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EDITORIAL

I am happy to present before you the third volume of our multidisciplinary research journal FORTIS. It is indeed gratifying to note that more and more scholars are taking avid interest in our publication. The need of the hour among research scholars is to publish papers once the idea is conceived, validated and practically implemented after rigorous testing. No research is complete unless and until the methodology pursued is honest and scientific. Further, our journal gives scope for papers from humanities and languages. Here our worthy reviewers make sure that the hypothesis proposed is supported by valid proof with appropriate philosophical, logical and textual evidences. As Zora Neal Hurston says, "Research is formalized curiosity. It is poking and prying with a purpose" Let us continue with this "poking and prying" with dignity and purpose. I am happy to note that this issue of Fortis comes with varied topics and interests. We have articles on politics, literature, film studies, social work, biographical discourse and biosciences. Hope this would cater to the world of research scholars and students. Happy reading!

Dr. Biju.A. (Principal, MES College Marampally)
Chief Editor
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THE CENTRALITY OF WOMANHOOD:
A COMPARATIVE STUDY OF THE SELECT POEMS
OF EMILY DICKINSON AND KAMALA DAS

Babitha B. Nair
Research Scholar, Bharathiar University

Abstract

Kamala Das and Emily Dickinson emerged as powerful literary figures of world literature in different centuries. Their poems account for their personal lives and social conditions. This paper studies about Emily Dickinson's and Kamala Das' philosophy of women hood and their approaches in select poems. The study is supported by Virginia Woolf's idea of feminism and its roots in American and Indian Literature during the 19th and 20th centuries respectively. Emily Dickinson, a social recluse, was very expressive and original when she conversed with her readers. Though her poems found to be hazy at times, they often mirror the state of ordinary women in patriarchal-puritan families. She was thoroughly moved by the Women's Liberation Movement occurred in America during her time. Like Emily Dickinson, Kamala Das is one of spirituality. A majority of her poems articulates her physical longing. She was very open to her readers as she discussed her private thoughts and emotions. Emily Dickinson's She rose to His Requirement—, My Life had Stood a Loaded Gun, The Bustle in a House and Kamala Das' An Introduction, The Stone Age, The Old Playhouse are taken for analysis. This study proposes to reveal the significance and influence of the projection of their identities as women and time and space of their existence through their poems.

Key Words: *Feminism, patriarchal-puritan, Women's Liberation Movement, Indo-Anglian Poetry*

Introduction

The word "feminism" came into existence in 1837 and it was coined by the French philosopher Charles Fourier. His intention was a progress in the position of women but not equality of both genders. Women were lower to men folk in 1800 and they always claimed similar status. They started to reflect on their civil rights. Mary Wollstonecraft in her *A Vindication of the Rights of Woman (1872)* says: "It is time to affect a revolution in female manners - time to restore to them their lost dignity -

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and make them, as a part of the human species, labour by reforming themselves to reform the world. It is time to separate unchangeable morals from local manners" (31). Feminist movement in poetry commenced during 1960s when women poets started to voice against the conventions and taboos of their societies. Society restricted women's entry into the academic, social, creative and political spheres thoroughly.

Emily Dickinson took birth in a Puritan family where Calvinistic teachings were supreme. Her family was involved in educational and political affairs of the country. Her father Mr. Edward Dickinson was a chief person who took part in all sacred ceremonies of church and was so strict about the Calvinistic tradition of his time. His relations also followed his terms and deeds. Emily, being an offspring of Calvinism, was sent to Mount Holyoke Female Seminary convincingly where she found herself estranged from everyone. She could not comprehend the language of Calvinistic wisdom. It was for the first time the poetess felt that she was in revolt with God and society. Her life and study in Mount Holyoke Female Seminary made her non-conformist among society and after her return from there she became a social hermit. But instances show us that she was very affectionate to her brother and acquaintances. Writing letters was the major source of communication. She was immersed in the creation of verses which dealt with gentle aspects of life rather than the complexities. She was unwilling to confine to the normalizing certainties of her period and waged a social combat against the incarcerating burdens of the public.

Kamala Das was born into an aristocratic Nair house namely Nalapat. When she started to step into literary world, the family had already fixed up its roots in the literary world. Her great uncle was a famous writer and her mother, Balamaniamma was a renowned poet of Kerala. Her literary taste must have originated from the family itself. Like any other woman of a traditional family, she too obeyed her parents. Thus she was married off to Madhava Das who worked for The Reserve Bank of India. Her father was always busy with his work and mother was thoroughly involved in writing poems. Consequently, she had a deserted childhood.

Women and Daughters as Writers

To look at Emily Dickinson's verse from the feminist angle, her existence as a woman and a writer has to be realized. Though she was

considered a hermit by many, she was a devoted daughter, sister and a kind companion among her kith and kin. She curbed her interest to the areas of writing and baking. Like any other traditional woman of 19th century America, she was indulged in cooking and baking. She scribbled in kitchen papers and she found a great solace when she was at kitchen. It is obvious from readings that she was attuned herself to the responsibility of an ordinary American woman of 19th century. Her passion for baking made her to take up the role of family's daily bread maker when their servant left them. She used to lower down treats for children in the neighborhood. She was very keen about her friends. She often sent a foodstuff with a verse attached to them. Her passion for baking made her to write on kitchen papers and coverings.

Dickinson was very close to her family members. She showed deep affection towards her father, Edward Dickinson. Her father enjoyed cakes made by her. Once she wrote to her cousin:"I am sure you must have remembered that father had "become as little children," or you would never have dared send him a Christmas gift, for you know how he frowned upon Santa Claus, and all such prowling gentlemen" (436).Though her mother was not a better source of inspiration for her poems, she performed the duty of a daughter during the last years of Norcross Dickinson.

Kamala Das started to write at the age of eighteen. She was immersed in writing till the day light breaks into a fine day. She talked about the confinement of women in a traditional society like Kerala and voiced against the prejudiced treatment of women by the patriarchal society of Kerala and India. The only one who showed affection towards her was her grandmother whom she considered as dearest. In her poem *My Grandmother's House* she recalls her ancestral home and the death of her grandmother who was the pool of affection. She says:

There is a house now far away where once
I received love... That woman died,
The house withdrew into silence, snakes moved
Among books, I was then too young
To read, and my blood turned cold like the moon(131)

The poetess talks about her grandmother's home where she experienced love and affection bestowed upon her by grandmother. The

house withdrew into silence and snakes started to crawl in between books. She wrote about her personal experiences, relationship with her husband and other family members generally. When she presented her experiences, she voiced the plight of traditional housewives of India. The courage she used to project the critical marital situations of traditional women of India was huge.

Feminine Aspects: A Cross-section of Selected Poems

Dickinson was not ready to confine herself to the role of a traditional house wife in any case. She was strictly against the institution of marriage. Her poem "She rose to His Requirement—" is sardonic. She says:

She rose to His Requirement—dropt
The Playthings of Her Life
To take the honorable Work
Of Woman, and of Wife—(352)

""She rose to His Requirement-" is a psychological study of three stages in the life of a married woman: first,her consent to marriage and the result of the consent; second, her disappointment both physical and metaphysical; and third, the hidden later life of the married woman's soul."(352)

Dickinson says that a woman's imaginings, ambitions, abilities and thoughts are trivial. She was reluctant to be recognized by these immature thoughts and kept away from the notion of married life and motherliness which were praised by the patriarchal society of New England. He feminist views were totally different from her generation as she never had ambition for publishing her poems.

In My Life had Stood a Loaded GunDickinson wages a war against the patriarchal society.Shesays:

My Life had stood – a Loaded Gun –
In Corners – till a Day
The Owner passed – identified –
And carried Me away – (233)

The poetess life stands like a loaded gun which is used by the male sect. The loaded revolver is recognized as her life. Someone who knows her is the holder of that life.

Dickinson's The Bustle in a House pictures how women clean her household after a death in family. Patriarchal society views women's experiences using different metaphors in the poem. The poem ends with a conclusion by saying that women's lives are lonely and it is filled with isolation.

Kamala Das's boldness and openness in writing poems have invited national and international acclaim. She projects the anguish and anger against the male sect through her feminine poems. In An Introduction she says:

I don't know politics but I know the names
of those in power, and can repeat them like
Days of week, or names of months, beginning with
Nehru. I am Indian, very brown, born in
Malabar, I speak three languages, write in
Two, dream in one. (122)

Das laments over her predicament. Being rooted in a traditional patriarchal society, she was supposed to perform her responsibilities. Like any other woman she was dutiful towards her husband and family. She says:

...Dress in sarees, be girl
Be wife, they said. (123)

She says she was asked to dress in sarees by the male dominated society. They said saree is the traditional dress of an Indian housewife. She always demanded liberation from the clutches of her tradition and male domination. She was the first Indian woman poet who talked about her body and soul. Identity of a woman and language are the themes of An Introduction. She lashes against the male dominated society who criticizes her for writing both in Malayalam and English. She tries to assert her right to write and think in both languages as she is an Indian.

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Kamala Das' *The Stone Age* is from *The Old play House and Other Poems* (1973). The first few lines of the poem talks about the treatment of her man and how he sees her as a mere object and thus she becomes a stone. The poem is in the form of a monologue by a woman who never finds the ideal love and happiness from her husband. The poem deals with the marital relationship with her partner. The poem proceeds to talk about the dishonest association in the pursuit of ideal love and finally she lands upon a loveless desert.

Fond husband, ancient settler in mind
Old fat spider, weaving webs of bewilderment,
Be kind. You turn me into a bird of stone, granite
Dove, you build round me a shabby drawing room,
And stroke my pitted face absent - mindedly,
While you read. (51)

Das sailed with in her restricted space and claimed an innovative track of liberation for women. She was the first among the female poets to talk about physical urges overtly which shocked the male dominated society in general. Her use of obvious sexual images made her the poetess of physicality. Naik, M.K. says "The most obvious colourful feature of Kamala Das's poetry is the uninhibited frankness with which she talks about sex... (But) Her persona is no nymphomaniac; she is simply every woman who seeks love, she is the beloved and betrayed expressing her endless female hunger the eternal Eve proudly celebrating her essential femininity" [208].

In *The Old Play House* Das talks about the predicament of a wedded woman immobilized in her husband's family is depicted.

You planned to tame a swallow, to hold her
in the long summer of your love so that she would forget
Not the raw seasons alone, and the homes left behind, but
Also her nature, the urge to fly, and the endless
Pathways of the sky. . . (*The Old Playhouse* 1)

Conclusion

Feminist critics are always fascinated towards Dickinson's portrayal of gender standards of nineteenth century patriarchal world. They arrived at

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a conclusion that though she was confined herself to a world of isolation, she opened up a new window of writing which asserts feminine force and imagination and again surpassed the edge of male subjugated literary sphere. Das raised her voice against the orthodox societies of Kerala and India. Her goal as a writer is to emphasize the dilemma of modern women surrounded by the estranged personalities. Her verses are outstanding as they expose her moods of anxiety, estrangement, disintegration and loss of individuality. Contemporary Indian woman's incongruity is accessible through her rhymes. Though both Emily Dickinson and Kamala Das were born and brought up in different centuries and cultures they narrated the estranged identities of traditional women in different spheres. Though the differences in culture and language made them different, they sang the saga of feminine individuality and self.

