

Assessing the suitability of the Vermpirai Water Supply Wells in Thenmaradchi Aquifer in Jaffna Peninsula, Sri Lanka by Analyzing Seasonal Water Quality and Geochemical Parameters

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Abstract – Access to safe drinking water is a fundamental human right, and an essential step towards improving living standards. The National Water Supply and Drainage Board, Jaffna is supplying drinking water to around 20,000 people. However seasonal variation of groundwater quality of intake wells is a serious concern. These intake wells are comparably used for extracting more water and they are in active operation during the whole year in the identified aquifers. The main objective of the study is to assess the suitability of the Vermpirai water supply Intake wells in the Thenmaradchi aquifer by analyzing seasonal water quality and geochemical parameters with 2018 data. Water quality data of intake wells from 2013 to 2017 were obtained and the seasonal and periodical variation of quality parameters were analyzed. Seasonal water quality analyses were carried out for wet (April) and dry (August) seasons in 2018 in the intake wells and control wells from the same aquifer to see the variation of geochemical characteristics of the aquifer. All the wells are located in the sodium-calcium chloride sulphate type water, except control well no 03, which showed the mixed type water in both seasons and others were changed to sodium chloride type water in the dry season. The chloride ion concentration of the intake wells was increased prominently in the dry season, it may be due to the continuous extraction. High chloride contamination may be due to the influence of saltwater lagoons. The specific area in the Thenmaradchi Aquifer has sodium chloride type low-quality water, chloride ion, and total hardness were in high concentration and showing high seasonal fluctuation. Geochemical parameters were showing chloride ion influences other than the geological influences; this has shown that the aquifer is vulnerable to saltwater contamination. Hence, the Vermpirai scheme needs additional water sources or alternative water sources to meet the increasing demand and to protect the further deterioration due to continuous pumping.

Keywords: Aquifer, Intake well, Seasonal variation, Water quality

1 INTRODUCTION

Groundwater is considered as the most important natural water resource for human consumption, and it occurs in a large quantity in the rock formation in the earth's crust (Cooray, 1984). Groundwater is saved under the ground surface as a hidden resource, which is more reliable and also less subject to the type of year-round variation compared to surface water. Almost 80% of the rural populations in Sri Lanka rely on groundwater for

their domestic needs today because of its excellent natural quality and sustained availability throughout the year.

The composition of groundwater naturally reflects the underlying geology, the residence time in the rock, the previous composition of the groundwater, and in some instances, the flow path. Due to the slower movement of groundwater as compared to that of surface water, the composition of the groundwater shows a negligible variation with time for a given aquifer (Dissanayake, 1987).

The need for clean water as one of the most essential commodities for mankind can never be over-emphasized. The quality and quantity of groundwater monitoring is one of the most important aspects of groundwater resource management and prevention of groundwater pollution. In the case of Jaffna, people mainly depend on groundwater for their drinking, irrigation, and domestic uses. Hence attention has to be paid to protecting and conserving the existing good quality water.

1.1 Background Information

1.1.1 Geology

The Jaffna peninsula is underlain by three formations: the pre-Paleozoic basement rocks, Mannar sandstone, and the Jaffna limestone of the early Miocene age. The pre-Paleozoic basement rocks are described as massive, crystalline, igneous, and metamorphic. They can be found at a depth of 240 m. The basement rocks are overlain by the quartzitic sedimentary deposits, the Mannar sandstone formation of early tertiary up to Miocene age. Groundwater has been mainly confined to the sedimentary Miocene formation in the Jaffna peninsula (Palitha Manchanayake and Madduma Bandara, 1999). Lithologically the limestone is creamy-colored, hard, compact, highly karstic, indistinctly bedded, and partly crystalline. It is massive in places, but some layers are fossiliferous and weathered into a honeycombed mass (Cooray, 1984). The formation is almost flat bedded but may have a slight regional dip to the west, and consequently, it thickens to the west. It has a vertical thickness of at least several hundred feet, and at one drilling site in the southeastern part of the peninsula at Palai was found to be 90 m thick and underlain by a thick sandstone formation overlaying the Precambrian basement.

