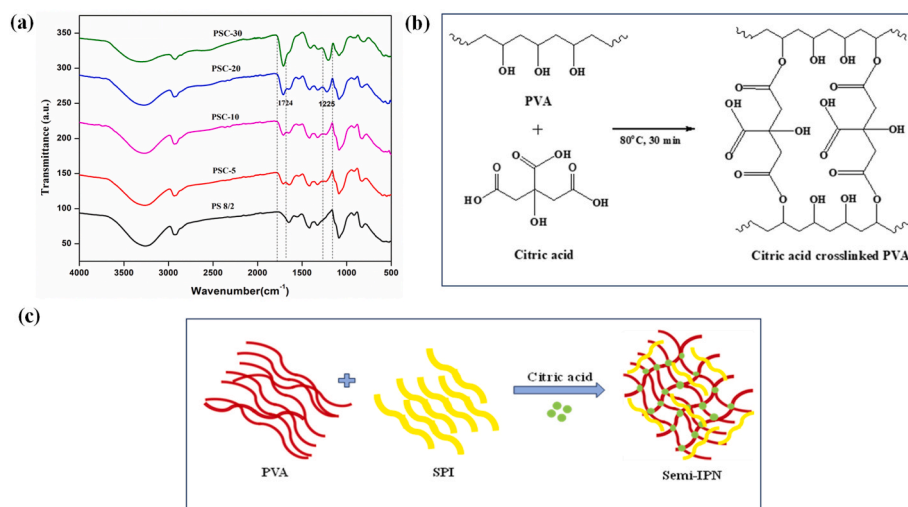


Fig. 2. (a) FTIR spectra of PSC hydrogel (b) Schematic representation of crosslinking between PVA and citric acid (c) Schematic diagram representing the formation of semi-interpenetrating polymer network (semi-IPN).

limited conditions pea seeds were used. The seeds were sowed in different pots containing bare soil (control), soil with traditional urea fertilizer, soil with CRFH containing 1g urea and CRFH with 2g urea. Water was applied to completely saturate the soil. The emergence of the radicle was considered as a sign of seed germination. By counting the seeds that germinated for a week, germination was calculated based on the following equation.

$$\text{Germination (\%)} = (G_n / T) \times 100 \quad (9)$$

Where  $G_n$  is the total number of seeds that have germinated on the day  $n$  following sowing and  $T$  is the total count of seeds sown.

The seedlings were allowed to grow and watered on 7<sup>th</sup> day after sowing. No water was supplied for the next 7 days. The study was completed 14 days after the seeds were sown and the survival rate was calculated using the equation given below:

$$\text{Survival rate (\%)} = [(1 - (W_n / T))] \times 100 \quad (10)$$

Where  $W_n$  represents the number of seedlings that were wilted on the  $n^{\text{th}}$  day and  $T$  represents the total amount of seedlings that were produced.

## 2.9. Biodegradability of CRFH

CRFH was buried 10 cm below the soil surface for biodegradability evaluation. It was fished out once every ten days, washed repeatedly with water, and dried at 50 °C to a consistent weight. The CRFH was weighed again and its rate of degradation was estimated using Equation (11). The biodegradation of the hydrogel films was monitored for 100 days.

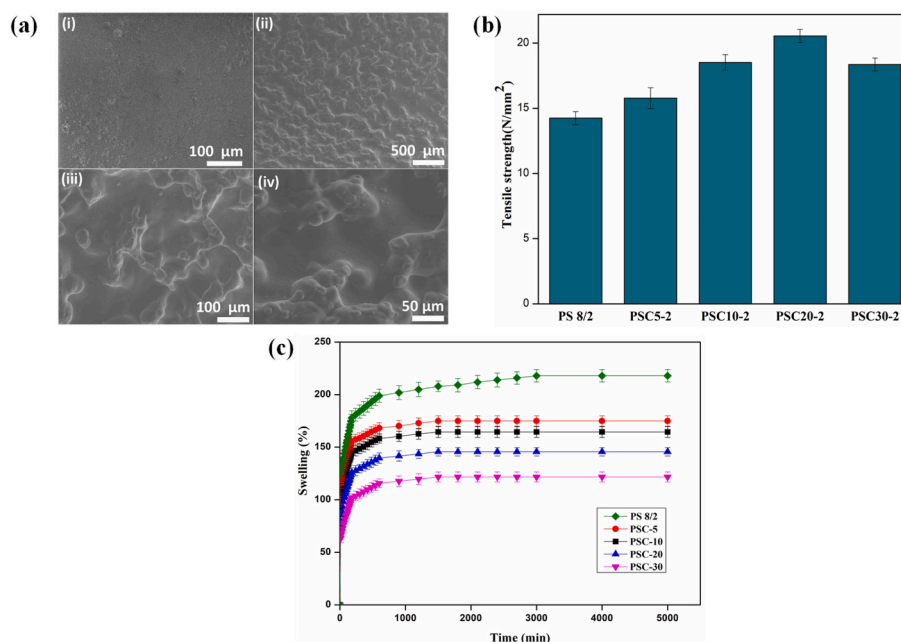
$$\text{Degradation (\%)} = \frac{(W_b - W_a)}{W_b} \quad (11)$$

$W_b$  indicates the weight of dried CRFH before burial in the soil whereas  $W_a$  indicates the weight after the soil burial.

## 3. Results and discussion

### 3.1. Formation of PS blends and CRFH

The schematic representation for the fabrication of PS blend films and CRFH is shown in Fig. 1. The prepared PVA and SPI solutions were blended in various ratios via solvent casting method under stirring for 1



**Fig. 3.** (a) (i) SEM image of PS 8/2 blend, (ii)-(iv) ESEM images of PSC-20 hydrogel with different magnifications (b) Tensile strength of PSC hydrogel (c) Swelling study of PSC hydrogel in water.

h. Then a petri dish was filled with the same volume of this homogeneous solution and dried for 5 h in a hot air oven at 40 °C. Then the resulting PS blend films were analysed by various characterization techniques and are given in supplementary material. For the synthesis of CA cross-linked hydrogel films (PSC), citric acid was added to the chosen PS solution. To the optimised CA crosslinked PS solution, 1g urea was added and agitated for 15 min and poured into the petri dish to form controlled release fertilizer hydrogel (CRFH).

Among the various blends prepared PS 8/2 exhibited optimum thermal, mechanical, hydrophilicity, and swelling properties. Hence it was crosslinked with various weight percentages of citric acid to form PSC hydrogel and the following analyses were performed.

### 3.2. FTIR spectra

FTIR spectra CA crosslinked PSC hydrogels are displayed in Fig. 2a. It can be inferred from the spectra that, as compared to PS 8/2 blend new peaks at 1724 and 1225 cm<sup>-1</sup> have emerged in the hydrogels. The absorption band at 1724 cm<sup>-1</sup> corresponds to the carbonyl group which indicates the esterification reaction took place between PVA and CA which confirms the crosslinking (Fig. 2b). This can be further proved by the C–O–C stretching of an ester at 1225 cm<sup>-1</sup>. Moreover, the carbonyl and C–O–C vibration intensity increased as CA increased from 5 to 30%. This is an excellent evidence that CA concentration played a significant role in hydrogel formation and the esterification degree increases with an increase in the peak intensity. Here only PVA is cross-linked by the tricarboxylic functional group of citric acid. Hence it forms a semi-interpenetrating polymer network (semi-IPN) (Fig. 2c)

### 3.3. Surface morphology analysis

It was observed that all the hydrogel films were water insoluble and demonstrated great enlargement after being submerged in water in contrast to PS blend films, which indicated the crosslinking of the sample. Hydrogel film was white in colour and had a similar macroscopical appearance. The surface of the films was smooth and easily peelable from the petri dish except for PSC-30 since it had a relatively high gelly nature. Environmental Scanning Electron Microscopy (ESEM) studies were conducted to obtain a better insight into the structure of the

hydrogel. Fig. 3a (i) shows the SEM image of the PS 8/2 blend while Fig. 3a (ii)-(iv) illustrates ESEM images of the chosen hydrogel blend films (PSC-20) with different magnifications. It is evident from the figures that compared to the blend surface, the hydrogel revealed a continuous gel matrix network with wave like appearance. More bulges were visible at higher magnifications whereas the PS blend surface was plane and almost uniform. This difference was caused by substantial cross-linking between the CA and PVA molecules.

### 3.4. Tensile strength

The impact of citric acid content on the tensile strength of the blends was investigated (Fig. 3b). Initially PS 8/2 blend had a tensile strength of 14.25 MPa. When it was crosslinked with 5–20% of citric acid its tensile strength enhanced. This is due to the fact that citric acid develops a rigid three-dimensional hydrogel crosslinked network which contributes to its increasing mechanical strength. This further confirms the cross-linking. The least strength displayed by PSC-5 hydrogel might be related to the crosslinking produced by the minimal amount of CA. The tensile strength of the samples decreased when the crosslinking percentage increased beyond 20%. The film was too gelly, brittle and thus difficult to handle. This might be due to the fact that as the percentage of CA increased, the residual crosslinker in the blends functioned as a plasticizer, reducing interactions between macromolecules and causing a decrease in tensile strength (Shi et al., 2008). Hence PSC-20 displayed optimum tensile strength.

### 3.5. Swelling study in water

The swelling capacity of a hydrogel is a crucial aspect of its controlled-release applications. In the current investigation, the effect of crosslinker on the swelling ratio of PSC hydrogels was studied (Fig. 3c). It was observed that as the percentage of CA crosslinker increased from 5 to 30% swelling of hydrogel decreased. This may be explained by the fact that when CA concentrations in the gel increased, a greater amount of hydroxyl groups in PVA were consumed by converting hydroxyl groups to esters in the crosslinking reaction. Consequently, the cross-linked PVA has a lower number of OH groups to establish hydrogen bonds with water molecules, which reduces the degree of swelling of the

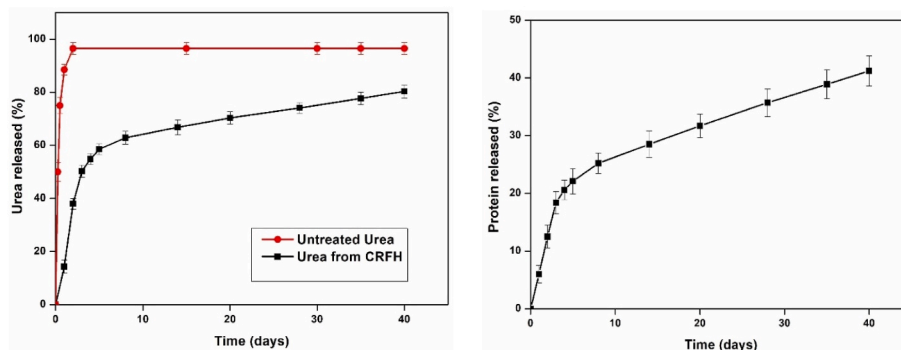


Fig. 4. Release study in soil (a) urea (b) protein.