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ENDING BORDER DISPUTE OF JAMMU AND KASHMIR THROUGH POLICY INITIATIVE – A PERSPECTIVE

Dr. Lt. Somya Sharma
Asst. Prof. Dept of English, GFGC, Bangalore

and

Lt. Patrick Rajkumar
Asst. Professor, Dept. of Political Science, GFGC, Bangalore

Introduction

Since her independence, India's many counter insurgencies have lasted twenty years on an average, double the worldwide average. The high point of Indian military history – liberation of Bangladesh in 1971 – therefore, stands in sharp contrast to the persistent inability of the country to counter the insurgencies. Pakistan's nuclearisation allowed her to escalate the militancy in Jammu & Kashmir and in recent period it has gained momentum. The element of extremism among the Kashmiri youth is on the rise and extremist organizations in India seem to be gaining strength. What could be the probable reasons for sudden rise in the militancy in J&K and possible solution to stabilize the situation?

The disturbance in Jammu and Kashmir is the longest spate of insurgency in India. The trouble started immediately after independence when in 1948, Pakistan attacked J&K and captured a sizeable part of the state. Though India was able to win it back, but due to fatal mistake of

Pandit Nehru, it failed on diplomatic front and Pakistan captured areas remained with it separated by LoC the people of Kashmir seeking complete autonomy started their struggle, which was supported by Pakistan as a part of its foreign policy. Lack of infrastructure and development in the area created dissatisfaction and disillusionment among other countrymen on Kashmiris towards militancy. Lack of trust among other countrymen of J&K who turned further alienated them from the mainstream. The state is still affected by militancy but the situation has improved considerably in past 10 years. But it is essential for the government to take necessary steps for the development of the state. Creation of job opportunities, industrialization, infrastructure development and educational facilities are some of the ways to contain the disillusioned youth of J&K. Most importantly the support from Pakistan needs to be crushed and influx of radicals from across the border must stop.

Various causes of terrorism

Various causes are responsible for the growth of terrorism. Economic and Political deprivation, social disparity, psychological depression and misinterpretation of religious codes are the chief causes behind the growth of terrorism.

1. Political Causes

It is generally believed that the nature and objectives of terrorism are political. The desire for power and specifically political power often governs the minds of individuals. Terrorism thus is used as an instrument to attain political goals. Politicization of violence secures public attention without which terrorism as a modus operandi cannot be successful. Further terrorists justify their violent course of action in the name of a common cause. The phenomenon of Political terrorism and violence may be explained using the following cycle:

Terrorism is seen as a political phenomenon because of its objectives, methodology and organization:

(a) **Political Objectives of Terrorism:**

- Liberation
- Changing prevalent order
- Maligning credibility of Government or destabilizing the Government

- Redistribution of political power
- Political control and manipulation

(b) **Methodology of Terrorism:**

The political nature of terrorism can be observed from some of the forms of violence adopted by terrorists-

- Kidnapping or killing political personalities.
- Targeting political leaders, ministers. Heads of States and diplomats
- Bombing or attacking embassies or consulates.
- Use of propaganda tactics and the promotion of the 'philosophy of violence' to attain certain political goals.

(c) **Organization:**

Group Terrorism: Democratic systems provide numerous opportunities for group terrorism. When a group concerned fails to get its grievances addressed, it takes to terrorism and undermines the political will, confidence and morale of a democratic government. In other words, aspirants of a political ideology take to tactical violence if they fail to achieve their political goals and attempt to create mass unrest and terror.

State Terrorism: State terrorism provides countries with an alternative to diplomacy. It refers to the use of terrorism by Governments to suppress their civilian population. State terrorism may be used externally to destroy or weaken foreign states' population. E.g. the Taliban regime that existed in Afghanistan deployed state terrorism.

State Sponsored Terrorism: is the form of terrorism whereby surrogate terrorist forces are functional having clandestine ties with the supporting State. Iran, Syria, Libya, Cuba, North Korea, and Sudan are among the governments that the US Secretary of State has designated as state sponsors of international terrorism. Thus politicization of violence is a major cause as well as manifestation of terrorism. Terrorism confronts modern democracies and thus poses a challenge to international security.

2. Economic Causes

The economy is the framework within which the production and distribution of goods and services takes place. The paradox before humanity

is that while we have always strived for economic equality, we have never been able to achieve it.

Inaccessibility of available resources causes agitation amongst common men. When this agitation takes violent proportions, it manifests as terrorism. The same principle may be extended to international relations because of the prevalent gap between the developed and developing world. Regional differences (intra or international) in levels of economic development lead to the usage of political violence in the less-privileged regions. With the growth of **International Organized Crime**, a growing nexus is found between drug trafficking, money laundering and terrorism. This nexus is an important factor in the growth of terrorism; thus the term narco-terrorism. Afghanistan under the Taliban regime stands as a glaring example before the global community of state terrorism as well as excessive indigo cultivation. Often social, political and economic factors behind the growth of terrorism are closely related.

3. Misinterpretation of Religious Codes

To associate any particular religion with violence is completely incorrect. At times, it is wrongly asserted that fundamentalist Islam has given a spurt to terrorism. It is the narrow-minded religious zealots who spread a cult of hate against perceived Western designs and used 'Islam is in Danger' as a rallying war cry. Unemployed and semi-literate youth are attracted to the 'gun culture' spread by numerous terrorist groups like Al-Qaeda, Intifada, etc.

4. Other Causes

a. Perception, pressure from traditional family ties and cultural values
b. Poverty and exclusion *i.e.* low educational attainment, poor qualification and job prospects, worklessness, problem with access to housing.
c. Misinformation and false perception about service provision.
d. Influence of community and faith leaders.
e. Friendship and network of gang.

Solutions to the Problem

The high rise of militancy in J&K is marked by the poor education system along socio-economic lines and disparate economic opportunities across the segment of the society. This increases the likelihood of young members of society being lured toward extremist. Moreover the presence of extremist infrastructure in J&K and uncontrolled law and order in the state further enhances Islamic influence.

Key policy intervention must target younger generation by the govt. should include the following:-

1. Education System

➢ Enhancing the quality of education rather than focussing on Madrassa system

➢ Making socio-economic aid to spread benefit to masses instead of trying it solely to terrorism.

➢ Revising visa and immigration policies for young in order to provide with constructive outlet.

➢ Consciously attempting to expose young public to other culture by re-opening information and cultural centres throughout J&K.

➢ Opening schools to provide high quality education system and encourage creative thinking among the students. With this they will definitely change their lifestyle.

➢ A sizable segment within the elite schools is attempted to the western way of life and considers them self superior and more progressive then the rest.

If the state could impart quality primary education and prepare young through specialised training in technical, industrial and service related skills, they could secure overseas employment therefore new avenues for the foreign exchange earnings. There is a huge demand of doctors, engineers and semi skilled labours in the Middle East.

2. Economic Opportunities

Since poor household in J&K tend to have higher number of children on an average especially in rural areas, that implies that exceptionally large number of young men & women are being forced to line

below or around poverty line. At least 1/10 of rural areas don't even have access to the basic facilities.

The rising inequality manifests itself in high level of underemployment for young from lower socio-economic class. Moreover the public sector's capacity to accommodate the younger generation has been constrained. Formal ban on fresh recruitment has become common. Additionally, the system has become inherently corrupt and few opening that do available are rarely awarded on merit. Children of the poor with little access corridor of power are already disadvantaged due to poor skills set and first one to be denied these prized position.

3. Improving image of Kashmiri Muslims

Above all, the image of Pak/Muslims/Kashmiris is deteriorating at very fast pace. The EU and US have already toughened their visa policies and immigration regulation for Muslims of Kashmir & Pak. unless the perception in world major capital improves; the Muslim labour will continue to be a high-risk preposition. State to arrange short visit by the Kashmiri youth to friendly country and job opportunities which are available overseas, this will create a message in the young about the new life style and flashy culture. Visit by counselors for the young people to be organised, which will force them to think in the correct path. Some mechanism should be made with other countries to allow employment to young.

4. Improving the Education system

➢ Funding of elite Private schools for the talented students who can't afford to go to school. This would remove the practice of screening students on their socio-economic background.

➢ Emphasis should be laid down to revise the syllabus and eliminating conservative biases from the text.

➢ More qualified teachers to be appointed. One avenue to explore could be to set up a programme to bring in significant numbers of foreign teachers especially those trained to teach English, Mathematics and Science. These teachers could be placed across the various levels of Public schools throughout the state.

➢ The lack of vocational and specialized training institute is a concern, which needs to be addressed broadly. Usually rural parts of the state are devoid of these facilities due to personal interest and

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government's non-involvement. The quality of training is ultra poor and numbers of schools are insufficient. Government should make five year plan to open the vocational college throughout the state.

5. Improving our understanding of extent and causes of extremism among young

Muslims- Conduct focus groups with young Muslims exploring their views on key aspects of foreign and domestic policy, interpretation of Islam. Focus group to include older and educated mainstream personalities.

6. Combating the recruitment of Muslim by terrorist organization by force.
7. Combating Islam phobia

a) Prepare communication plan aimed at combating distorted and media perception of Islam and Muslim.
b) Build information service in providing accurate representation for mainstream Islam.
c) Encourage, assist and promote mainstream Muslim communication channels *i.e.* radio station, newspaper aimed at Muslim.

8. Dialogue with young Muslims-

Project Muslim youth as role model for overseas audience and encouraging them to become spokesperson for foreign media. Encourage them to take part in local and national youth parliament.

9. Audit:-

Audit Govt. and other publicly funded organization to access the extent to which funds are reaching Muslims organizations and especially those for young muslims.

10. Ensure arrest and search under power are evidence based and intelligence led.

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JOB SATISFACTION OF SOCIAL WORKERS WORKING IN THE FIELD OF CHILD WELFARE

Mr.Lims Thomas,
Asst. Professor, Department of Social Work
St. Thomas' College, Thrissur, Kerala India

and

Ms. Rennya Chitran,
Fourth Semester Student, Department of Social work,
St.Thomas' College, Thrissur

Introduction

Social Work is a helping profession which fundamentally & radically aims to assist the individuals, groups & community to cope with their complex, socio economic and psychological problems through enabling themselves so that they can solve their problems by helping themselves. It's a profession that has been developed to administer the very large and complex human service system put in place by society. It is a scientific discipline but still requires creative and artful approach to work with individuals, families, groups, and communities that are struggling with problems.

A much-used historical definition of social work appeared in the 1959 Curriculum Study sponsored by CSWE: "Social work seeks to enhance the social functioning of individuals singly and in groups, by activities focused upon their social relationships which constitute the interaction between man and his environment. These activities can be grouped into three functions: restoration of impaired capacity, provision of individual and social resources, and prevention of social dysfunction.

Social work with children and their families is a major area of practice. Child welfare deals with complex and sensitive tasks. It is highly skilled work conducted under a specific national legal remit, although some international conventions also apply copying with the demands of diversity in family forms, cultural traditions, lifestyle choose and other factors complicate the work, especially in child protection, to a degree that is hard for outsiders to understand. Child social workers are the front line of defense, helping the children of families who are struggling with a variety of social issues, such as poverty, drug abuse, mental illness, unemployment, and homelessness. Their prime directive is to insure the health and well-being of those children, protecting them when necessary, and providing services that help their families. Working with children in these situations requires compassion, patience, commitment, and resilience. Typically, children are fearful and angry, and it's the child social worker's job to gain their trust, help them find the answers they need, provide methods for coping, and help resolve the foundational problems

Job satisfaction is central to the work lives of employees and to the effective use of personnel within organizations (*Foster 2000, Koeske et al 1994*). When satisfied at work, employees are likely to be more stable, productive and accomplished towards organizational goals. According to research, human service workers who derive satisfaction from their work are more committed and provide better services to their clients, than those who are dissatisfied (*Acker 1999*). On the contrary, literature conclude that dissatisfaction and negative interactions between individuals and their environments may contribute to lower job performance, more turnover or intention to quit (*Koeske and Koeske 2000*).

The social workers are doing great services for their society. The satisfaction level of the social workers is very important it will affect the job level of the social worker. The level of satisfaction and performance are interlinked. Social workers have great role and responsibility to the care and protection of the children. But on other hand, the social workers are also with facing high level of stress, role conflicts, issues with pay and promotion, work life balance and other issues. Depending of individuals coping mechanism, this factors may or may not affect the satisfaction. Hence this paper tries to assess the satisfaction level of social workers working in the field of Child Welfare at Thrissur district.

Literature Review

Job satisfaction has been widely studied over the years. Some of the literature is dated as early as the 1930s and has been cited in many published works (*e.g., Hoppock, 1935; Brayfield and Rothe, 1951*). French (1982) and Tziner and Vardi (1984) define work satisfaction as an affective response or reaction to a wide range of conditions or aspects of one's work such as pay, supervision, working conditions, and/or the work itself. Others define it as an affective orientation towards anticipated outcome (*Wanous & Lawler, 1972*) or a statement to describe the feelings of employees about their work (Arches, 1991).

Job satisfaction among employees in an organization has been extensively studied because it affects productivity and service delivery. Among social workers, job satisfaction is crucial because the focus of social work practice has always been the enhancement of the general well being of people. It encompasses activities which are directed at improving human social conditions and alleviating human distress and social problems. As such, social workers must not be heavily burdened with stress but be happy with their work so that they can deal with human feelings and problems using the specific skills, knowledge and values of social work practice. Job satisfaction is simply how people feel about their jobs and different aspects of their jobs. It is the extent to which people like (satisfaction) or dislike (dissatisfaction) their jobs (*Spector, 1997*).

In sociological literature, job satisfaction is defined as an overall affective orientation on the part of individuals toward work roles which they are presently occupying (*Kalleberg, 1977*). *Overall* satisfaction is directed towards the individuals' total job situation and differs from satisfaction with the more specific dimensions or aspects of his/her work role. Accordingly, job satisfaction implies a subjective and emotional reaction toward different aspects of the job, perceived as an emotional state resulting from the appraisal of ones situation, linked with the characteristics and demands of ones work (*Spector, 1997, Arches 1991*). Since job satisfaction arises from the ability to act in accordance with ones motivation, the relationship between what individuals wants from their work and what they actually gain are considered important (*Abu-Bader 2000*). The question of satisfaction from work cannot be considered without taking into account the values that people attach to their work activity (*Kalleber, 1977*). The satisfaction an

employee obtains from work is a function of his/her individual motives and values, and not only of the objective properties of that job. The values constitute potential sources of job rewards such as enjoyment of the tasks themselves or gratification received from helping people, reflecting the workers desire to be stimulated and challenged by the job and to exercise acquired skills at work.

According to literature, dissatisfied workers may develop withdrawal intentions and their contribution to the organization will often be minor (Freund, 2005). On the other hand, social professionals who derive satisfaction from their occupation are likely to be more committed and provide higher quality services to their clients, than those who are dissatisfied (Acker, 1999). Satisfied workers are characterized as employees who feel that they have sufficient opportunities for professional development, proper guidance and a proper reward system (Bussing, 1999). They also tend to stay in the organization, contribute and invest their skills

Methodology

The design of the study is descriptive in nature, which is to describe the job satisfaction of social workers in the field of child welfare. Descriptive research design is those studies which are concerned with describing the characteristics of a group include relationships, pay and promotion, role conflicts, stress etc. The researcher could able to study the relationship with their co-workers and superiors, working environment and pay and promotional opportunities of the social workers. The sample collected through census method which includes 51 respondents. The universes of the study consist of all the social work professionals working in the field of child welfare at Thrissur District. The researcher used self-prepared questionnaire based on the objectives to collect the data from the respondents. There were 37 questions in questionnaire to assess the Job satisfaction of Social workers working in the field of Thrissur District.

Results & Discussions

The collected data was analyzed and interpreted with the help of statistical tools. Regarding the demographic data of the respondents, 65.75% are females and. And only 37.26 % males are working in this field. About the marital status, 52.9% the respondents are married and 47.1% of respondents are unmarried.

Out of total population 88.24% of respondents are satisfied with the current scope and nature. And 9.80% of respondents are not satisfied with their current job scope and nature and 1.96% respondents are not applicable to this. Results also shows that 58.8% of respondents getting chance to promotional opportunity form their job. And 19.6% of respondents did not have any promotional opportunity from the job and 21.6% of respondents are not applicable. Majority of the respondents are satisfied with the current scope and nature of the present job as well as the promotional opportunity.

Frequency
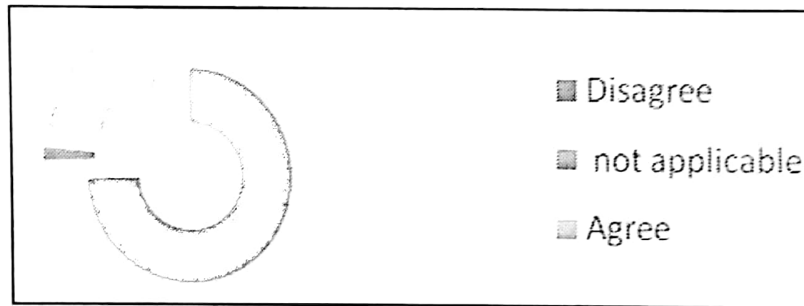
I am satisfied with the existing remuneration packages

Above graph shows about the remunerations scales, 74.51% of respondents are not satisfied with their salary and other benefits and 23.53% respondents are satisfied with their pay. For 1.96% respondents, it was not applicable. It's to be noted that Majority (74.51%) of the respondents are not satisfied with the remuneration packages. Many literatures clearly show that the remuneration packages play a vital role in employee's job satisfaction. Regarding the existing staff benefits, 54.90 % of respondents are not satisfied with their existing staff benefits and only 39.27% of respondents are satisfied with their benefits. And it was not applicable to 5.88% of respondents

The results shows that 66.7% of respondents having desirable work environment and 17.7% respondents having undesirable work environment. It was not applicable to 15.6 % respondents. Out of 51 respondents, 68.63% are satisfied with the cohesion of work unit and 23.53% respondents are not satisfied with the work unit. It was not applicable to 7.84% respondents.

Regarding the total working hours, 68.63% of respondents satisfied with their working hours and 31.37% of respondents are not satisfied with their working hours. Majority respondents are satisfied with their working hours. It's clear that work environment, cohesion of the work unit and working hours will definitely affect the Job satisfaction.

About the supervision and feedback which the respondents are receiving, 88.3% respondents were satisfied with the supervision of their supervisor regarding their work performance and 1.9% of respondents are not satisfied with the supervision. And it was not applicable to 9.8% of respondents. The results of current scope and nature of the present job and supervision and feedback from the supervisors are approximately near. We can assume that supervision and feedback from the supervisors will definitely affect the job satisfaction of the employees.
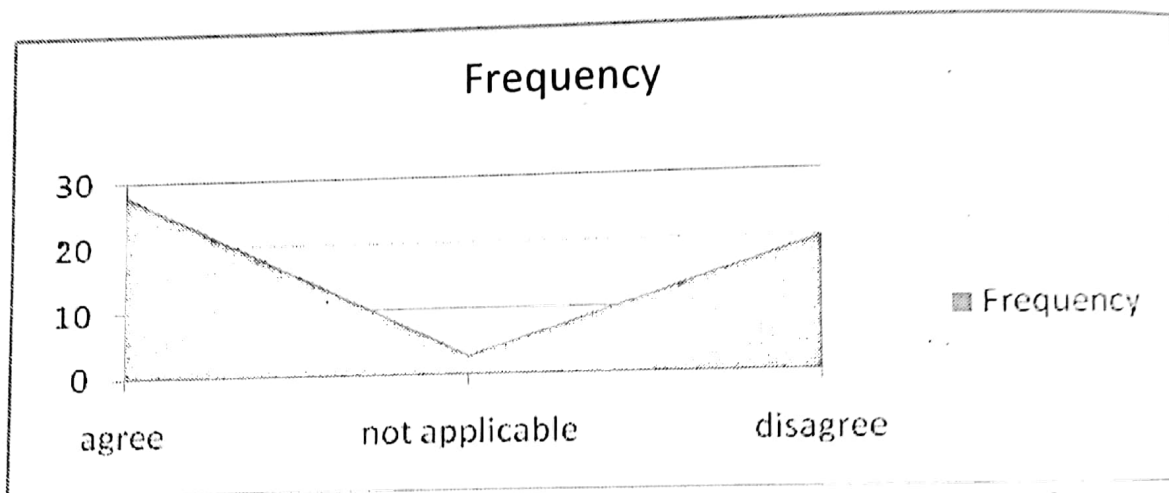
I am satisfied with my colleague's recognition about my work performance

Many literatures show that Colleague's attitude and their recognition will directly affect job satisfaction of the respondents. The above graph depicts that 80.39% respondents are getting colleagues recognition regarding their work performance, 13.73% respondents are not getting colleague's recognition regarding their work performance. It was not applicable to 5.88% respondents.