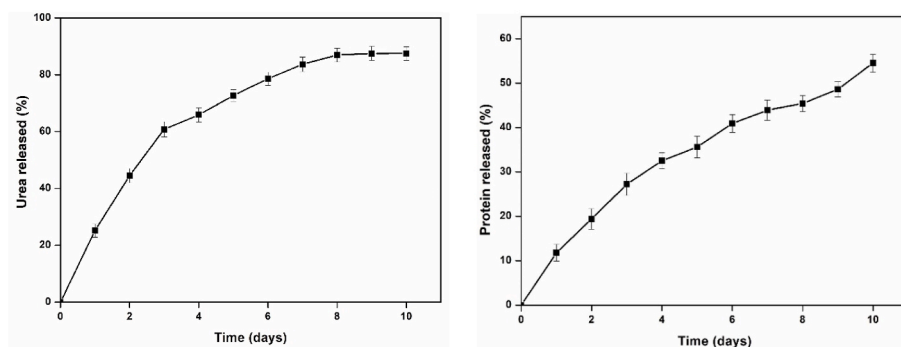


Fig. 5. Release study in water (a) urea (b) protein.

gel as PVA reacts with citric acid (Khan and Ranjha, 2014). Also, the swelling was too low when the CA concentration increased beyond 20%. This can be ascribed to the higher crosslinking density. That is, an increase in the crosslinker content led to a higher crosslinking density and reduced the space between polymer chains. As a result, the resulting rigid, heavily cross-linked structure could not expand and hold a significant amount of water. These outcomes were consistent with Flory's network theory (Flory, 1953).

In this study, when the crosslinking was lower than 5% the three-dimensional network required for superabsorbent could not form correctly, resulting in the existence of non-cross-linked polymer chains. When we increased the CA up to 30%, the swelling decreased due to the formation of a highly crosslinked network. The swelling of PSC-5 and PSC-10 was almost comparable whereas PSC-20 exhibited an optimum swelling. Hence the hydrogel coded as PSC-20 which demonstrated optimum crosslinking, swelling and strength was selected for further investigation.

### 3.6. Controlled release fertilizer hydrogel (CRFH)

The optimised PSC-20 hydrogel was loaded with 1g urea to develop CRFH and the following studies were performed.

#### 3.6.1. Controlled release study

**3.6.1.1. In soil.** In order to accurately assess the potential use of CRFH in agriculture, the controlled release behaviour in soil was studied. The percentage of urea released against time for untreated traditional urea fertilizer, urea from CRFH are depicted in Fig. 4a. The release of protein from CRFH is depicted in Fig. 4b. It can be observed that within 24 h, more than 97% of the nutrients in untreated urea were released, which is similar to the previously reported works (Xie et al., 2012). It is because when a water-soluble compound fertiliser is put in the soil, it will dissolve quickly in the soil solution, and the nutrient will be swiftly

exhausted since there is no barrier between fertilizer and soil. There was a dramatic drop in the urea release rate from the CRFH compared to the untreated urea. After 1, 14, 28 and 40 days, the release from the core was around 14.3%, 66.8%, 74.1% and 81.5%, respectively, implying its excellent controlled release property. The initial high release (0–4 days) is due to the fact that polymer hydrogel absorbs the water and swells after adding it to the soil. As the swelling continues, urea embedded in the matrix dissolves rapidly, increasing the network's osmotic pressure. Through a dynamic exchange between the free water in the hydrogel network and the water in the soil, the urea would subsequently diffuse out from the swollen polymer (Xie et al., 2012; Wang et al., 2012; Wen et al., 2016). After 4 days, the release rate slowed down. This was mostly due to the drop in osmotic pressure inside the hydrogel matrix brought on by the decreased concentration of urea in the matrix over time. Meanwhile, the hydrogel might take in more ions and particles in the soil. These particles along with the matrix served as a physical barrier and induced steric effects on nutrients. Consequently, the swelling was less in the soil, which made it harder for soluble urea to diffuse. This also contributes to the controlled release of nutrients (Wang et al., 2012).

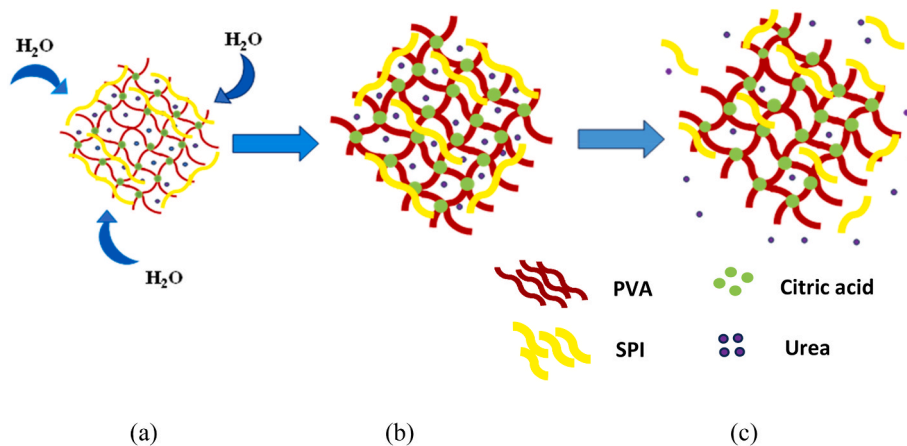
Along with the release of urea from the hydrogel fertilizer, a small amount of protein also was released. When the urea release was at its peak on the 40<sup>th</sup> day the release of protein was only about 41.2%. This indicates that even after the controlled release of urea from the CRFH, it can contribute protein to the soil and thus enhance the nutrient availability of soil for the next plant growth period too. No one has explored the dual property of the protein in conjunction with a controlled release hydrogel fertilizer. Thanks to the protein matrix for its contribution to the successful development of controlled release fertilizer hydrogel cum nutrient reservoir, which ensures the nutrients availability instead of simple degradation is an added benefit.

**3.6.1.2. In water.** The release of urea and protein in water was also studied. Fig. 5a shows the plots of the percentage release of urea against

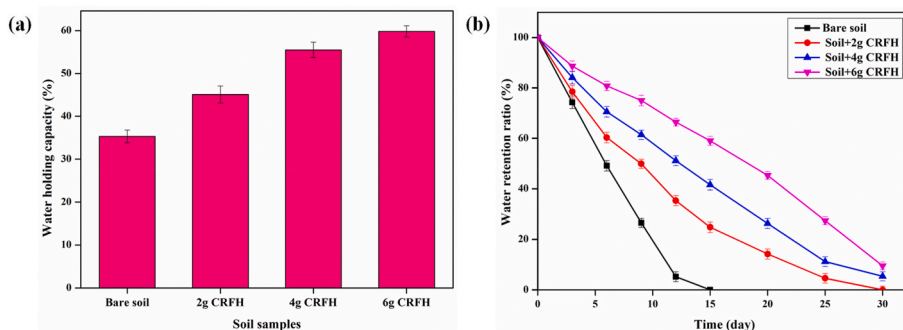


**Table 3**  
Kinetic parameters from various models.

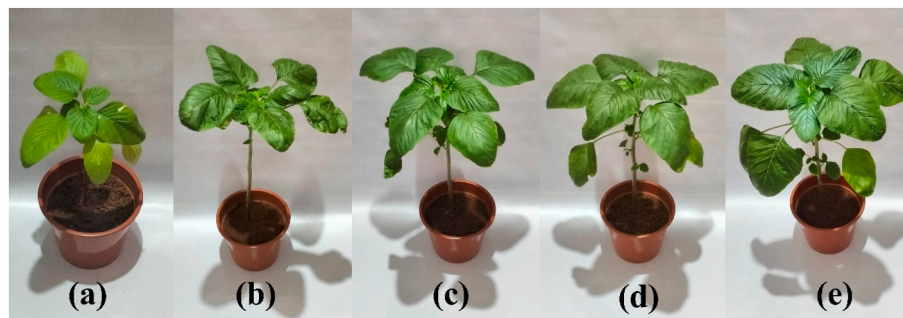
Mathematical models		Zero-order		First order		Higuchi		Ritger-Peppas		
Release medium	Nutrients Released	R <sup>2</sup>	K	R <sup>2</sup>	K	R <sup>2</sup>	K	R <sup>2</sup>	K	n
Soil	Urea	0.913	0.023	0.889	0.277	0.946	0.107	0.981	0.143	0.590
	Protein	0.878	0.122	0.780	0.036	0.913	0.145	0.972	0.115	0.754
Water	Urea	0.905	0.165	0.861	0.001	0.787	0.193	0.958	0.134	0.610
	Protein	0.887	0.184	0.941	0.003	0.918	0.262	0.960	0.125	0.884



**Fig. 6.** (a) Water absorption (b) Swelling (c) Release of urea and protein by diffusion.



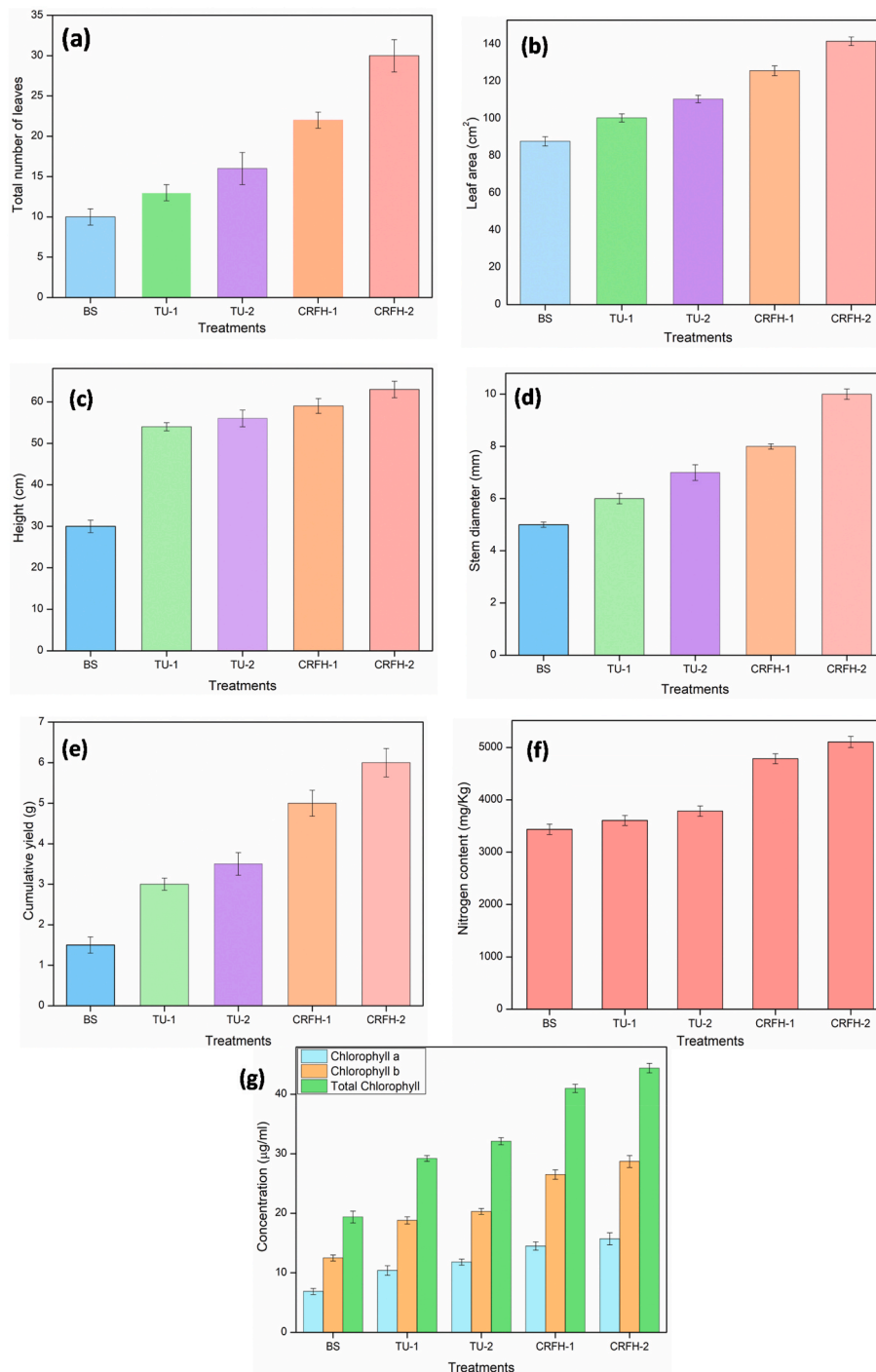
**Fig. 7.** (a) Water holding capacity of soil with different treatments of CRFH (b) Water retention of soil with different treatments of CRFH.