All the respondents (100%) are very clear about their roles and responsibilities in their job. It denotes that they are well aware about their job and their responsibilities. It will positively affect the job satisfaction of the employees.
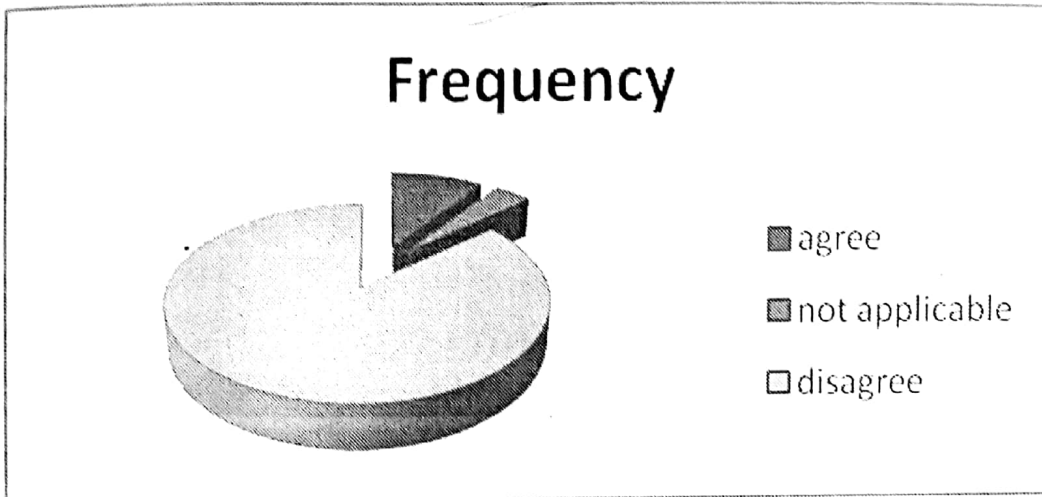
I have role conflicts between my job and family

The above graph depicts about the role conflicts of job and family. 80.39% responded that they have no role conflict between the job and family. Only 9.80 % of respondents having role conflicts between job and family and it were not applicable to 9.81% respondents. Role conflicts may negatively affects the job satisfaction of the respondents.
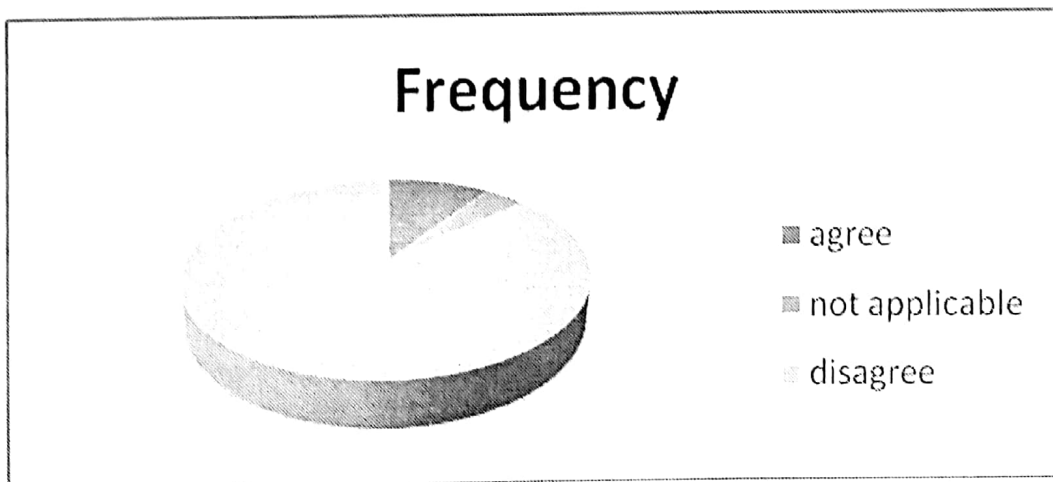
I gain personal growth and development from the job

This would be one of the interesting results which this research can bring out. Above graph explains about the personal growth and development which the respondents are receiving from their job. Only 5.88% of respondents are getting personal growth and development from their job and 94.19% of respondents are not getting personal growth and development. This question was not applicable to .07%.

Results regarding coping with stress, 92.16% of respondents can cope with their work stress and 7.84 % of respondents can't cope with their work stress. Results explains that 82.35% of responded that their job is challenging and 17.65 % responded that their job is not challenging for them. Two Third of the respondents said that their job is challenging.

Frequency
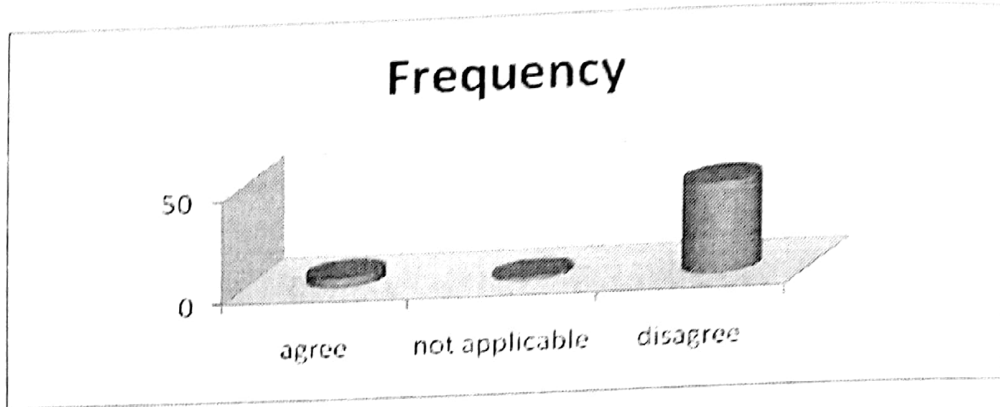
I am satisfied with my job as whole

The above graph shows that the satisfaction of job as whole. 66.67% respondents satisfied with their current job and 27.45% respondents not satisfied their current job. This question was not applicable to 5.88% respondents.

Respondents	Frequency	percentage
Yes	19	37.26
No	32	62.75
Total	51	100

Do you plan to quit the job within 12 months?

The above table describe about the response towards a question *Do you plan to quit the job within 12 months.* Out of 51 respondents, 19 says that they're planning to quit their job within one year and for 32 respondents, they're not going to quit their job within one year.

Conclusion

The results of this study show the importance of investigating the relationships between the variables that explain job satisfaction among social workers. Given that relationships were found between the variables analysed, there is a clear need for further studies using a holistic approach in order to investigate the real influence of all the elements found in the

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work context on social workers. The study assessed the job satisfaction level of social workers which has given special emphasis on relationship between co-workers and superiors, pay and promotional opportunities, working environment and the professional growth. It is clear that the satisfaction level of the social workers is very important it will affect the job level of the social worker. The level of satisfaction and performance are interlinked. Most of the social workers are satisfied with their job and its' responsibilities. But they're not satisfied with the remuneration which they're receiving for their work and also about the growth opportunities. Social workers are basically working for the upliftment of the individuals as well as society. So it's necessary to address the issues mentioned. Because of the census method which the researcher has been applied, these results give the clear ideas about the social workers are working in the field of Child Welfare at Thrissur. It's important that the social work fraternity along with the government to take necessary steps to increase the job satisfaction level of social workers especially in the areas of remuneration as well as growth opportunities. Then only we can demand & expect the best service from the Social Workers.

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FEMINISTIC READING OF THE BIOGRAPHY:
SNEHABALI ATHAVA ALPHONSA

Teresa J Heloise
Dept of English, Little Flower College, Guruvayoor

Even in this twenty first century we live in a male dominated society where patriarchal power still holds the 'key' to the doors and windows of 'freedom', self-identity and expression. It has been prevalent in every part of the world among all classes in varying degrees and at all times. The social status of women depended on their men. The religious traditions ascribed for their humility and subordination to men in all matters. They were denied the opportunity of education and refinement. Except a few women of the upper classes the lives of ordinary women were not worth living. The Christian missionaries have played a significant role in the upliftment of woman to a certain extent. Their contributions catalyzed and mediated by new languages and practices helped in the gendered religious encounters in an era of developing moderrnities. Even then it is pain staking to note that the practices revolving around the respectable home "privileged women's enclosure over mobility, self - restraint over spontaneity, and self denial over self indulgence" (Kent 4)

In India, it is assumed that women enjoyed equal rights during vedic period and that this status declined by and by. It is pertinent to note here the contradictory statements in the sacred texts of vedic times. Manu said that where women are honoured the gods are pleased but where they are not honoured no sacred rite yields any reward. But the same Manu has formulated the theory of sacred tutelages of women when he said that women have to depend on her father in her child hood, on her husband in youth and on her sons during her old aged and no women is fit for freedom. He further adds that women are able to lead astray not only the ignorant but also when the learned men and make him a slave of bust and anger.

Manu wanted to consider women as things of possession unqualified to enjoy freedom. Instances from the great Indian epics drive home the fact that women no matter which class they belong, were considered as a possession nearly equaling land, gold or cattle. The ancient texts promoted male dominance and it was hallowed by custom and traditions. The elements of patriarchy originated from religious scriptures still exist today. The brahmanical texts advocated the supremacy of men and women were assigned a passive role as vehicle for the production of sons. Hindu scriptures also subscribed the view that women are inferior and needed to be strictly disciplined in order to curtail their inherently evil and weak Characters ((Kosambi 35)

Christianity was brought to Kerala first by St. Thomas, the apostle of Jesus Christ, 52 years after the death of Christ. The apostle established churches in Malabar and Travancore. It is believed that St. Thomas converted Namboodiries with a miracle at Kodungalore. The high caste Namboodiries who were converted by St. Thomas formed the Syrian Christians along with Christians from Syria who joined them in course of time. They used Syrian language for the Church services, hence the name. Later on St. Francis Xavier, a European Missionary took up the torch. After him Tobias Ringel Taube and Charles Mead belonging to the London Missionary society look up the task. They converted Nadars at south Travancore and in the initial years itself village after village, people accepted Christianity. (Kent 43). But all these new Christians continued in their Hindu customs and traditions. The Namboodiries converted to Christians always enjoyed the upper class status. They were prominent in all spheres of life and occupied highest ranks in the state on par with Brahmins (Chamappilly 251).They developed a new Christian form of Hindu religious and cultural practices and along with all these they also carried the stigma of gender bias into the new religion.

Snehabali. Athava Alphonsa published in June 1947 is the first biography of the first Indian woman saint St Alphonsa. Written by the saint's spiritual guide and postulator for her beatification, Rev. Fr. Romulus, it brings out minute first hand details of the saint's life. Even though the biography was written for the process of beatification and highlights the virtue and spirituality it still sheds light on the era in which she lived and the social cultural trajectory of the time. It is following those lines the paper

delineates the gender relations among the Syrian Catholics to whom St Alphonsa belonged.