**Fig. 8.** Photograph of plant growth performance of Amaranthus Viridis after transplanting for 30 days (a) with bare soil (BS), (b) with TU-1 (c) with CRFH-1 (d) with TU-2 (e) with CRFH- 2 treatments.

time whereas Fig. 5b displays the percentage release of protein. The curve demonstrated a typical sustained release pattern, with a gradual release at first and followed by a plateau. Urea was slowly released in water for around 8 days. Following that, the sample reached 87.5% of

the total release. Similar results had been reported in the literature (Zhang et al., 2014), but the release was so fast (within minutes). In contrast, we got sustained release for up to 10 days. Besides urea release, the release of protein also happened which was observed to be faster in



**Fig. 9.** Effect of CRFH treatment on vegetative growth of the plant (a) number of leaves (b) leaf area (c) height (d) stem diameter (e) cumulative yield (f) nitrogen content (g) chlorophyll content (one-way ANOVA, Tukey's post-hoc test,  $p < 0.05$ ).

water than in the soil. About 55% of the protein was released in 10 days. Therefore, it may be inferred that CRFH is a promising fertilizer for hydroponics applications as well.

**3.6.1.3. Kinetics of release.** The collected data were fitted into four distinct models namely zero order, first order, Higuchi and Ritger-Peppas in order to analyse the fertilizer release mechanism. The correlation coefficients ( $R^2$ ), kinetic constants ( $K$ ), and release exponent ( $n$ ) of the sample in different release media were computed and tabulated in Table 3. According to the  $R^2$  values, the release was found to be well-fitted to the Ritger-Peppas model. The release exponent( $n$ ) from the

linear regression of the Ritger-Peppas plot reveals how fertilizer diffuses from the hydrogel.

Depending on the value of  $n$ , the release mechanism could be categorised as either a Fickian model (Case I) or a Non-Fickian model (Case II, Anomalous Case, and Super Case II) (Wang et al., 2021; Lawrence et al., 2021). When  $n = 0.5$ , the model is said to be Fickian (Case I), the release is controlled by diffusion, which is significantly more important than polymeric chain relaxation. The release is controlled by either swelling or relaxation of polymeric chains when  $n = 1$ , and the model is said to be non-Fickian (Case II) and approaches zero-order kinetics. It follows non-Fickian (Anomalous Case) when  $0.5 < n < 1$  and the rate of

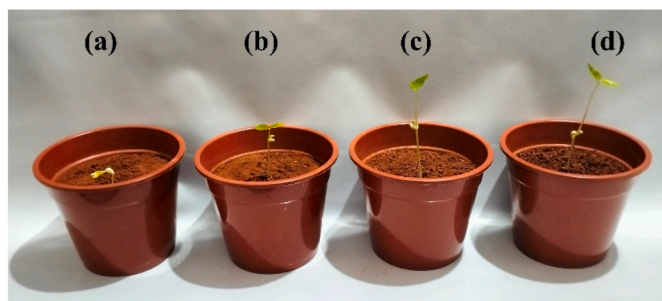


Fig. 10. Seed germination of pea plants after 7 days (a) in bare soil (b) with traditional urea (c) with CRFH-1 (d) with CRFH-2.

**Table 4**  
Germination and survival rate of pea seedlings in the presence of CRFH.

Treatment	Germination rate (%)		Survival rate (%)	
	Day 5	Day 7	Day 10	Day 14
Bare soil	50	100	20	0
Traditional urea	60	100	20	0
CRFH-1	90	100	90	80
CRFH-2	100	100	100	100

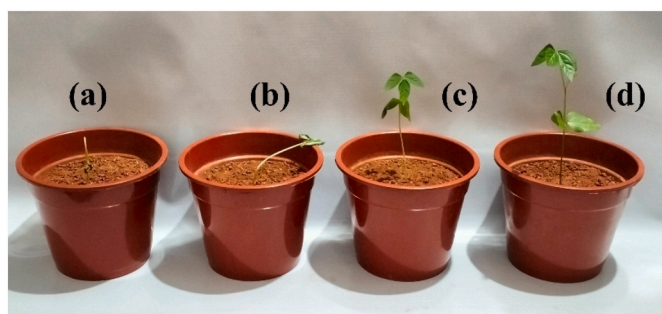


Fig. 11. Survival performance of pea seedlings under water-stressed circumstances after 14 days (a) in bare soil (b) with traditional urea (c) with CRFH-1 (d) with CRFH-2.

release is controlled by both diffusion and swelling. When  $n > 1$  denotes a severe scenario (Super Case II model) in which polymer chains are broken during the process. For the CRFH, the  $n$  value in all the cases fell between 0.5 and 1, confirming that diffusion through swelling of the hydrogel is the primary mechanism for the release.

A schematic representation of the mechanism of release of urea and protein from CRFH is given in Fig. 6.

### 3.6.2. Water holding capacity and water retention of soil with CRFH

In addition to its controlled release capability, another crucial quality of CRFH was its water holding capacity. In this aspect, the ability of the soil to hold water was tested using hydrogel. Fig. 7a illustrates the water holding capacity with application rates of 0, 2, 4, and 6 g of CRFH. The soil's maximum water holding capacity was 35.3%, 45.1%, 55.5%, and 59.8%, respectively. From that, we may infer that adding CRFH to soil could boost the soil's ability to hold water, and the water content nurtured as the amount of CRFH in the soil increased. In light of this it can be concluded that, when irrigation is on or it rains, the soil with CRFH can hold significantly more water than the soil without it, effectively lowering the amount of irrigation water needed and hence the labour cost.

Besides water holding capacity, water retention is a vital property of hydrogel. As we can see from Fig. 7b, the soil with the CRFH had considerably better water retention than the soil without it. Moreover,

this improvement developed as its amount in the soil increased. The water retention ratio of bare soil was zero on the 15<sup>th</sup> day. However, the water retention ratios were 24.8, 41.6, and 59.0 wt% on the 15<sup>th</sup> day and 4.6, 11.2 and 27.4 wt% after 25 days for the samples containing 2, 4, and 6 g of CRFH per 100 g of soil respectively. The sample with 6 g of CRFH still had a water retention ratio of 9.5 wt% on the 30<sup>th</sup> day. Taking into account these results, it is possible to draw the following conclusion: CRFH can significantly increase the water retention capacity and this is incredibly important in locations that frequently experience droughts since there is an insufficient water supply.

### 3.6.3. Plant growth assessment

Field experiments are necessary to evaluate the performance of plants in response to the CRFH. *Amaranthus Viridis* was used to test the effects of urea loaded hydrogel on plant growth for 30 days after planting and compared to a control treatment with no extra fertiliser and the corresponding amount of conventional urea. The studied plants showed no signs of harm, as shown by the assessment in Fig. 8 indicating that the developed controlled release fertilizer hydrogel was not detrimental to the plants. The plants that received the addition of CRFH were bigger than the controls. This emphasizes the timely delivery of nutrients during the plant growth cycle. Furthermore, compared to the bare soil and conventional urea the usage of CRFH loaded fertilizer effectively promoted superior plant quality in terms of vegetative growth parameters.

To verify the plant growth development as noticed by visual inspection, the vegetative growth parameters like plant height, plant weight, number of leaves, leaf area, stem diameter as well as nitrogen and chlorophyll content of leaves were presented in Fig. 9. The vegetative development of potted *Amaranthus* plants was more vigorous under the influence of CRFH than the control and conventional fertilizer. Specifically, plants treated with CRFH-2 produced the highest number of leaves compared to those grown in corresponding traditional urea fertilizer and bare soil (Figs. 8e and 9a). As the CRFH content was increased thick growth of leaves were observed. Moreover, with increased CRFH application rate, the cumulative leaf area grew significantly with CRFH-2 treatment having the greatest value again. That is, when compared to the control leaf area increased to 61% for CRFH-2 whereas that for TU-2 was 26% only (Fig. 9b). However, in comparison to TU treatments, CRFH treatment had no appreciable impact on the plant's height but of course, it was higher than the control (Fig. 9c). The plants grown in CRFH amended soil manifested a substantial increase in stem diameter and dry weight (Fig. 9d and e). This might be due to the accumulation of nutrients in plants indicating that the amounts of nutrients provided at these rates were adequate for producing enough yield.

Fig. 9f illustrates the nitrogen content in leaves with different treatments. It is obvious from the figure that nitrogen is highest in the plant leaves that are treated with CRFH-2 whereas it was least in control pots. The lack of nitrogen in control pots may have contributed to stunted growth even after the growth period. When compared to the control there was a 58% increase in the nitrogen content for CRFH-2, whereas with TU-2 32% enhancement was observed. It is evident that compared to traditional urea fertilizer, nitrogen content in leaves almost doubled, indicating the nutrient utilization efficiency of developed fertilizer. This could be attributed to the synchronicity of the time and rate of the nutrient released by the synergistic controlled release action of CRFH and protein matrix that could successfully satisfy the nutrient need for the plant growth phase and minimize the loss of fertilizer nutrients even with a single application of CRFH. Consequently, CRFH-2 with sufficient nitrogen content might have experienced the highest photosynthesis rate and hence vigorous plant growth.

The effect of CRFH treatments on the chlorophyll content of *Amaranthus* plants was also studied. It was found that the use of CRFH boosted the chlorophyll content of leaves. Fig. 9g represents the chlorophyll *a*, chlorophyll *b* and total chlorophyll content in leaves. The

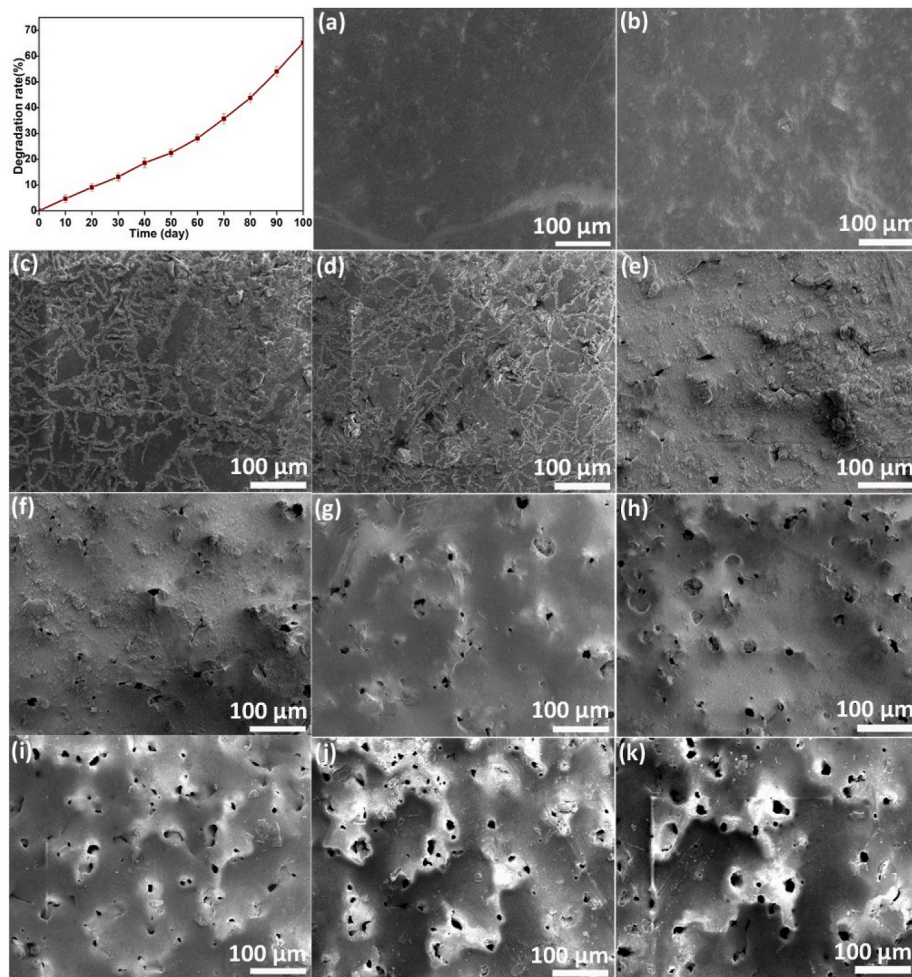


Fig. 12. Degradation rate and surface morphology of CRFH films (a) day 1 (b) day 10 (c) day 20 (d) day 30 (e) day 40 (f) day 50 (g) day 60 (h) day 70 (i) day 80 (j) day 90 (k) day 100.

**Table 5**  
Comparison of PVA-SPI CRFH (present work) with other controlled release fertilizers.

Material	Method of preparation	Crosslinker/modifiers	Release duration	Matrix nutrient releasing property	Remarks	Ref.
PVA-Alginate	Copolymerization & crosslinking	Glutaraldehyde	69% in 12 days	No	Low fertilizer release duration, toxic chemicals are involved	<a href="#">Khoerunnisa et al. (2016)</a>
PVA-Poly ethylene glycol (PEG)	Crosslinking	PEG, sulphate	15–20% release during initial days, sustained delivery up to 6 days	No	Low release duration	<a href="#">Sarkar and Sen (2018)</a>
Chitosan	Crosslinking	Salicylaldehyde	75% in 11 days	No	Low release duration	<a href="#">Iftime et al. (2019)</a>
Sulfonated-carboxymethyl cellulose	In-situ graft polymerization	N, N'-methylene bisacrylamide	75.3 in 30 days	No	Toxic chemicals are involved	<a href="#">Olad et al. (2018)</a>
Cellulose nanocrystals-PVA	Fluidised bed technique	—	>80% in 20 days	No	Expensive equipment, poor performance	<a href="#">Kassem et al. (2021)</a>
2- hydroxyethyl methacrylate, acrylic acid, acrylamide	Free radical polymerization, crosslinking	N, N'-methylene bisacrylamide	35% in 19 days	No	Not readily biodegradable, complex preparation process, toxic chemicals are involved	<a href="#">Dhanapal et al. (2021)</a>
<b>PVA-SPI (present work)</b>	<b>Crosslinking</b>	<b>Citric acid</b>	<b>74.1% in 28 days</b>	<b>Yes</b>	<b>Biodegradable, easily scaled, low cost, controlled release fertilizer hydrogels</b>	

plants that were grown in soil without any fertilizer had the least chlorophyll content. This is evident from the visual assessment also since the plants with BS treatments exhibited a pale-yellow colour (Fig. 8a). Compared to traditional urea treatment TU-2, there was a 38% increase

in chlorophyll content of CRFH-2. The results are in agreement with nitrogen content data as it is a major constituent of chlorophyll.

### 3.6.4. Seed germination and seedling growth under water-stressed circumstances

The impact of CRFH on seed germination was also investigated (Fig. 10). The seeds sown in the soil with CRFH-2 were fully germinated on day 5 whereas that sown in bare soil and traditional fertilizer exhibited around 50% germination only (Table 4). As the amount of fertilizer hydrogel applied to the seeds decreased there was a slight decline in the germination rate too. That is only 90% of the seeds treated with CRFH-1 germinated on the 5th day. However, when compared to the seeds cultivated in bare soil and with conventional fertilizer this growth is really significant where the entire germination took place by 7 days only. It was also noticed that seedling growth was accelerated in the presence of the hydrogel fertiliser. This might be due to the timely delivery of nutrients and water during the germination period.

The availability of moisture is essential for the effective development of agricultural crops, and inadequate soil moisture conditions are frequently a barrier, especially in dry and semi-arid areas. The effect of CRFH on the growth of the seedling under water-limited conditions was also studied. It was found that the wilting of pea seedlings was delayed by the addition of fertilizer hydrogel to the potting soil (Fig. 11). All seedlings sown in soil containing CRFH-2 survived up to 14 days after sowing with only a single addition of water. Compared to others, seedlings were healthy with six leafed stages. The survival rate on the 14<sup>th</sup> day was found to be 100%. Though the survival rate of seedlings was decreased with lower loading of hydrogel in the soil, this development is incredibly notable as compared to the seedlings cultivated in bare soil and with conventional fertilizer, since 80% of them wilted on day 10 and none of them survived on 14<sup>th</sup> day. This can be ascribed to the fact that the hydrogel fertilizer retained the water content in the gel network during irrigation, declined the moisture loss of soil and supplied the water when plant demands along with the nutrients which delayed the seedlings wilting. Hence it is obvious that developed fertilizer gel can successfully employ in drought prone areas too.

### 3.6.5. Biodegradation

The degradation rate and surface morphologies of CRFH film during degradation are illustrated in Fig. 12. Initially, the surface of the film was rather clean and smooth as shown in Fig. 12 (a), except for a few casting-related scratches. But after 10 days, the surface was covered in numerous swirls and disfigurement. Around 5.1% degradation occurred during this time. This could be attributable to the partial degradation of microorganisms on SPI and PVA molecules (Su et al., 2007). After 30 days, cracks and minute holes popped up on the surface of the hydrogel. About 25% degradation occurred in 50 days. During this time, hydrogel film experienced random disintegration, accelerating the emergence of a rough surface with shallow fissures and pits. This might be due to the fracture of the macromolecular skeleton to less complicated molecules. With a rise in burial time more and more deep holes appeared. At the end of 100 days, the whole film was covered in additional holes and the degradation rate was found to be 65.18%. Furthermore, numerous nearby holes are fused together to create even bigger holes. Thus, the hydrogel film exhibited a gradual rise in surface roughness, cracks and wrinkles which is an indication of excellent biodegradability.

A comprehensive comparison of present work with other controlled release fertilizers reported during the past few years is given in Table 5.

## 4. Conclusions

We have developed an environmentally safe, cost-effective, easily scaled-up controlled release fertiliser hydrogel that could supply nutrients for a long time. Initially, PVA-SPI blends were prepared and the optimised blend PS 8/2 was crosslinked by employing the green cross-linker citric acid to form a semi-IPN hydrogel network. Among the produced hydrogel, 20% CA was found to be the optimum crosslinking percentage. It was loaded with 1g urea to investigate its release property in both soil and water. The developed hydrogel fertilizer could

successfully meet the criteria for controlled-release fertilizer since 74% of urea was released in 28 days. Besides, the soy protein isolate could act as a nutrient reservoir matrix release that could ensure the nitrogen availability of soil even during degradation. Additionally, CRFH exhibited excellent water retention properties and thus ensuring a promising material for drought-prone agricultural land. The most common vegetable *Amaranthus Viridis* was selected to investigate the impact of CRFH on the vegetative growth of the plant and pea seeds for germination and drought-resistant studies. It was observed that CRFH-2 demonstrated a significant enhancement in plant growth performance. Moreover, the design of CRFH doesn't involve any toxic chemicals, auxiliary solvents, unwanted byproducts, and high energy and time consumption. Consequently, it can be bravely claimed to be a "green hydrogel fertilizer" as it abides by almost all sustainable chemistry principles.

### CRedit authorship contribution statement

**Ardra Ashok K.P.:** Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Software, Validation, Visualization, Writing – original draft, Writing – review & editing. **Saeed P.A.:** Writing – review & editing. **Smitha Manholi:** Writing – review & editing. **Sujith A.:** Project administration, Supervision.

### Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

### Data availability

Data will be made available on request.

### Acknowledgement

Not applicable.

### Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jclepro.2024.141827>.

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Indian  
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Sahitya Akademi's Bimonthly Journal



July-August: 2024  
ISSN : 0019-5804

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Published by Sahitya Akademi  
No. 340, March-April : 2024  
Vol. LXVIII

Editorial Office  
Sahitya Akademi, Rabindra Bhavan,  
35, Ferozeshah Road, New Delhi-110001.

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**THE SACRED SPACES AND THE POWER CONSOLIDATION IN COLONIAL  
MALABAR : A CASE STUDY OF KAVALAPPARA FAMILY.**

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**Abstract**

This paper is an attempt to understand the ritual status and powers of the Kavalappara family. Even after the decline of the landlordism, the Kavalappara family enjoyed its ritual and economic status through the control of temples. In the name of religion and temple that this *tarawad* got a monopoly of land in their respective areas. Drawing on fertile concepts of sovereignty, this paper explores phenomena as diverse as the de stabilization of ritual paths, public anxieties about the wellbeing with the advent of democratic reforms, and mistrust of official signs. Key words : Kavalappara, Tholpavakuthu , Kuthumadam , Thalappoli ,Ritual ,Kuthiravaravu etc

From the very dawn of culture we see a close association between power ,religion and ritual. It has been all the more so with regard to Kerala. The following account will give a picture of the complex relations among these in connection with the Kavalappara as the institutional base. Kavalappara family in the present Ottappalam Taluk of Palakkad District . This family was typical *tarawad* in South Malabar . As the head of a family or chieftain of an area the heads of Kavalappara had ritual powers also. They were symbols of political and economic power and prestige.

It was in the name of religion and temple that this *tarawad* got a monopoly of land in their respective areas. The properties of many temples in the realm of Kavalappara have been under the control of Mooppil Nayar as he was the trustee of these temples. These lands added to the power and prestige of these families.

The concepts of religion and culture are equally vague and full of complexities and ambiguities. Thoughts about religion brings to our mind ideas about god, worship, festivals, belief, rituals etc. But none of these constitute the essence of religion. Religion is to be understood as a practical system of belief in something which human beings consider to be beyond themselves and which binds them together so as to organize their life into some sort of socio religious community

The pre- colonial and colonial period in Kerala there has been close alliance between religion and power as it has been in any other parts of the world . Power is defined as the " influence over thought and behavior " of others and as such it is a psychological phenomenon rooted in complex pattern of interaction between various elements . The ability of a power builder whether he is an individual or group of individuals " to influence a target depends on the power wielder's resource of power, his or her credibility ,the extent to which the target needs or places a high value on the power wielder's resources and the relationship of goodwill that prevails between the power wielder and the target" <sup>2</sup>.

The period under study has been noted for the ascendancy of Nambuthiri brahmins. The basis of their power and influence was their ritual and economic status. But along with these brahmins there developed powerful non – brahmin landed gentry in Malabar like the Kavalappara Mooppil Nayar. By dint of their economic status and association with the ruling authorities this family enjoyed considerable religious and ritual powers.

Temples have been the centre of social, economic and cultural life in Medieval Kerala. This continued to be so in the colonial period also. In most case these temples under the trusteeship of the Nayar families also were the centers of life and culture in a locality. In fact this aspect is evident from the history of the Kavalappara.