St Alphonsa was born as Annakutty and lived in the context of the socio - Political and cultural milieu of the kingdoms of Travncore and Cochin, which later on became the state of Travancore-Cochin on July 1, 1949,culminating in the official declaration as the State of Kerala on November 1,1956. She was a daughter of the syro - Malabar Christian heritage who joined the congregation, at that time known as the "congregation of St.Clare" (Franciscan Third order), currently the Franciscan Clarist Congregation. (Segalla 35)

Alphonsa was born at Kudamaloor to Joseph Muttathupadathu and Mary Puthukary. After the death of her mother just 3 months after her birth, Annakutty was looked after by her paternal grandmother for 10 years and after that by her maternal aunt. She joined the Franciscan Clarist Congregation at Bharananganam. She lived a heroic life of virtue by patiently enduring her suffering with a vision of faith and offering her life as a victim of love. "Snehabali" sheds light on the Kerelean scenario from 50 years before Independence of India. The book was first published on 23rd June 1947 three months before Indian Independence.

On close observation of the text one can find five kinds of relations between man and woman in the post independence scenario of a Syrian catholic community.

In the very outset of the book the saint is introduced as a little beauty. Beauty was one of her unique trait, but the mention to it as "Naturally many desired to make it their own" (Romulus 3). Similarly when mention about marriage is made always the girl is "given" in marriage to the boy. The relation between man and woman as the possessor and property is reflected through such usage. Girls were married of by the age of 9 to 14. Bing married away in between that period was considered respectable in the society. The chief end of every girl was to be married off at this age and belong to someone of a noble house hold.

Annakutty's foster mother, who is her maternal aunt, loved her as her own daughter. She wanted her daughter to be an excellent woman- and an excellent woman according to her was to be an excellent home maker.

The social norms had set a frame work in the aunt's mind as to what an ideal woman is .She insisted and trained in various things to achieve this end.

"My Child should not be lacking in anything. No one should be able to point a finger at her" (Romulus 7). She should grow as a good girl, an ideal woman, a very good homemaker that was Annama's wish. And the training for this was a bit tough, as explained by Annakutty herself.

My mother used to scold me even for very small mistakes. For no reason was I allowed to justify myself. My mother did not allow me any liberty... I had to speak always in a subdued voice... Many times I walked up and down the kitchen. I was not allowed to come to the front side of the house. (8)

A good and ideal woman is expected to speak low. Never raising her voice or justify herself. This is why Annama trains her daughter to be mute. She herself who was very bold is silent before her husband. The husband has the last word. This could be seen in the incident when Paulose, Annama's husband intercedes for Annakutty's cause and asks others not to force her for marriage. Why is such muteness practiced? It is simply because man is considered superior and woman the inferior. Similarly a girl is taught to do the house hold chores like cleaning, cooking, sewing etc., diligently. This is to make her a befitting tool to be of service to her husband and her husband's household. All this leads up to the conclusion that the woman is only a server to the man. That is her sole goal.

Annakutty is given sufficient education but the aim of we education is not to make her something very remarkable and enable her to stand on her own feet. It is only to help the man to improve his status by possessing an educated wife. Whereas boys are not educated for this purpose. All four of Annamma's boy were highly educated and let to have their own dreams achieved. One of her cousin was an MLA (10).

Another interesting fact is, a girl is not allowed much to decide about her own life. Even in the very important things of her life she is not given the freedom of choice. This is very evident in the incident of Annakutty's betrothal. She is not allowed to express her opinion leave alone rejecting it (16). In those days it had been a difficult task for a girl to speak about such important matters, and to speak it out to a male elder was

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almost impossible. The conversation with her foster father and her inability to complete her request and her subsequent fainting at the end of the request (17) indicates the gravity of this matter.

Harassing of a woman or seeing her as an object to overpower was common in those days also. Alphonsa's life displays to such very explicit events in her life. Once, her cousin Mathew threw a party for his friends and collaborators at his home, on being elected as a MLA of the state. Many politician as well as many young people of the area, and of the same age as Mathews, were invited to the party. One of the youth feeling perhaps a little tips and goaded by the atmosphere of merry making ,saw Annakutty going into the store room to get something for her aunt .The youth followed Annakutty stealthily, and once inside the room behind her ,he blew off the candle ,took her by hand and spoke rapaciously to her. Astute as she was, and sensing the trap she was in, she pretended to accept the invitation saying, "Look, if m aunt doesn't see me, she will come here in search of me. It is better I take this stuff to her and then return."Saying this she got out of the room artfull, locked the door and reported the matter to her aunt who in turn told it to her sons who took the youth to task (29).

Another incident records a misbehaviour on the part of a doctor whom Alphonsa had consulted.(39). Being a woman belonging to the Syro - Malabar Catholic and also being a member of a religious congregation improved the status of Alphonsa as a woman. Syrian catholic woman were given heir ship of property in the absence of male heirs much earlier than women of other religions. This was in accordance of the synod of Diemper held in 1560.Alphonsa,s mother Mary and her sister Annama are introduced as the heirs of their father's property in this book (3). Being a religious Alphonsa also got opportunity for higher education. In those days there were only very few woman in teaching field or any job for that matter. Religious women got this opportunity abundantly. Alphonsa was a teacher and taught in the Vagakad School for some time. Similarly religious woman had responsible relations with outside people. Both men and women, high or low approached them for prayers and spiritual support. Religious women were revered highly. Alphonsa had many pen friends which included Bishops and priests and the relationship was based on mutual reverence. This is clear from all hear available letters.

By the time of independence women enjoyed better status than previously in the role they played in the society and pertaining gender relations. At least a few women had become poetess, literary authors, actresses, a person with honours, administrators. These were the possibilities of talented women in India mentioned by Fr Romulus in the homily he gave at the saint's funeral. (33)

Gender is an issue, and gender roles finally places women at home. Change in the already set norms might take a long way. Some of the major problems in the way becoming long is, we do not know which way we should take, what equality is and how a balanced society respecting gender rights can now be formed.

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THOUGHT, ART AND GREENERY:
GREEN NARRATIVES IN THE FILMS OF HAYAO MIYAZAKI

Lovji K.N.
Lecturer, Department of English
Vimala College, Thrissur

Famous Japanese director and animator Hayao Miyazaki has produced many animated movies, all with wonderful animations, color and stories. Each and every film of Hayao Miyazaki present a new concept made to move and tell their narrative through their thoughts, movements and the very world that the story lives in stressing on nature and its greenery. What attracts them to the audience's eyes are not only the use of color and the character designs or what kind of stories he come up with, but Miyazaki's use of fakeness and realness and how they co-exist without any conflict. He allows elements of realness like people and nature to give the audience a sense of the real and connections to the characters as well as the world they live in. The actions that Hayao Miyazaki makes the character take are realistic even though the characters are fake, allowing the audience to "read" the minds of the people in the story, making them feel more real to us.

The essence of a movie has to get down to the consciousness of the viewers and make a conflict sprout in their intellect from which has to come an argument and a solution. When the intention of the film maker is more than movie making their springs a sincere appeal of art towards humanity. For Hayao Miyazaki, an animator and storyteller, the appeal is towards raising ecological consciousness in the minds of the people who doesn't know the value of the soil underneath their feet. He has a cultural and ethical dimension in his films that is sorely lacking in all but the most specialized movies of any genre. Having viewed many of his beautiful films, we are struck by the clarity of his message on ecological and societal

problems, even when those problems are rather complex. Given this clarity and the consistently high quality of his work, there is a great potential for important lessons to be learned from several of Miyazaki's films with ecological themes.

Hayao Miyazaki's films often emphasize environmentalism and the earth's fragility especially in the context of critiquing development and pollution. In *My Neighbour Totoro*, the great tree tops the hillside on which magical creatures reside and the family worships this tree. His ecologic consciousness is echoed in *Princes Mononoke* with the giant primordial forest, trees, flowers and wolves .In *Spirited Away*, Miyazaki's environmental concerns surface in the stink spirit, a river spirit who has been polluted and has to be cleaned in the bath house.

Miyazaki's inspiration for this scene was a personal experience of his own when he helped to clean a polluted river near his home. This theme is also reflected in the story of the river spirit *Haku*, whose river had been destroyed by a building project. In Miyazaki's most recent film *Ponyo*, Ponyo's father shows a strong dislike for humans and their filth. This is evidenced by the disgusting condition of the bay area where *Sasuke* lives and the net catching nothing but garbage that also forces ponyo into a glass bottle.

In each film the conflict between the natural way of life and the military destruction of culture, land and resources is central to the plight of the protagonist. When battle scenes are shown in each, the militaristic music and ecological destruction is paramount to the endangerment of the inhabitants of the villages. According to Miyazaki modern culture is "thin, shallow and fake" and he looks forward to an apocalyptic age in which "wild green grasses" take over. Growing up in the Showa period was an unhappy time for him because the nature, mountains and the rivers were being destroyed in the name of economic progress and this eventually infused in him the need to seriously bring the attention of the world to this issue.

Water or more specifically retrograde fluidity is a recurring theme in opposition to the Ascension symbolism. His characters are often on the verge of incorporating into liquid entirely from the stink demon to the river dragon spirit *Haku* in *Spirited Away* and the god warrior at the climax of *Nausicaa* to the globular Hench man of the witch of the waste in *Howl's*

Moving Castle. This conflict between the themes of watery dissolution and flight in the sea planes of *Porco Rosso*, the heroes being able to navigate through both the worlds, Water symbolically represents the contradictions of entrapment and freedom, life and death.

Miyazaki has stated his warm appreciation for Shinto water purification rituals and these have been cited as the inspiration for the role of water in *Spirited Away*, the character of *Haku*, the river dragon and the polluted river spirit; and the setting and function of the bathhouse itself. Rain as an element is also a key plot devise in both *Kiki's Delivery Service* and *My Neighbour Totoro*. Hayao Miyazaki's major films directed at explicitly environmental or ecological subjects are Chinatown, China Syndrome, Blade Runner, Silkwood, Dune, Akira, Gorillas In The Mist, Milagro Beanfield War, Fire Down Below, A Civil Action, Erin Brockovich etc.

Hayao Miyazaki is a famous animator, film director and producer whose recent films are the all-time most viewed in Japan. He has received several major awards for his works, including: the Saturn Award from the Academy of Science Fiction, Fantasy and Horror Films in the U.S. (2001); the Golden Bear Award in Germany (2002); the Academy Award for Best Animated Feature Film, Silver Scream Award from the Amsterdam Fantastic Film Festival, and the Broadcast Film Critics Association Award (2003). Before we discuss the ecological themes of some of his major films, however, it will be instructive to consider his background. Miyazaki was born as the second son in Tokyo in 1941. When attending elementary school he had strong interest in Tetsuji Fukushima's bmangaQ (comic strips).