Through the *Kavus* and temples the Kavalappara family exercised considerable influence over their respective localities. There were two main categories of shrines in Kerala, the *kshetras* and *kavus* . The first category, the *kshetras* are dedicated to the superior deities of the Hindu pantheon, Siva, Vishnu, their consorts and incarnations and to Ganapathi. The second category of *kavu* are shrines of the comparatively inferior deities like Bhagavati or Bhadrakali, Ayyappan, Vettakorumakan etc. These *kavus* were also shrines of non- brahmin gods like *Kuttichathan* ,

*Gulikan, Mundiyam* and the like. Often the *kavus* would not have roofs and they would be amidst wild trees and plants<sup>3</sup>. This also served the purpose of preserving the equilibrium in ecology. In course of time structural temples were built in the place of old shrines. Thus the *kavus* become synonymous with the temples in Kerala.

The religious institutions, mainly the *kavus*, also furnished as recruiting centers of the aggressive slaves. The religious centers, from a very early period onwards, had acted as centers of all human activities. On certain festive occasions in these *kavus*, families of aggressive slaves offered themselves for money<sup>4</sup>. The religious centers of the lower castes were under the control of the high caste Brahmin and Nayar land lords<sup>5</sup>.

The Kavalappara Nayar had many temples under his control. As the *naduvazhi* the Moopil Nayar has both rights and obligation in connection with them. The Kavalappara enjoyed such status over a number of temples. At the heights of its power the Kavalappara Moopil Nayar had control over 25 temples<sup>6</sup>. The most famous temples under the control of Kavalappara family were those of Eruppe, Aryankavu, Anthimahakalankavu. The temple of Eruppe about a hundred meters off the Kavalappara kottaram was dedicated to Lord Siva. The Aryankavu temple is a Bhagavati temple at Aryankavu. Anthimahakalankavu is at Kolappully near Shornur. Originally the number of *kalangals* or temples of the Kavalappara Swarupam in the Valluvanadu and Palakkad Taluks was eighteen. Attached to these kalam there were temples over which the Kavalappara family had supervisory powers. Among these were the temple of Krishna Pazhampalakkode, Kunnekkatavu at Thennilapuram, Anthimahakalankavu at Chelakkara, etc<sup>7</sup>.

The Moopil Nayar is designated as Vadakkum Nambidi (Nambidi of North) in connection with the Chelakkara temple. The title Thekkum Nambidi or the Nambidi of South is the Maharaja of Cochin<sup>8</sup>. It is to be noted that it is with the Raja of Cochin that the Kavalappara Moopil Nayar shared this title. The Vadakkum Nambidi and Thekkum Nambidi used to conduct the annual *vela* in the Anthimahakalankavu in alternate years in rotation. There is no separate property attached to Eruppe temple and the expenses in connection with the temple are part of the expenses of the Kavalappara family. In 1922 the annual expense was about Rs. 1000 (Rupees thousand only). The *utsavam* is the most important celebration of the Eruppe temple and there will be an *arattu* on the 8<sup>th</sup> day since beginning of the *utsavam*. On 7<sup>th</sup> day of the *utsavam* there is a *pallivaetta* which is a symbolic ritual of royal hunt. *Pallivaetta* included a procession of about hundred meters. On the 5<sup>th</sup> and 6<sup>th</sup> days of the *utsavam* hundreds of people used to assemble in the temple premises<sup>9</sup>. For rituals connected with the festivals of temples like Aryankavu and Eruppe, the physical presence of the Moopil Nayar was indispensable<sup>10</sup>.

The power and influence of the Kavalappara family grew more in connection with the festival of Eruppe temple. The mock fight between two large wooden horses or the *kuthirakkettu* it is known is as important item in this festival. This mock fight is in the form of competition between two areas of Eruppe. Large decorated wooden horses will be carried by the young men of each area and brought to the temple accompanied by a procession. The people of two areas will act as factions. These two areas are Karakkatt and Kavalappara and they will have their own horses. It will be the healthiest young men who make a show of strength. This is reminiscent of the occasion when young men were selected for military training. At the temple of Eruppe, in connection with the *thalappolli* in the month of May oracles belonging to the Paraya caste has certain privileges. This is continuing even today.

The expenses of the *utsavam* are met by the Moopil Nayar. The public would not contribute towards it. Apart from this *utsavam* there is a *varam* called *chakkavaram* in the temple. On the day of *Ashtamirohini* the birthday of Lord Krishna there is another celebration<sup>11</sup>. The Aryankavu temple also doesn't have any separate property. The accounts of the temple formed part of the *tarawad* accounts. The temple is about two furlongs away from the Kavalappara Kottaram. It is a kavu and the idol of the Bhagavati is exposed to nature. In front of the temples there is a *Mughamandapam*. There is no *Nalambalam*.

The most important celebration in the temple is the *pooram* in the month of *Meenam* (March-April). Before the *pooram* there will be a *vela* of five days. During the *Mandalam* period there will be a *kalamezhuthu pattu* and a *Darikavadham pattu* by the public. There will be *thalappoli* at the end of *mandalam* and the expenses of this also are met by the tarawad. In the month of *Kanni* (September-October) also there will be a *thalappoli*. Women will take *thalam* in this festival <sup>12</sup>.

The *thalappoli* at Aryankavu temple is a festival of the locality as a whole. As at Eruppe the *kuthirakettu* is an important item of celebration as at Aryankavu also. Important *kavus* had its own *thattkam* which may be explained as the area of ritual jurisdiction. As in the case of human beings gods and goddesses also are supposed to have relations like sisters, brothers, fathers, mothers etc. It is reflected in the rituals in connection with the annual festivals in temples. The *Anthimahakalankavu* of Koonathara and Kolappulli are thus related to the Aryankavu temple <sup>13</sup>. From the *Anthimahakalankavu* the *Bhagavathi* of Aryankavu is brought in procession in the connection with festivals.

On the eve of the festival horses from the different *dreams* of the *thattkam* of Aryankavu would come to the Aryankavu temple. These horses are the Pannayur horse, Tharangali horse, Mannannur horse, Kavalappara horse, Karakkat horse, Shornur horse, two Koonathara horses, velliyad horse, etc. Horse is the symbol of Kavalappara <sup>14</sup>. Different communities have rights and privileges in connection with these artificial horses of Kavalappara. The Chief of the *Thandan* family of the *desam* will give the bamboo and they needed for the construction of the horses. Cloth will be supplied by the *Mannan*. Festivals in temples had their political phase also. The festival is also an occasion for proclaiming the prominence of the Kavalappara Nayar in the area. The Mooppil Nayar will have its *Nilapadu* or the seat in a particular venue at the festival. There before the Mooppil Nayar the horses and the bullocks will be played as an act of acknowledging the supremacy of the Mooppil Nayar. The *Cherumans* will have *Kalavela* along with this and they would ensure their right for ploughing on this occasion <sup>15</sup>. The *Kuthira varavu* or the advent of horses and *Vela varavu* or the advent of bullocks are symbols of the centralization of power. This power was centered on *Kavus*. Here we are not seeing the influence of the brahmins. In the *thattkam* of Kavalappara there is no powerful brahmin village. The Brahmin village of Ongallur (Isana Mangalam) was on the boundary of the realm of Kavalappara <sup>16</sup>.

As part of the festivals in connection with the ceremonies of the annual festival of the Aryankavu temple *Tolpavakuthu* is staged. It is a shadow puppet play and has been an important art form in certain parts of Kerala. *Tolpavakuthu* shows legacy of the cultural contact between Tamilnadu and Kerala. The theme is the story of Ramayana of Kambar, the great Tamil poet. Kavalappara family has been the most important patron of this art. Puppet play is performed in order to propitiate goddess bhadrakali in the Aryankavu temple. There are legends regarding the staging of Puppetry in Aryankavu and near by temples and they are related to the puranic Kali-Darika story. The full story of Ramayana will be enacted only in the Aryankavu temple <sup>17</sup>. The play will be for 21 days. This has been a privilege and monopoly of the Kavalappara family. It is symbol of the ritual superiority of Kavalappara family over other subordinate or lesser feudal families in the area. The supremacy enjoyed by Kavalappara family continues even after the decline of the family as a feudal landlord. Even now the right to light the lamp of *Kuthumadam* of Aryankavu temple is a privilege of Kavalappara family <sup>18</sup>. The Kavalappara family had the material wealth for supporting this art form and artists. These artists continued to be supported and patronized by Kavalappara Mooppil Nayar. Through the years the conducting this art form became a matter of prestige for the Kavalappara family. In effect this art form became a medium for expressing the prominent status of the Kavalappara family in the area. In the beginning of the puppet play the artist recite poems praising its patron <sup>19</sup>.

It is the community of *Pulavar* who are the artists in the *Pavakuthu*. The *Pulavar* scholars composed poems by themselves in order to praise their patron. Thus it was a sort of advertisement and acknowledgement of the supremacy of the chieftain in the area. The Kavalappara

family has their own puppets for such performance .At the zenith of his power the entire play for forty one days was conducted under the auspices of Kavalappara family <sup>20</sup>.

The landowning family of Kavalappara enjoyed its ritual and economic status through establishing its superiority through the control of Aryankavu temple. The performance of the Pupperty was also carried out to establish superiority over the other landlords and tenants of the locality .Even after the decline of the landlordism , in the rural areas such ritual superiority of the former landlords continued as on in a historical past.

The foregoing accounts show the ritual status and powers of the Kavalappara Nayar under discussion .They had lost their defacto ruling authority under colonialism. But they continued to have their tutelage powers even under colonialism. This is very much relevant with regard to Kavalappara Nayar. Eventhough the Nayar had no defacto authority over the political or economic aspects he continued to be the overlord of people of his realm through the observance of the rituals and the celebrations connected with the temple festivals, patronage of temple arts etc,The act of the colonial master in permitting him to have these rights and privileges has been diplomatic as the same was pacifying both the chieftain and his subjects to an extent.

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# INTERNATIONAL JOURNAL OF CULTURAL STUDIES AND SOCIAL SCIENCES

**(UGC CARE approved Multi-disciplinary Peer-Reviewed Journal)**

**Indexed in UGC CARE LIST since 2017,**

**In 2022 list Sl No.-165, In 2024 Sl. No.-171**

**under UGC Social Sciences Approved Group Journal**

**Vol. - XX, Issue-1, No.57, January-June: 2024**

**ISSN : 2347-4777**

Eds.

**Subir Dhar, Ronan Paterson,**

**Bryan Reynolds, Papia Mitra**



**AVANTGARDE PRESS**

A Publication of

**TAGORE-GANDHI INSTITUTE / SHAKESPEARE SOCIETY AVANTGARDE PRESS**

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*International Journal of Cultural Studies and Social Sciences*  
**CULTS, RITUAL PERFORMANCES AND THE POLITICS OF IDENTITY AND  
AUTHORITY: RE READING THE KOODALI GRANDHAVARI**

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**Abstract**

The theory of ritual presented in this article is centered and based around the concept of territory. Ritual performance include a set of techniques to affect the identity of participants. There is a natural tension between individuality, responsibility and the potentially totalitarian implications of ritual discourse.

**Key words:**

Ritual ,Cult, Power ,Koodali, Religion, Territory etc

The pre- colonial and colonial period in Kerala there has been close alliance between religion and power as it has been in any other parts of the world . Power is defined as the “ influence over thought and behavior “ of others and as such it is a psychological phenomenon rooted in complex pattern of interaction between various elements . The ability of a power builder whether he is an individual or group of individuals “ to influence a target depends on the power wielder’s resource of power, his or her credibility ,the extent to which the target needs or places a high value on the power wielder’s resources and the relationship of goodwill that prevails between the power wielder and the target”<sup>1</sup>.

From the very dawn of culture we see a close association between power ,religion and ritual. It has been all the more so with regard to Kerala. The following account will give a picture of the complex relations among these in connection with the Koodali *tarawads* as the institutional base. Koodali family in the present Thalasseri Taluk in Kannur District of Kerala. This family was typical tarawad in North Malabar respectively. As the head of a family or chieftain of an area the head of Koodali family had ritual powers also.It was a symbol of political and economic power and prestige.

It was in the name of religion and temple that this tarawad got a monopoly of land in their respective areas. In the case of Koodali family, they had only one temple under their direct ownership but through the trusteeship of this single temple it had amassed wealth in form of lands. These lands added to the power and prestige of this families.

The concepts of religion and culture are equally vague and full of complexities and ambiguities. Thoughts about religion brings to our mind ideas about god, worship, festivals, belief, rituals etc. But none of these constitute the essence of religion. Religion is to be understood as a practical system of belief in something which human beings consider to be beyond themselves and which binds them together so as to organize their life into some sort of socio religious community<sup>2</sup>.

The period under study has been noted for the ascendancy of Nambuthiri brahmins. The basis of their power and influence was their ritual and economic status. But along with these brahmins there developed powerful non – brahmin landed gentry in Malabar like the Koodali family and . By dint of their economic status and association with the ruling authorities these families enjoyed considerable religious and ritual powers.

Temples have been the centre of social, economic and cultural life in Medieval Kerala. This continued to be so in the colonial period also. In most case these temples under the trusteeship of the Nayar families also were the centers of life and culture in a locality. In fact this aspect is evident from the history of Koodali .

Through the *Kavus* and temples the Koodali family exercised considerable influence over their respective localities. There were two main categories of shrines in Kerala, the *kshetras* and *kavus* .The first category, the *kshetras* are dedicated to the superior deities of the Hindu pantheon, Siva, Vishnu, their consorts and incarnations and to Ganapathi. The second category of *kavu* are shrines of the comparatively inferior deities like Bhagavati or Bhadrakali, Ayyappan, Vettakorumakan etc. These *kavus* were also shrines of non- brahmin gods like *Kuttichathan* , *Gulikan*, *Mundiyan* and the

like. Often the *kavus* would not have roofs and they would be amidst wild trees and plants<sup>3</sup>. This also served the purpose of preserving the equilibrium in ecology. In course of time structural temples were built in the place of old shrines. Thus the *kavus* become synonymous with the temples in Kerala.

The religious institutions, mainly the *kavus*, also furnished as recruiting centers of the aggrestic slaves. The religious centers, from a very early period onwards, had acted as centers of all human activities. On certain festive occasions in these *kavus*, families of aggrestic slaves offered themselves for money<sup>4</sup>. The religious centers of the lower castes were under the control of the high caste Brahmin and Nayar land lords<sup>5</sup>.

The Koodali *kavu* was also the temple of *Daivathar*. The deities of the *kavu* are Bhagavathi and Vettakkorumakan. The Koodali *kavu* had various kinds of rituals and occasions of celebrations like *pattu*, *kalamezhuthu*, *aratt* etc. *Pattu* and *kalamezhuthu* have been common to the *kavus* of Kerala. These are ritual arts presented during festive occasions. It is presented in the *kavus* and temples mainly in the *mandala kalam* (*Vrischikam-Dhanu* of Kollam era). In certain temples it is also called *Vrischika pattu* as it begins from *Vrischikam I*<sup>st</sup> for 41 days. *Kalamezhuthu* has been the practice of drawing the pictures of gods and goddesses without the aid of any instrument, with uncommon speed using five colors of powders. The colors are obtained from natural things like turmeric, leaves of *vaga*, rice flour, etc. This is a ritual art and consists of the drawing the figure of the deities as described in *kesadipadha varnana* or the description of the body from hair to feet. This art form is also called *dhooli chithra*. This art form has been there in various parts of South India. But now it is mainly confined to Kerala. It is related to the *alpana* of Bengal and *kalam* drawing of Tamilnadu. But only one color is used in these. In color combination *dhooli chithra* of Kerala resembles the mural paintings. Usually the *kalamezhuthu* is conducted in connection with the festivals in *devi* temples or during the period of *mandala kalamezhuthu* is conducted in the *kavus* of Ayyappa, Vettakkorumakan and in the *Sarppakkavu* during festive occasions. In certain temples *kalamezhuthu* in connection with ritual arts like *thiyattam*, *kolamthullal*, *sarppamthullal*, *mudiyattam*, etc<sup>6</sup>.

The drawing of the *kalam* will be started with meditation in front of a lighted stand lamp. The *kalam* will be on the smooth surface inside the temple near the *balikkalpara*. Sometimes it will be on the temporary space selected for the same. On this space a *panthal* or inside the temple, there will be a ceiling of fresh cloth decorated with tender coconut leaves and flowers. On the eastern corner of the *panthal* a '*padmam*' will be drawn for propitiating Ganapathi. A sword believed to be the representation of the sword in the hands of Bhagavati will be placed on a tripod on which a red cloth will be spread. A coconut also will be placed near it as a symbol of Ganapathi. Rice and paddy along with bunch of coconut flower or arecanut flower also will be placed there. Usually the *kalam* will be 9 feet long and 7 feet wide or 5 feet long and 3½ feet wide. There will be an assistant for the man who draws the *kalam*. As noted above natural powders are used for drawing the picture. For black the charcoal of the paddy husk is used. For yellow turmeric powder and for white rice powder are used. By adding lime to turmeric red color is created. The powder of the *nenmeni vaga* (*Acacia Adoratissima*) leaf is used for green<sup>7</sup>. The drawing of the picture will start from the face. First an outline will be drawn. Then it will be filled with powder. The powder will be taken in the palm and make it befall through the spacing between the fore finger and middle finger<sup>8</sup>. The community of Kurup is specialized in *kalamezhuthu*<sup>9</sup>. The sense of color in *kalamezhuthu* is very attractive. The *pattu* will be along with the beating of *chenda*, *elathalam* and *nanthuni*. The last rite in the *kalamezhuthu* is the *kalam mayikkal* or wiping out of the *kalam*. It will be wiped out using the flower of arecanut. The *kalam* will be erased from its feet. The face of the deity must not be trampled.

In the Koodalikavu the *kalampattu* used to be conducted in the month of *Vrischikam*. There are documentary evidences for the details of the expenditure incurred in for this. The *kalamezhuthu pattu* needed four *nazhi* of raw rice, 12 *kongazhi* of rice for making rice powder, five *nazhi* of rice for making *thanniramrith* or sweet cake etc, along with the rice used for the ritualistic purposes like *ashtamangalyam* offerings to Ganapathi etc. All together a large quantity of rice was needed which included the remmuneration in rice to the *tantri* and the man who drew the *kalam*. A measure of ghee, curd and sandal at an expense of rupees of six *panam* also was needed for it



Another important ritual and festive occasion in the Koodali Bhagavathi temple has been the *arattu*. Certain documents in the *Koodali Granthavari* deal with the expenses incurred in the *arattu* of Koodalikavu. It includes the remuneration to various persons involved in it in terms of rice, rice needed for *nivedyam*, *ashtamangalyam* etc; and coconut needed for the rituals, oil for lightening lamps etc. The *dakshina* to the Nambuthiries, Embrathiries and Nambidi were given in *panam*. The remuneration to *komaram* or the oracle, Marar, or the drummer, the fire worker, Menoki, the nayar pilots, vannan and the like also were in the term of *panam*<sup>10</sup>. The *pooram* in the temple also used to be celebrated in grand manner.

After the *pooram* the *bhandaram* will be opened and collected in the presence of Koodali Nambiars, Menokkies and the like. It is the Kandoth Nambiar who opens and counts it in the presence of the Koodali Nambiars, Menokkies and the like. *Bhandaram* will be locked and sealed by the Kunnath Nambiar. The keys will be kept by the Menokki. The money in the *bhandaram* will be received by the Kunnath Nambiar and will be given to the Koodali Nambiar. There is a reference to the ordeal of *kaimukku*<sup>11</sup> in the documents connected with the opening of *bhandaram*. The quantity of ghee needed for the same is specified<sup>12</sup>.

The performance of the cult of *teyyam* in the Koodali kavu also has been famous. *Teyyam* is the corrupt form of the word *daivam* or god and *teyyattam* literally means the dance of god<sup>13</sup>. The performer in *teyyam* cult is believed to be the personification of the popular deity. *Teyyam* has been the admonisher and protector of the various communities of peoples in North Kerala<sup>14</sup>. He gives expression to the mind and the actions of the deity in the form of measured steps and rhythmic dances.

*Teyyam* is a vigorous dance in which the performer wears resplendent costumes and towering head gear (*mudi*). The rhythmic beatings of a number of *chendas* (drum) and *kuzhals* (pipe) will add to the supernatural character of the dance. The performers of the *teyyam* cult belong to the caste of *Vannans* and *Malayans*<sup>15</sup>. The performance of *teyyam* in the *kavu* added to the prestige of the Koodali family. In Northern Kerala *teyyam* has been an indispensable part of the religious life of the rural people. This art form has been coordinating almost all castes and sections of Hindu society as a lively form of worship with centuries old traditions practices and rituals<sup>16</sup>. The *teyyam* has been a ritual dance with remarkable performance owing to many a factor. It coordinates various group of people and their rituals and practices. As such it has been a symbol of unity among various sections of the society.

As noted above the persons belonging to the community of *Malayan, Vannan, Velan, Mavilan, Munnuttuvan, Anjuttuvan* etc. belonging to the lowest strata of the society are performing the art form of *teyyam*. They were segregated by the *savannas* or the high caste people. But when these persons come in the attire of *teyyam* and dance with all the grandeur the members of the same higher caste bow before them and worship them<sup>17</sup>. At least for the time being it gave these sections of lower caste a self confidence. Indeed the concept of *bhakthi* has been used as a safety valve for the unrest and dissatisfaction arising from the ups and downs in the society. The *teyyam* performers had only occasional employment. The performer was attached to the shrines in which he was to perform *teyyam*. It was his right. But actually it was a bonded labour. Through the hereditary right of performing *teyyam*, he was fulfilling a social obligation<sup>18</sup>.

It was believed that such performance would make it possible to get rid of bad times from the families and the same would invest the *tarawads* with peace and prosperity. *Teyyam* were conducted for general agrarian prosperity and the public good<sup>19</sup>. The performance of the *kavu* added to the prestige of the Koodali family. There has been the practice of performing the *teyyam* of the dead heroes or heroic *karanavars* in the family. The *teyyam* of Koodali Veeran, associated with the Koodali family is performed even today. This Koodali Veeran was Ramar Kutty the Manager of *karanavar*; Koran Gurikkalachen. The legend associated with Koodali Veeran is connected with the Mysorean invasion. While the Mysorean army was approaching Koodali, Koran Gurikkalachen sent his family members to a place of safety. He wanted the prominent persons associated with the *tarawad* to escape and wanted his manager Ramar Kutty to shoot him so that he can escape from the humiliation of being captured by the enemy. Ramar Kutty said that he would offer his life instead of killing the *karanavar* and that he would defend the *karanavar* and he invader

could not touch him. But Ramar Kutty was forced to obey the order of his master. He shoot him dead and cremated the body with customary honors. Then, like an Oracle with the sword and shield of the *karanavar* he rushed to the camp of the Mysorean army. Within seconds he killed six or seven soldiers in the enemy camp. But he was soon cut into pieces by the Mysorean forces. It is in order to commemorate the sacrifice of Ramar Kutty that in his *tarawad* at Nittur the Koodali Veeran *teyyam* is performed<sup>20</sup>.