His father often took him to movie theaters when Miyazaki was a junior high school student. Once he entered senior high he started to master the art of painting. Miyazaki became interested in animation at the age of seventeen when he watched Hakujaden, the first color animation movie created in Japan. After graduation from the faculty of economics at Gakushuin University in 1963, he started to work for Toei Animation. According to Miyazaki (1996), the Japanese people have a strong tradition of telling stories of politics, economy, religions, arts, wars, and other human affairs using Emaki (a method of telling a story with a combination of paintings and words) to portray events such as those during the the Heian Period (794–1192) and the Kamakura Period (1192–1333). Miyazaki is clearly a follower of the Emaki tradition.

One of Miyazaki's favorite places for walking is the Meiji Shrine in Tokyo, which is surrounded by evergreen oak forest. The trees in the deep evergreen oak forest were collected from all area of Japan during the Taisho Period (1912– 1925). The Meiji Shrine can be an important example for the fact that if we have strong will, we can recover forest within a short span of time. He reminds us that after all we all come from forest. Miyazaki is also involved in the national trust movement, such as the Totoro Home Country Foundation, to preserve the forests in Japan. His ecological thoughts are epitomized in his on words thus,

> We need courtesy toward water, mountains, and air in addition to living things. We should not ask courtesy from these things, but we ourselves should give courtesy toward them instead. I do believe the existence of the period when the power of forests was much stronger than our power. There is something missing within our attitude toward nature (Miyazaki, 1996).

Nausicaa of the valley of the wind (1984) is his masterpiece with a central environmental message, and is based on a full-length manga by Miyazaki himself. As in his later films *Princess Mononoke* and *Spirited Away*, Miyazaki portrays the central character as a strong woman, in this case one who fulfills an ancient legend to end all wars and tie the strings of the earth together. *Hukai* (literally meaning a rotten sea) is a new type of ecosystem that was once destroyed by a ruined civilization. *Hukai* was a device contrived 1000 years ago to purify the environment. Ecologists who contrived this device, however, could not predict how *Hukai* might change over time. In this film, *Nausicaa* plants many plants in her room brought from the *Hukai*. Perhaps adults cannot understand her ideas. But *Nausicaa* seems to realize the significance of the connection between a pure world that exists under the bottom of the *Hukai*, and that nourishing plants brought from *Hukai* can again thrive in the human world.

My neighbor Totoro (1988) is a typical of the majority of his work in that it is clearly targeted to children. *My Neighbor Totoro* is a letter to himself, and to his own childhood during which he could not have any respect toward green plants and regarded them as a symbol of poverty. However, Miyazaki's view on Japanese cultural background drastically changed after he encountered *Nakao*. Since then Miyazaki has held a deep

love for the world of plants as a symbol of complexity and diversity. In this animation, we see a very big camphor tree that is an imaginary scene Miyazaki has been wondering about since he became interested in nature and its functions after he turned thirty. When Miyazaki created the character *Totoro*, which is a giant forest spirit that looks like a huge bunny rabbit, he decided the animal's face must not reveal what it is thinking. We need someone or something such that the existence of it per se (even without actual interaction with it) has strong meaning or warm feelings for us. For Miyazaki, this character *Totoro* might have something in common with Mr. Sato. Miyazaki also got a hint for *Totoro* from *Acorns and a Wild Cat* by Kenji Miyazawa, who is well known in Japan for his devoted life to improve living standard of farmers based on Buddhist thinking.

Miyazawa also wrote many interesting books, some of which have been translated into English and French. Miyazaki does not create this animation movie because of his nostalgia about its scenes typical of Japan in the 1940s and early 1950s. Rather he wishes that this movie will induce children to run in the forest available or to pick up acorns as the sisters Satsuki and Mei do in the movie. He also wishes that children will go behind a small shrine still with some forest left.

The film *Princess Mononoke* (1997) is targeted to an older audience, as it contains violence and more complicated themes. *Princess Mononoke* (called San) can perhaps be regarded as a culmination of Miyazaki's ecological views, symbolized as the uncompromising relation between forest of evergreen oaks and human appropriation of nature through *Tatara* in Japan. San is a girl who was raised by wolves and develops a bitter attitude toward human society. The main scene, located in the Izumoarea (Shimane Prefecture), is the *Tatara* iron works surrounded by deep evergreen oak forest. Tatara is the iron producing technology using iron sand of high quality. Miyazaki seems to create a new type of hero entirely different from typical Samurai movies. The hero in this movie, *Ashitaka*, is adopted from *Emishi* whose clan used to live in *Tohoku* area and was ruined by the Yamato Dynasty about 1500 years ago. The scene was set up as if it were during the Muromachi Period (1338–1573). At the beginning of the movie, *Ashitaka* is cursed by a *Tatari Gami* (a boar god). This was a huge monster covered with black snakes or worm-like feelers. The *Tatari* appeared because *Lady Eboshi* (the head of *Tatara* place), who is responsible for forest destruction, shot a big wild boar that was considered

as a guardian for the oak forest (in which *Shishigami* was the god of oak forest). A curse by the *Tatari* represents a mythical belief of the Japanese that the forest is full of gods who occupy superior position to humans, and that when humans are aggressive against the forest the forest god tortures humans in return.

However, after invention of iron producing technology *Tatara*, the relation between forest and humans is overturned. At the ending scene, after *Shishigami* recovered her head which was shot off by *Eboshi*, *Shishigami's* body was scattered throughout the dead forest and the forest began to recover again. Unfortunately, the severe co-evolutionary tension between the oak forest and *Tatara* place remains as a separate life of the two protagonists in the movie: *Ashitaka* who lives in *Tatara* place and *San*, who would never forgive humans and stays in the forest. Her hatred toward humans never disappears. Oak forest and *Tatara* place remains as a separate life of the two protagonists in the movie: *Ashitaka* who lives in *Tatara* place and *San*, who would never forgive humans and stays in the forest (McCarthy, 1999). Her hatred toward humans never disappears.

"*Spirited Away*" is the best known film of the same genre by Miyazaki. It has received substantial play and accolades in North America and Europe, and is the most widely seen film ever in Japan. Its beautiful colors and imaginative characters remind the viewer of Fantasia and Alice in Wonderland. While the main focus is the misadventures of a scared little girl who gets separated from her parents when they turn into pigs after gorging on a banquet they find in a deserted amusement park, while traveling to their new home. Miyazaki introduces ecological elements as a subtle but important subtext here. The girl, *Chihiro*, ends up in a bathhouse in the spirit world used to replenish all varieties of spirits but is surrounded by Roman-style feasting.. The environmental messages become clearer when *Chihiro* encounters two strangers. First, she is asked by the keeper of the bathhouse, the evil witch *Yubaba*, to tend to a stink spirit in need of a major cleansing. It is very large, dirty and smelly and scares off the other guests and staff. It is only allowed into the bathhouse because of its great wealth.

The stink spirit is entangled with an incredible array of garbage and discarded metal objects. It turns out that this entity is actually a river spirit that has lost its identity because the real river was filled for a housing development. The viewer later learns that the river spirit is none other than

Master *Haku, Chihiro's* friend from the moment she entered into the spirit world. He is puzzled by her lack of interest in his gold offerings, and her contrast with everyone else in the bathhouse. As he eventually learns this lesson, No Face finds happiness during a visit to *Zaneba, Yubaba's* more benign twin sister, and shows his knitting skills! Eventually, *Chihiro* is reunited with her parents who are turned back into humans, and as the film ends the viewer is left wondering what is real and what is imaginary.

Miyazaki's involvement as a producer of the Story of *Yanagawa Horiwari* is not well known. This documentary movie was directed by *Isao Takahata* in 1985 and finally released as DVD form in December 2003. *Yanagawa Horiwari* is a network of narrow canals in Yanagawa City, Fukuoka Prefecture of Kyushu. *Takahata* was impressed with the tremendous effort of Tsutae Hiromatsu , who worked for the *Yanagawa* Municipal Office, to stop the plan to fill in *Horiwari* due to serious environmental degradation in the late 1970s and tried to preserve *Yanagawa Horiwari.* The Yanagawa area used to be a lagoon and gradually became low land for cultivation. Horiwari dries up each winter and then a lot of mud is utilized as manure.

In *Princess Mononoke*, the complexity and richness of the story, not to mention the brilliant artistic depiction, provides critical viewers with a world in which an environmental problem has begun to impact people disproportionately. This situation is known the world round and Miyazaki's ideology helps to bring it into focus. . A discussion of *Princess Mononoke* might explore how the experience of *Tatara*, the mysterious result of forest destruction, is not shared equally among the characters of the film. Miyazaki's attention to complexity and creation of pseudo-historical environmental conflicts in Japan allows him to draw viewers into the difficulties of real environmental problem solving.

Miyazaki not only shows us courtesy of the forest, but how that relationship also dictates courtesy toward each other. This film may help critical viewers to consider issues surrounding in addressing environmental problems. Through *Spirited Away*, Miyazaki masterfully creates mysterious connections between remediation and the politics of environmental problems, over-consumption, and sense of place. The characters' abstracted identities allow Miyazaki to craft a story that can give substance to discussion that relate the process of personal growth of little *Chihiro* and her

ability to solve environmental problems as well as those of political organization inherent in a democracy. The associations in the film are loose but they provide for an almost magical encounter with real feelings that society faces.

The historical background on Hayao Miyazaki, his ideological growth concerning the environment, and his passion for the art of animation demonstrate that he has made significant contributions in environmental education accessible to a wide range of audiences. His notions of environmental courtesy pervade all of his films giving audiences many ways to become familiar with this philosophy. He not only helps us to recognize the complexity in our world but he presents a humble humanity in which to address it. His ability to depict power relationships so eloquently, demonstrates his mastery in the production of animation but also his passion for sharing his understanding of contemporary environmental problems.

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THE NUANCES OF HARDY'S TRAGIC PERSPECTIVES

Minu Thomes

Thomas Hardy found life full of misery, mishap, and misadventure. He could find no solution for the innumerable problems of life and in his novels; he frankly portrayed the helpless condition of people in the world. Hardy, who was greatly pained by the state of things, devoted his art for the search of the cause of miseries but could not find any satisfactory panacea for people's unhappiness. In the world of his fiction the sky is full of dark, gloomy clouds and even the momentary gleam of sunshine is not unaffected by them. The vision is fundamentally tragic.

Hardy's tragic vision is seldom depressing. It is always elevating. Hardy's tragic novel does not dishearten or discourage. In the words of a critc, "it is elevating, and stimulating. It does not shake our faith in life, all the more it strengthens us. It doesn't make us light-hearted but makes us wiser and better" (Kettle, Arnold 15). Though a Hardesque tragedy leaves an impression of tragic waste, it certainly does not leave a sense of moral dissatisfaction. Much good is wasted at the end; but evil gets its own reward. In TD Alec is killed in the end. Even Angel Clare is a loser. His heart is totally broken when Tess is hanged. But the real tragedy is seen when Tess's soul suffers and is crushed in the end. Thus Hardy's tragedy is a soul-tragedy. It reveals to us the essential nobility and greatness of the human soul. Henchard may look like a beast at times but he reaches Aristotelian heights.

Hardy combines in his novels some qualities of Aeschylus, Sophocles, Homer, and Shakespeare, the ballad-makers, the Gothic novelists, and the sensational serial-novelists. He believed that each "new style of novel must be the old with added ideas, not an ignoring and avoidance of the old" (Hardy, F.E 218). So we find him adding his own

" ideas and experiments" to the novel as he knew it. Henchard's selling his wife to a sailor and then the sailors coming back to claim his daughter after so many years, are also reminiscent of ballads. Gothic influence is also traceable in some passages and descriptions of Hardy's novels. In TD, when Angel and Tess drive with the milk to Wellbridge, they can see the tips of the fir trees on the summit of Egdon Heath "like battlemented towers crowning black-fronted castles of enchantment"(TD 212) In some passages, Hardy's novels take us back to Milton and Shakespeare. "In Tess references to Adam", Eve and the serpent recur. In. MC, the "haggard", "wrinkled" furmity-woman with the "three-legged crock" who "occasionally croaked in a broken voice" (MC 26), reminds us of the witches of *Macbeth*.

. Hardy consciously tried to bring in qualities of the tragedies of Sophocles, and Aeschylus in his works. While writing Tess, he jots down points of contrast between the situation of his heroine and Clytemnestra. E.P Dawson, in his essay *Thomas Hardy-the Modern Greek* points out the similarity between Homer and Hardy (Yale literary Magazine, 356). Similarly, some critics have seen MC as a traditional tragedy in line with Oedipus, Lear and Hamlet, but at the same time A.J Guerard says that it is "a very modern dramatization of an impulse to self- destruction, of what Hardy called Henchard's self-alienation"(Guerard 4). The wavering between faith and disbelief, sexual maladjustment, alienation from society, total despair-all these are typical of our own age. So we find the writings of Hardy both traditional and modern at the same time. His method may seem very simple. And his account of the rise and fall of Henchard is significant to any time and any place.

The themes of Hardy's novels are universal and his thoughts and ideas are those of a sensitive man of his age. The scientific ideas expressed in his age filled within him, thoughts of the insignificance of human beings and the cruel state of the universe where the struggle for existence was evinced not only in men and animals but even in plants. Hardy knew that all the tragic facts of life would not matter if people did not have the capacity to feel and experience them. But he found in all nature a "determination to enjoy". Even in the leaf of a tree, there is the same wish to enjoy that we find in that most distinguished men and women. So when Hardy perceived the difficulties that lie in the way of enjoyment, he was truly grieved. The world is full of misery, unhappiness and ugliness, so he, as an artist, tried to do his best: to find beauty in ugliness is the province of the poet. But he also

believed that he must be truthful, and he must not blind himself to any aspect of the reality.

For him it was natural to write tragedies, and he thought it the most cursed thing that the artist should be compelled to write it. Together with Ruskin, Hardy believed that, "comedy is tragedy if you only look deep enough" (Guerard 154). He felt that a true artist should discover the tragedy that always underlies comedy if you only scratch it deeply enough. Hardy believed that tragedy should not have worthless people as its protagonists:

> The best tragedy-highest tragedy in short-is that of the WORTHY encompassed by the INEVITABLE. The tragedies of immoral and worthless people are not of the best. (Hardy, F.E 251)

But we must not mistake "worthy" for "noble". Even though Tess is presented as the descendant of a noble family, what Hardy means by "worthy", is nobleness of heart. And we cannot but love Henchard because essentially he is good, noble and worthy even though he errors when he lets himself be a slave to passion. And therein lays true tragedy.

Hardy sees the characters as themselves mainly responsible for their tragedies. In his fiction there are many causes of tragedies, but the characters are never blameless-they are always at least partly responsible for their situation. Hardy believed that things could be made better if man tried. But unfortunately man cannot really try. There are warring elements within him. People are destroyed partly because they have an impulse to self-destruction. Hardy is not quite clear and decided as to what is the prime case of tragedy in life. Sometimes it seems that nature causes life to be full of struggle, defeat and destruction. But at other times nature becomes a sympathiser with the sorry state of humans and its some unknown power other than nature that inflicts suffering on them. Hardy calls this power by different names-God, Fate, Chance, Prime Cause, and so on. And it doesn't matter whether one deserves his doom.

The Greeks often gives us the impression that suffering is caused by some past error. This Hardy disapproves of. In Tess he observes that "though to visit the sins of the fathers upon the children may be a morality good enough for divinities, it is scorned by average human nature" (TD 201). But what Hardy offers make us feel more comfortable. Individuals are as

flies in the hands of wanton boys, but we are killed without a purpose, not even for sport, for immanent will is an abstract power which works blindly, mechanically and unconsciously-nobody can foretell who will be the next victim of this blind power.

By his over emphasis on chance and coincidence Hardy makes the reader aware that things happen without any explicable cause. One of the worst enemies of his characters is society. Circumstances or situations also often become an obstacle in the way of happiness. Hardy too, believes that society is just a man-made institution and its rules are not in keeping with nature. In Tess he tells us that the heroine has not acted against nature, but even so she feels ashamed because society has termed such acts as being shameful. Even though he feels that society causes unhappiness to humans, he cannot blind himself to the power of society. In TD we find that society can and does inflict unhappiness on people if they go against its rules.

The decline of agriculture and the growth of industry and mechanisation also appear as causes of tragedy in the novels of Hardy. Henchard, who represents the odd order, is defeated in every walk of life by Farfrae who has learned modern ways. Hardy found modernism greatly responsible for all. Hardy's rustic world is peaceful in itself. Many of his women are attracted towards the new, modern and glamorous and they have to suffer for it. But his women are also seen to be agents of fate. Because of their beauty and charm they attract even those who are stronger than they are and play an important role in setting their courses. Some other causes of tragedy in Hardy are-fickleness of men and women, passivity and inability to take decisions, unwise love, and the antics of time and chance.

Hardy's novels, even though, seem a succession of dirges on human destiny, he earnestly wishes that the good may prevail. And when he delineates the conflicts within man and between man and the laws of the universe, he is at once a most modern and a traditional tragedian.

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WATER QUALITY ANALYSIS OF RIVER PERIYAR

Resiya Karim, Lishamol Poulose, Faarisa P.M.
Department of Bioscience
MES College Marampally, Aluva

Abstract

The study entitled 'water quality analysis of river periyar' has been taken up to highlight the deterioration of the water quality of Periyar river. The project was carried out during the period from January 2012 – March 2012 and January 2013 – March 2013. The water samples were collected from five different sites for evaluation. The water samples were evaluated by instituting various physico – chemical and biological parameters. The physical parameters include total solids , total dissolved solids , total suspended solids. The chemical parameters includes pH , alkalinity , acidity , dissolved oxygen , biological oxygen demand , chemical oxygen demand , chloride , residual free chlorine , carbon – dioxide. The biological parameters include most probable number test and enumeration of heterotrophic bacteria. The total solid , total dissolved solid and total suspended solid content was found to be higher in water sample from Site III [Chalakka] when compared to other water samples , but all of them are within the tolerance limit. The pH range of all the water samples was within the allowed range. The alkalinity of all the samples were within the desirable range in both years. Except Site III [Varapuzha], the dissolved oxygen amount of all other samples were above the tolerance limit in the year 2012 but site I and V was found to have higher Dissolved oxygen level in 2013. The acidity of all the water samples remained the same. Evaluation of biological oxygen demand level shows that Site I is less polluted and the rest sites I , II , III , IV , and V are moderately polluted. The chloride level of all the samplers were within the desirable range. The residual chlorine level in all the sites were nil. The water samples of all the sites are non – potable since the presence of coliforms was detected by Most Probable Number test. Heterotrophic bacterial population were enumerated from all the water samples by heterotrophic plate count method in the year 2013, and except site II,III [Varapuzha and Chalakka] during 2013.

Key Words : Total dissolved solids , Total suspended solids, Dissolved oxygen, Biological oxygen demand, Chemical oxygen demand, Most Probable Number test.

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Introduction

Water , the elixir of life, is a precious resource that sustains life. Despite its abundance in our planet, freshwater resource exists as a source commodity. The water bodies like rivers , lakes , backwaters and estuaries are continuously subjected to human induced changes affecting them adversely. Addition of undesirable substances from various sources into the natural water bodies causes alteration in the physical , chemical and biological characteristics of water and leads to conditions which disturb the ecological balance. The pollution of water bodies results in deleterious effects causing hazards to human health , hindrance to aquatic life and impairment of quality of water for various purposes.

Water quality refers to the chemical, physical and biological characteristics of water. It is a measure of the condition of water relative to the requirements of one or more biotic species and or to any human need or purpose. It is most frequently used by reference to a set of standards against which compliance can be assessed. The most common standards used to assess water quality relate to health of ecosystems, safety of human contact and drinking water. The parameters for water quality are determined by the intended use such as human consumption , industrial use , or in the environment. Water quality is defined by analysing it in terms of its chemical content, physical content, biological content. Water quality is determined by assessing three classes of attributes : biological , chemical and physical. There are standards of water quality set for each of these three classes of attributes.

Table 1. Water quality index ranges

90-100	Excellent
70-90	Good
50-70	Medium
25-50	Poor
0-25	Very Poor

The river Periyar is the lifeline of central Kerala being the longest and largest among all the rivers in Kerala. Periyar river is one of the few perennial rivers in the region and provides water for several major towns. It is often called as 'DAKSHINA GANGA'. It originates

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from the Sivagiri peaks of Sundaramala in Tamil Nadu. The total length is about 300 Kms [244 Kms in Kerala and 56 Kms in Tamil Nadu] with a catchment area of 5284 Kms^2 in Kerala and 112 Kms^2 in Tamil Nadu. This study evaluated the water quality of river Periyar for the successive years 2012 and 2013 as a part of social commitment to the society. Comparative assessment of the surface water quality were carried out by instituting various physico-chemical and biological parameters. The basic methodology involves Sampling, Physical testing, Chemical testing and Biological testing. Common physical tests of water include temperature, solids concentration and turbidity. Frequently used chemical methods include PH, Dissolved oxygen, biochemical oxygen demand, chemical oxygen demand, Alkalinity, Acidity, Carbon dioxide and Chloride test. The biological methods include Most Probable Number Test and Heterotrophic Plate Count. In this experiment we have used all the parameters for analysis.

Materials and Methods

For the water quality assessment of Periyar, sampling and field studies were carried out from five locations [collection sites I to V]: Aluva, Varapuzha, Chalakka, Kalady, Perumbavoor. The water samples were analysed for physico-chemical parameters and compared with the standards.