*Tira* has been another ritual art regularly performed in the Koodali *tarawad*. But once it ended abruptly and it was renewed in 1988. Certain documents connected with this are kept in the Koodali *tarawad*. Certain private persons traditionally connected with the *tira* were invited for the revived *tira* Churiyil Kunji Raman *komaram* and Mundayadan *komaram* were invited. The person who obliged to give various articles needed for the *tira* and enjoyed the right for the same traditionally also were invited. *Pantham, kalasam*, weapons, crowns etc; were needed for the performance of the *tira*. Articles oil, sugarcane, lemon, coconut, arecanut, betel leaf, tender coconut leaves etc; were also needed for it<sup>21</sup>. Along with the *tira* there would be a feast also. The family account book of Koodali *tarawad* gives a details of the expenses incurred in for supplying coconut oil, gingelly oil etc; for the *tira*. The Panikkar and Peruvannans who performed the *tira* were given remuneration along with the rice and items for feast. The performers were given Rs 300/ (rupees three hundred only)<sup>22</sup>.

*Tira adiyantiram* was performed both at day and night. Like the *teyyam* performance in the Koodali temple, the *tira adiyantiram* in the *tarawad* also attracted almost at the temple in the locality. The festival in the Koodali *tarawad* was called *arattu*. Document No. 26 section E of Koodali Granthavari deals with the expenses incurred in the *arattu* of the Koodali *kavu*. The persons intimately connected with the *arattu* were given remuneration in terms of rice.

The festival in Koodali temple is from *Makaram* 12 to 15. It starts with the *kalari pooja*. The *Kalari pooja* will be conducted by a member of the *tarawad* along with the trainer in the *kalari*. A cock sacrifice will be offered to *Bhadrakali* on the 13<sup>th</sup> day the *tira* and it will reach its zenith next day. The *tira* of *Bhairavan, Sasthappan, Karuval, Occhitta, and Raktha Chamundi*- the *Pancha Murthis* are performed in *tiras*. On 15<sup>th</sup> day the *kolams* of Kutty Sasthappan, Thekkam Kariyathan, Vettakkorumakan, Vasurimala, Sular Dhantan, Ghanta Karanan and the like will be introduced and performed. The *kalam* of Ghantakaran is performed by *munnuttan* and the others by the *Malayans and Peruvannans*. The hereditary rights of *komaram* and *kalasam* are to the Thiyya community. The occupational groups of Carpenter, blacksmith etc, have privileges and participation in the *tira*. The Koodali Veeran *teyyam* also will be performed at Nittur.

In 1990 the Koodali family had 150 acres of undivided family property and 500 members. During 1990s atleast Rs .40000/- (Rupees forty thousand only) were needed for the expenses of the *utsavam* every year. But this entire expense was met by the members of the family without accepting contribution from the public. The *karanavar* continues to be unquestioned in connection with this also<sup>23</sup>. According to document No. 26 Section E of Koodali Granthavari a large quantity of rice, coconut oil etc; were needed for the *arattu*, in connection with the *utsavam* the bulk of which were remuneration in kind to the persons involved in the *arattu* apart from monetary payment to all of them<sup>24</sup>.

There is a *Kalari* attached to the temple of *Daivathar*. *Kalari* has been a centre of martial arts and the *karanavar* of the family used the *kalari* and shrine attached to it for maintaining his dominant position in the society. These *kalaries* were for imparting training in martial arts to the Nayar youths. After the completion of training in such *kalaries*, the soldier would be admitted to the local militia<sup>25</sup>. The term *kalari* originated from the Sanskrit word *khloorika* meaning a military training ground<sup>26</sup>. This kind of physical training given in the *kalaries* has been a privilege of the Nayar caste. Attached to the Koodali *kavu*, there is a *kalari* also.

Even after the decline of *kalari* system, the *kalari* and its temple are maintained in the Koodali *tarawad* for ritual purposes. One Nambiar is appointed for lightening the *kalarivilakku* (lamp in the *kalari*) daily. Apart from the *kalari Bhagavati* and Koodali *Daivathar* there is a deity installed in a permanent room at Koodali Thazhathu Veedu. This deity is the *Uchitta Bhagavati*. There is a permanent lamp in this room<sup>27</sup>. The *kalari Bhagavati* also had *vellichappadu* or Oracle.

This *Vellichappadu* also would address Koodali *karanavar* as *Adiyatheruthu* or *Yeshmanan* etc .At the time of giving oracles the *vellichappadu* would address the *karanavar* as *karthavu* and senior female member as *Akathuttu* Karthavu. The *kalari Vellichappadu* when he was ' possessed ', and dancing would first address the *karanavars* <sup>28</sup>.

The temple acted as an administrator of justice and as the custodian of temple the Koodali family enjoyed this prestigious position. Oil ordeal had been observed in this temple to prove guilt .The Koodali Grandhavari there is a document related to the case in which a particular property of a family was attached as a compensation for an offence committed by one of its members <sup>29</sup>. Here that piece of land was given as a gift to Koodalikavu. This was like a forced gift .Such practices of forced gift were prevalent in the pre-colonial period in Malabar. In all ages donations to temple and other religious institutions have been a matter of prestige . Donations to the temples increased the social status of individuals.

As the custodian of the temple the Koodali family played a leading role in cultural life of the locality. Here it was like other Nayar feudal families of Malabar like the Kavalappara Nayar family of South Malabar. Through the rituals and festivals of the temples these feudal families themselves were elevated to the pivot of the cultural life. The presence of the *karanavar* or the head of the family of Koodali *tarawad* was indispensable for many ritual in the temple. This is best seen in the *kalamezhuthu* ritual in the temple. In fact , the trustee of the Koodalikavu ,the *Gurikkalathan* controlled the social and religious affairs of the locality . The performance of the *teyyam* cult in the Koodali kavu is famous. The patronage of *teyyam* by Koodalikavu can be compared to that of the *Tholpavakuthu* or the shadow of puppet play in the Aryankavu temple under the trusteeship of Kavalappara Nayar family <sup>30</sup>.

Temples in Kerala have been the centre for the redistribution of resources. They had important economic functions. They served as banks also <sup>31</sup>. The Koodali family has been the trustee of the temple and in that position it had control over the landed property of the temple. There are reasons to believe that the originally the Koodali family was one among the trustees . In course of time to become the sole proprietor of the shrine .The oldest document related to the Koodali kavu is the Koodali Grandhavari itself and it is related to the economic functions .It is about the credit of 800 *Cannanore Puthiyapanam* , a coin in Malabar to one Neithalacherry Narayanan Madhavan at the rate of 5% .It seems that for about three hundred years there was no change in this rate of interest. Every transaction related with the temple was recorded in writing by the *Nizhal Mennooki* account of the family. There are a number of documents in the Koodali Granthavari related to the mortgage of land. It was the wet land suited to paddy cultivation that was more coveted than dry lands. Wet lands used to the mortgaged to the temple for particular amounts of money. Until such lands were redeemed the ownership of such lands would be with the temple and as the custodian of the temple, with the Koodali family. Such lands would be given back to the tenants for cultivation to who would pay rent to the temple. In the case of Koodali kavu mortgaged lands do not seem to have been redeemed for centuries, with the effect that such lands were like those under absolute ownership .

Interest in terms of paddy was called *Neppalisa*. The rate of *Neppalisa* also was 5% which also remained constant for about three centuries. Later it was raised to 10 %. The surplus realized as rent made the temple a profitable financier who accumulated large quantity of paddy for further re- distribution . Here the *kavu* was like a feudal lord. In fact the cultivable lands were almost monopolized by a few feudal families of medieval Kerala <sup>32</sup>.

As the custodian of the local *kavu* ,the Koodali family influenced the social and economic life of the area. An attempt to cumulate political, economic and religious power in one and the same hand can be noted here . Apart from being a centre of worship, art and culture, the *kavus* had also functioned as recruiting centers of the agrestic slaves. In the Madayikavu the slaves belonging to various castes assembled at the time of *pooram* festival. Folk songs related to the Madayikavu show that people from different religious came to this *kavu* to procure agrestic slaves .The *kavus* and temples functioned as institutional base for the establishment and consolidation of the dominance of their custodians over rural people <sup>33</sup>.

The forgoing accounts show the ritual status and powers of the *tarawad* under discussions. They had lost their defacto ruling authority under colonialism. But they continued to

have their tutelage powers even under colonialism. Eventhough they had defacto authority over the political or economic aspects he continued to be the overlord of people of his realm through the observance of the rituals and the celebrations connected with the temple festivals, patronage of temple arts etc. The act of the colonial master is permitting him to have these rights and privileges has been diplomatic as the same was pacifying both the chieftain and his subjects to an extent.

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History Research Journal  
इतिहास संशोधन पत्रिका



कार्यकारी संपादक  
डॉ. सोमनाथ रोडे



संपादकिय मंडल

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डॉ. नारायण

डॉ. प्रभाकर मीरकड

डॉ. विनोद बोरसे

डॉ. बब्रुवान मोरे

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<sup>1</sup> A complex and multifaceted process involving socio-cultural, political, and economic changes in colonized societies as a result of the imposition of Western modernity, leading to unique forms of modern societies in the colonized regions.

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### Abstract

The paper entitled "Estates and the British in the Madras Presidency: An Overview" discusses the Court Of Wards and their administration on estates or family properties. This court of wards main objective to ensure the revenue collection. The court of wards was a trusteeship. It was part of the Board of Revenue. In the beginning of the 20<sup>th</sup> century there were thirty nine estates under court of wards in the Madras Presidency. The aim of the paper to analyse the colonial period as a hegemonic structure which articulated it's own particular impact and influence through a variety of institutions and ideological form

### Key words :

estate ,ward, marumakkathayam, Kavalappara, karanavar, Mooppil nayar

Two hundred years of colonial rule had a remarkable role in shaping the contemporary society of India. The establishment of British colonialism in India marked not a mere political dominance, but fundamental changes in the body social, economic and politic as in the case of many other colonies. The colonial master established his hegemony over the subjects in the colonies. The term hegemony refers not merely to the establishment of supremacy over a people. What is meant by it is an internal upper hand consisting of an ideological influence and instigation.<sup>1</sup> This political supremacy and ideological influence and instigation from the part of the colonial power are best seen in the case of feudal families. One of the measures employed by the British to control local chieftains was the taking over the administration of the property under each chieftain when the latter failed to govern it or when the heir to the property was a minor. It was also on occasion when the local chieftains fell in arrears of payment due to the British. The device used by the British to establish direct rule over the property of such chieftains was the office of the Court of Wards. Ward means a minor for whose person or property or both there is a guardian.<sup>2</sup>

The Court of Wards had certain similarities with the administration of estate or family property by the Receiver nowadays. The institution of Court of Wards has been a curious one. It functioned directly under the Board of Revenue in Calcutta. But in the district it was under the control of the district collector. During the period of colonialism collector was the highest district official responsible for the collection of revenue and maintenance of law and order.<sup>3</sup> As an institution the Court of Wards dates back to feudal times in England. In India, it was instituted in 1790 by the English East India Company. It was through an ordinance and in 1793 it was confirmed by two regulations. These two regulations were supplemented by later legislation up to the 20<sup>th</sup> century. The objective of the government in establishing the Court of Wards was to ensure revenue collection, when a zamindar was found disqualified or when a proprietor himself admitted his inability to rule over his realm.<sup>4</sup> Between 1912 and 1923 thirty estate were taken over by the Court of Wards in Bihar and Orissa out of these seven were at the request of the proprietors. The Court of Ward was a trusteeship. It was part of the Board of Revenue and it refers to a ministerial office who was in charge of the management of the estates under the trusteeship of the government. Each estate was to give a contribution in proportion to its income as the management cost to the government.<sup>5</sup> Under the system of Court of Wards the state was entrusted to a manager. The manager was to ensure a steady revenue to the colonial government. If there was a surplus income after meeting the states demands, needs of the proprietor and the management cost. It was to be used for liquidating the debts of as an investement.<sup>6</sup> Financial re-organisation improvement of estates, the development of the wards all were involved in the responsibilities of the manager.<sup>7</sup> Among other things the Court of Wards has been a means ensure the support of the landed aristocracy for the colonial government. This has all the been more so after the revolt of 1857.