Water samples were collected in clean large polyethene cans from the selected five sites of the river Periyar. The collected samples were brought immediately to the laboratory to test the various physical and chemical parameters. To estimate oxygen content, the samples were fixed in the BOD bottles at the sites itself soon after collection. To estimate the pH, the samples were soon analysed with pH paper soon after collection and then in pH meter immediately after reaching laboratory. All the experiments were performed as per the standard protocols. The results obtained were compared with national standards.

Table2. Water quality parameters and drinking water standards

Parameter	Units	Drinking water is	
		Desirable	Maximum
Colour	Hazen units	5	25
Odour	-	Unobjectionable	-
Taste	-	Agreeable	-
Turbidity	NTU	5	10
pH Value	-	6.5 to 8.5	No relaxation
Total hardness (as $CaCO_3$)	mg/l	300	600
Iron	mg/l	0.3	1.0
Chloride	mg/l	250	1000
Residual, free Chlorine	mg/l	0.2	-
Dissolved Solids	mg/l	500	2000
Calcium	mg/l	75	200
Chloride	mg/l	0.05	1.5
Manganese	mg/l	0.1	0.3
Sulphate	mg/l	200	400
Nitrate	mg/l	50	No relaxation
Fluoride	mg/l	1.0	1.5
Phenolic compounds	mg/l	0.001	0.002
Mercury	mg/l	0.001	No relaxation
Cadmium	mg/l	0.01	No relaxation
Fluoride	mg/l	1.0	1.5
Phenolic compounds	mg/l	0.001	0.002
Mercury	mg/l	0.001	No relaxation

Table 2 continued: Water quality parameters and drinking water standards

Parameter	Units	Drinking water is	
		Desirable	Maximum
Cadmium	mg/l	0.01	No relaxation
Selenium	mg/l	0.01	No relaxation
Arsenic	mg/l	0.05	No relaxation
Cyanide	mg/l	0.05	No relaxation
Lead	mg/l	0.05	No relaxation
Zinc	mg/l	5	15
Anionic detergents	mg/l	0.2	1.0
Chromium	mg/l	0.05	No relaxation
Polynuclear aromatic Hydrocarbons	mg/l	-	-
Mineral oil	mg/l	0.01	0.03
Pesticides	mg/l	Absent	0.001
Radioactive materials (a) Alpha emitters (b) Beta emitters	Bq/l Pci/l	- -	0.1 0.037
Alkalinity	mg/l	200	600
Aluminlum	mg/l	0.03	0.2

Table 3. Water quality criteria

DESIGNATED – BEST - USE	CLASS OF WATER	CRITERIA
Drinking water source without conventional treatment but after disinfection.	A	Total coliform organism MPN/100 ml shall be 50 or less. pH between 6.5 and 8.5 Dissolved oxygen 6mg/L or more BOD 5 days 20^0C 2mg/L or less
Outdoor bathing [organized]	B	Total coliform organism MPN/100ml shall be 500 or less pH between 6.5 and 8.5 Dissolved oxygen 5mg/L or more BOD 5 days 20^0C 3mg/L or less
Drinking water source after conventional treatment and disinfection	C	Total coliform organism MPN/100ml shall be 5000 or less pH between 6 to 9 Dissolved oxygen 4mg/L or more BOD 5days 20^0C 3mg/L or less
Propagation of wildlife and fisheries	D	pH between 6.5 to 8.5 Dissolved oxygen 4mg/L or more Free ammonia [as N] 1.2mg/L or less
Irrigation , industrial cooling , controlled water disposal	E	pH between 6 to 8.5 Electrical conductivity at 25^0C micro mhos/cm Mass 2250 Boron max. 2mg/L Sodium absorption ratio max.26
	Below E	Not meeting A,B,C,D and E criteria

Result and Discussion

The water from the 5 different sites of River Periyar was evaluated for physic – chemical parameters and biological assessment.

1. Physical parameters
A) Total solids

Table 4. Total solids content in water sample

Collection Site	Dissolved solids (mg/L)	
	2012	2013
Aluva	24.8	9.9
Varapuzha	29.8	22.6
Chalakka	35.02	41.21
Kalady	0.58	0.62
Perumbavoor	2.6	3.82

The total solid content was found to be higher at site III [Chalakka] in both years. Total solid was found to be the least in site IV [Kalady].

(B) Total dissolved solid

Table 5. Total dissolved solids of water samples

Collection Site	Dissolved solids (mg/L)	
	2012	2013
Aluva	4.42	9.8
Varapuzha	16.2	22.5
Chalakka	13.22	38.57
Kalady	0.06	0.23
Perumbavoor	0.18	3.5

The Total Dissolved Solid content was found to be higher in site II [Varapuzha] in 2012 while it was higher in site III [Chalakka] in

2013. The least amount of Total dissolved solid was found in site IV [Kalady].

(C) Total suspended solids

Table 6. Total suspended solids of water samples

Collection Site	Total Suspended solids (mg/L)	
	2012	2013
Aluva	20.38	0.10
Varapuzha	13.6	0.10
Chalakka	21.8	1.64
Kalady	0.57	0.44
Perumbavoor	2.42	0.32

The total suspended solids was found to be the higher at site III [Chalakka] in 2012 and 2013. The total suspended solid was found the least in site III [Kalady] during 2012 and site I and II [Aluva and Varapuzha] in 2013.

2. Chemical parameters
(A) pH

Table 7. pH level of water samples

Collection Site	pH Level	
	2012	2013
Aluva	8.3	7.78
Varapuzha	6.6	7.77
Chalakka	6.7	8.06
Kalady	6.4	8.38
Perumbavoor	7.4	8.14

The pH value was found to be higher in site I [Aluva] in 2012 and in site IV [Kalady] in 2013.

(B) Alkalinity

Table 8. Alkalinity of water samples

Collection Site	Alkalinity mg/L as $CaCO_3$	
	2012	2013
Aluva	6	15
Varapuzha	10	15
Chalakka	4	28
Kalady	4.5	25
Perumbavoor	2	28

Alkalinity was found to be higher in site II [Varapuzha] in 2012 and in site III and V [Chalakka and Perumbavoor] in 2013. Least Alkalinity was reported in site V [Perumbavoor] in 2012 and in site I and II [Aluva and Varapuzha] in 2013.

(C) Acidity

Table 9. Acidity of water samples [2012]

Collection Site	Acidity mg/L as $CaCO_3$	
	2012	2013
Aluva	8	4
Varapuzha	8	4
Chalakka	8	4
Kalady	8	4
Perumbavoor	8	4

Acidity was found to higher and constant in all sites during 2012 while acidity was decreased and remained constant in all sites in 2013.

(D) Dissolved Oxygen

Table 10. Dissolved oxygen of water samples

Collection Site	Dissolved Oxygen (mg/L)	
	2012	2013
Aluva	7.2	6.4
Varapuzha	4.0	4.48
Chalakka	9.6	4.16
Kalady	10.4	4.8
Perumbavoor	6.4	5.76

The amount of dissolved oxygen was found to be higher in site IV [Kalady] in 2012 and in site I [Aluva] in 2013. Dissolved Oxygen level was the least in Site II [Varapuzha] in 2012 and in site III [Chalakka] in 2013.

(E) Biochemical Oxygen Demand

Table 11. Biochemical oxygen demand: BOD of water samples

Collection Site	Biological Oxygen Demand (mg/L)	
	2012	2013
Aluva	0.8	1.2
Varapuzha	2.4	0.9
Chalakka	4.0	1.3
Kalady	4.8	1.0
Perumbavoor	4.0	1.3

The Biochemical Oxygen Demand was found to be higher in site IV [Kalady] in 2012 and in site III and V [Chalakka and Perumbavoor]. BOD was found to be the least in site I [Aluva] in 2012 and site II [Varapuzha] in 2013.

(F) Chemical Oxygen Demand

Table 12. Chemical oxygen demand of water sample

Collection Site	Chemical Oxygen Demand (mg/L)	
	2012	2013
Aluva	4.8	4.8
Varapuzha	4.8	4.8
Chalakka	6.4	6.4
Kalady	12.8	12.8
Perumbavoor	11.2	11.2

The COD level was found to be constant in all sites during 2012 and 2013.

(G) Carbon – dioxide

Table 13. Carbon – dioxide level in water sample

Collection Site	Free Carbon dioxide (mg/L)	
	2012	2013
Aluva	8	2
Varapuzha	8	2
Chalakka	4	2
Kalady	4	2
Perumbavoor	4	2

The amount of carbon – dioxide was found to be higher in site I and II [Aluva and Varapuzha] in 2012. The carbon – dioxide level was reported as constant in 2013.

Table 14. Chloride level in water sample

Collection Site	Chloride (mg/L)	
	2012	2013
Aluva	55.98	24.99
Varapuzha	34.98	16.49
Chalakka	38.98	0.7216
Kalady	46.98	1.499
Perumbavoor	34.98	12.49

Amount of chloride was found to be higher in site I [Aluva] in 2012 and 2013

(I) RESIDUAL FREE CHLORINE

The water samples from all the sites were free from residual chlorine during 2012 and 2013.

3. BIOLOGICAL ASSESSMENT
(A) MOST PROBABLE NUMBER TEST

Table 15. MPN test: Potability of the water sample [2012]

Water Sample	MPN/100ml	EMB Plate [Coli form]	Remarks
Aluva	350	Positive	Non-potable
Varapuzha	33	Positive	Non - potable
Chalakka	34	Positive .	Non-potable
Kalady	140	Positive	Non-potable
Perumbavoor	280	Positive	Non-potable

Table 16. MPN test: Potability of the water sample [2013]

Water Sample	MPN/100 ml	EMB plate [coli form]	Remarks
Aluva	110/100ml	Positive	Non-potable
Varapuzha	350/100ml	Positive	Non - potable
Chalakka	≥2400/100ml	Positive	Non-potable
Kalady	220/100ml	Positive	Non-potable
Perumbavoor	350/100ml	Positive	Non-potable

All the water samples were found to be EMB positive and hence non – potable.

SUMMARY AND CONCLUSION

The analysis revealed that the water in the five sites where free from severe chemical pollution and thus suitable for domestic purposes. The water samples are non – potable since the presence of coliforms and heterotrophic bacteria were detected. The water samples can be made potable upon suitable primary and secondary treatment and teritiary treatment, if necessary.

Water quality analysis of Periyar river is of social concern since it is the major lifeline of central Kerala. As the life of people are intimately linked with the river, it's pollution will adversely affect the environment and welfare of the people in the region. It may be recalled that 'Periyar' has been a most controversial talking point in the news paper, several times for polluted water it carries.

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The study, thus brings to light the present state of the quality of water in the river Periyar. Indiscriminate discharge of domestic waste and different categories of wastes have deteriorated the water quality of the river. Undesirable practice of sand mining has adversely affected the river bed , river banks and the ecosystem. Periyar, the lifeline of central Kerala has to be protected. Effective management strategies are to be evolved and implemented to protect the river from the arms of pollution and degradation.

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