The Court of Wards has its own office and bureaucracy to carry out the administration of the property under its control. Its duty was to collect rent from the tenants, manage the property and arrange for the education of the chieftain or the Zamindar. This was under the theoretical hope that the younger ones in the family would become able enough to take back their estates and manage them.<sup>8</sup> If the proprietor of certain estate had died leaving minor sons the government would take over its administration and rule it through the Court of Wards. Usually the Collector would send reports regarding the management of property by the Zamindar. If in the report it was stated that there was mismanagement of property the Board of Revenue had the power to disqualify the proprietors. Then the Court of Wards would take over the property and run it on behalf of the proprietors. Then the proprietors would be known as wards.<sup>9</sup>

In the princely state of Rajasthan if a *thikanedar* (landlord) died and his successor was a minor the *thikana* or the land held by him would be taken under the direct management of the Court of Wards. Usually when the heir became major the property was handed over to him.<sup>10</sup> The Court of Wards had its *darbar* and it was this *darbar* that had the right and obligation to act as the guardian of the minor *thikanedar*.<sup>11</sup>

The property administered by the Court of Wards was called an Estate. In the beginning of the 20<sup>th</sup> century there were thirty nine estates under Court of Wards in the Madras Presidency. Important among them were *Bodogodo, Belgam, Pithapurma, Kalahasti, Palaiyampatti, Sivagiri, Sivasamudram and Rayakota*. On the basis of the revenue collection, these estates were classified into four. The estates like *Saluru, Pithapuram and Karvetnagar* that had more than five lakhs of rupees as state demand were included in the first class. Estates with a revenue collection of over Rs.50000/- were the second class. *Kamaramangalam, Paliyam patti, etc.*, belonged to this group. Those having more than Rs.15,000/- as the demand of the state belonged to the third class. *Belgam, Serugada, Sivasamudram* etc were included in the third class. The fourth class consisted of those with less than Rs.15,000 as the state demand. To this group belonged *Palayavanam, Rayakota* etc.<sup>12</sup> In Kerala the two states under the Court of Wards have been the *Kavalappara* and the *Punnathur Kovilakam*. Punnathur is the present district of Thrissur near Guruvayur, the great pilgrim centre of Kerala. The estate of Kavalappara Mooppil Nayar is in the Ottappalam taluk of Palakkad district. Both the Kavalappara and Punnathur were ruling Chieftains. During the pre-colonial period Punnathur was the feudatory of the Zamorin. Kavalappara has been the feudatory of the Palakkad raja and later that of the Zamorin of Calicut.

The Kavalappara family and its property came under the rule of the Court of Wards in 1872.<sup>13</sup> This was as per the Madras Act V of 1804. The Kavalappara *Moopil Nayar* or the head *Karnavar* of the family died on 20<sup>th</sup> July 1872. The Kavalappara family just like other Nayar families of Kerala was following the *Marumakkathayam* system of succession.<sup>14</sup> And according to this system the nephew of the head of the family was to become the next *Karnavar*. But he had no nephew and his only niece was a six year old girl. By this time the Kavalappara Mooppil Nayar had fallen in debts also. This was mainly because of the huge expenditure incurred in the maintenance of the retainers amounting to 150. The Estate had a debt of Rs.70,000/- Under these circumstances the government made provision for the effective administration of the estate by bringing it under the administration of the Court of Wards.<sup>15</sup>

By this time the British had restructured revenue administration in the provinces under their direct control. The same reforms were introduced in the estate brought under the Court of Wards. A survey of the land under Kavalappara was made and the land was classified. Altogether there was 15,493 acres of land. Of these 4503 acres were wet lands and 10990 uplands. Actual cultivation was in 7806 acres. Uplands included the 2 acres and 65 cents of land purchased for a garden land in front of the palace of the Moopil Nayar. The entire estate was brought under the *rytowari* system. The annual revenue assessment was Rs.3491/- (Rupees Three thousand four hundred and ninety one) for the year. The demand of land rent including miscellaneous item was Rs.63476/- (Rupees Sixty thousand four hundred and seventy six) in 1910. The renewal of the fees collected from the tenants resulted in an increase of land revenue. The British made every endeavour to collect the arrears of the payment without resorting to the assistance from the court of law.<sup>16</sup>



The Court of Wards introduced scientific farming in the areas brought under their rule. A qualified trained farm superintendent was appointed for the estate of Kavalappara. Improved methods of cultivation, manures and seeds were introduced. It was intended to make the Kavalappara estate a model in farming. The government intended to make the local people aware of this. In 1910 the total production of paddy from the estate amounted to 3,000 *paras*. It was a comparatively higher produce when compared with those of the neighbouring principalities. It was because the Kavalappara estate used high qualities seeds and manures brought from Bengal.<sup>17</sup>

The Court of Wards managed to raise income from various sources. The Kavalappara estate had markets at Vaniyamkulam and Alathur in Palakkad District. The Court of Wards invested Rs.20,000/- for the improvement of the estate. Then the income from Vaniyamkulam increased to Rs.6000/- from Rs.4089. The Court of Wards spent Rs.1,69,212/- for the renovation of building etc. Money incurred in other expenditure amounted to Rs.1,82,504/-. The Court of Wards considered it their duty to improve the conditions in the estate under them. It cleared the debts of Rs.99,38/- of the family. This included the personal debts the Kavalappara estate. The total Kanam amount of the Estate was Rs.2,24,056/-<sup>18</sup>

Kavalappara family had a number of temples under its control. Important among them were Aryankavu, Trikkanyavu, Eruppa, Punnakkalkavu etc. The administration of these temple also was taken over by the Court of Wards. Improvement were effected in the lands held by these temple. The Court of Wards improved the condition of the property of the estate. They started a dispensary at Vaniyamkulam which was later handed over to the Basel Mission. In 1909 a post office was started at Eurppa.<sup>19</sup>

The Court of Wards was particular in celebrating the traditional ceremonies and respecting the traditional formalities in the area. *Cherumars* were employed in the farm of the estate. But it was not as adiyans or slaves but as free labourers. The system of granting holidays to them was introduced. These are evident from the proceedings of the Court of Wards.<sup>20</sup> The Proceedings also show the enhancement of payment to menial servants in the paddy field and charitable acts like the Kanji distribution to the poor.<sup>21</sup>

The Court of Wards gave allowances to the members of the feudal family and contributed to the maintenance of the husbands of the ladies of the family. There were difference of opinion between the members of the family and the Court of Wards.

The Court of Wards bestowed great attention to the education of the wards. They were given education in public school. The Madras government had a public school at Madras exclusively for the wards under their protection. This was the Newington School Madras. Students from the feudal families of Bobbili, Venkitagiri, Kalahasti, Sivapuri, Kavalappara etc., were brought to study in their school. Usually students were admitted to this school at the age twelve. Before this they would be given tuition by a tutor. The coaching in this school was strictly on European model. The court evaluated the progress reports of the wards. In summer the wards were sent to the hill stations. The wards were allowed to go their own family only with the permission of district collector. Only boys were taken to such schools.<sup>22</sup> In the beginning of 20<sup>th</sup> century thirty wards from different estates were brought to study in the Newington school. They were under the care of the court's European tutor and an assistant tutor, Messrs, C.Morrison and C.H.Payne at Newington, Madras. The progress made by the Kavalappara ward is reported to have been satisfactory. During the period under study the certain subjects were added to the curriculum of studies followed at Newington. They were practical surveying and plotting, agriculture, theoretical as well as practical, elementary botany, physical science etc. The wards received instructions in these subjects as suited to their age and abilities. The landed aristocracy in India was 'preserved' by the colonial state as means to its hegemony.<sup>23</sup>

The physical development of the wards continued to receive special attention and the court received periodical reports on their physical condition. Gymnastics, bicycling, riding, tennis and cricket formed part at their daily curriculum and during the end of the year the senior wards also went through a course of musketry drill at Newington and firing exercise at the San Thome ranges. The usual visit was paid to Ootacamund during the summer. But work was regularly carried on during the two months spent on the hills. The attention of the court having been drawn to the necessity for

preserving among the wards a due respect for and observance of their family religious usages, arrangements were made in the case of those wards, whose relative expressed a desire to that effect, for imparting instruction in the Hindu religion and philosophy and also for superintending the conduct of daily worship and the performance of religious ceremonies by them.<sup>24</sup>

The Kavalappara Nethiyar's eldest son (Kavalappara Moopil Nayar) aged 14 and her younger son Kochunni were studying in the Newington school at Madras.<sup>25</sup> Male children were taken to Newington school. But the daughters were given tuition in different subjects like music, needle work etc., and the regular subjects at their home itself.<sup>26</sup>

The Court of Wards bestowed due attention of the public works department of the estate which included the repair of roads, building etc.<sup>27</sup> The Court of Wards has been a device through which western culture was introduced in the estates. It was in the wards that a taste for western culture was first inflicted. This is seen from the series of measures for introducing western model amenities for the wards. As far as the Kavalappara family was concerned this included the construction of a Hill Bungalow with the tennis court, maintenance of horses and carriages, planting of flower gardens appointment of gardener etc. These are things associated with the English noble families.<sup>28</sup> Colonialization must be seen as a hegemonic structure which articulated its own particular impact and influence through a variety of institutions and ideological forms.<sup>29</sup>

The Court of Wards interfered in the personal matters of the family under their control. They interfered in the matter of marriages. They discouraged child marriages. There was an order from the Court of Wards that the collectors were to see if the marriage of minors were postponed to a reasonable period till they obtained physical and mental maturity for marriage. For example, the marriage of the Kavalappara ward (Parvathy Nethiyar) was celebrated only in March 1886 when she achieved majority.<sup>30</sup> Sometimes the court even selected bride and bride grooms. Sometimes there were secret enquiry with regard to fitness of the ward to marriage.<sup>31</sup> For their expenditure the members of the wards family was to have permission from the Court of Wards. For example, a member of the *Thikandar* family in Rajasthan who was under the Court of Wards asked for the permission to purchase jewellery for her daughter on the occasion the marriage of her maternal uncle. The manager of the Court of Wards was of the opinion was that there was enough jewellery in the personal collection of the Maji, her mother and they could be used by them on the occasion. So permission was not given. But the Maji purchased jewellery worth Rs.2500/- and demanded for the payment of the amount from the Court of Wards. Even though the amount was granted, it sanction of the Durbar would not be honored.<sup>32</sup>

The age of colonial rule in India has not merely been a period of shame and servitude. It has also been the period in which she entered into modernity.<sup>33</sup> This is evident from the reforms introduced by the Court of Wards especially in the case of the marriage and education of the wards. It is also a clear from the comparatively better treatment of the labourers of the estate who were once treated as slaves by feudal families.

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