In the Jaffna peninsula, the occurrence of freshwater is typical of that of any small island with the groundwater lenses floating over the seawater, the thickness and the uniformity of these freshwater lenses would be greatly affected by the cavernous limestone found in the area.

1.2 Problem Statement

The Jaffna district has 16 water supply schemes. More than 20,000 people are estimated to be getting a safe water supply in Jaffna District. Daily production of the scheme is a total of about 52,000 m³. One of the water supply schemes is Vermpirai for which water sources are Vermpirai wells which are in the Thenmaradchi aquifer. The production of water is currently drawn from two tube wells in Vermpirai. Overall average daily production is 60 m³/day and around 280 families get water through the pipeline for their day-to-day activities. The Water Supply System is supplying water to the Vempirai, Sarasalai, and Maduvil areas. The water supply scheme was not operated from July 2014 to March 2015 due to the rehabilitation works.

Generally, Groundwater quality becomes crucial during dry periods; there is a tendency for increased concentration of geochemical parameters in groundwater due to less recharge. Due to that quality of the supply water is varies with the seasons and the quality

is periodically degrading according to the consumer's complaints.

Also, several water supply schemes were given up due to quality degradation such as Mayakkai (2013), Karaveddy (2015), and in the 1990s Naranthanai, Karainagar, and Punkudutheevu. Vermpirai Intake wells were developed during the internal displacement period to feed the IDP (Internal Displaced People) in 2009, later it has been developed as a water supply scheme to supply to the adjacent people. Due to the high seasonal quality fluctuation and the periodical degradation, NWSDB is facing difficulties to expand the scheme and manage the present demand.

2 MATERIAL AND METHOD

2.1 Location

Mainly four groundwater aquifers are available for water consumption in Jaffna Peninsula; those are varied with the water capacity and quality of the water (Table 1). Those four aquifers are Vadamarachchi-east aquifer, Thenmaradchi aquifer, Chunnakam aquifer, and Kayts aquifer. The Vermpirai water supply scheme belongs to the Thenmaradchi aquifer. Two tube wells are used as a production well to the water supply system out of which one tube well is in use and the other tube well as stand-by for supply.

2.2 Sample collection

Water samples were collected from two production tube wells and other three control tube wells. High-density polyethylene bottles were used to collect the water samples. These bottles were soaked in Hydrochloric acid overnight. Again, bottles were washed thoroughly with distilled water. Further, bottles were rinsed with water to be sampled. Before the collection of water samples, pumping was done for several minutes. Two sets of samples were collected from each location to represent the dry (April) and wet (August) seasons in 2018 to see the variation of geochemical characteristics of the aquifer.

2.3 Method of Chemical Analysis

pH and EC of water samples were measured on-site. All collected samples were kept cool until the analyses were performed. Table 2 shows the parameter analyzed and the method of analysis. All the analysis was carried out according to the APHA (2016).

Table 1 Sample locations

S.No	Sample code	Detail of the sampling point	Latitude	Longitude
1	CHA 1	Intake tube well 01, Vermpirai	9.634442	79.918169
2	CHA 2	Intake tube well 02, Vermpirai	9.687275	80.177775
3	CHA 3	Control tube well 01, Vermpirai	9.784061	80.233609
4	CHA 4	Control tube well 02, Vermpirai	9.688094	80.177760
5	CHA 5	Control tube well 03, Vermpirai	9.688088	80.177773

2.3.1 Data Analysis

Data were analyzed by using stiff and piper geochemical diagrams which were developed by using Aquachem application.

Table 2 Method of Analysis

Parameter	Method of Analysis
Electrical conductivity	APHA 2510 B
pH	APHA 4500- H ⁺
Chloride	APHA - 4500 Cl ⁻ B
Calcium	APHA, 3500 - Ca B
Magnesium	APHA 3500-Mg B
Carbonate	APHA , 2320 B
Bicarbonate	APHA , 2320 B
Sodium	AAS - 3500 Na B
Potassium	AAS - 3500 K C

AAS – Atomic absorption Spectrometer

3 RESULTS AND DISCUSSION

3.1 General Water Quality Parameters

According to the Table 3, Electrical conductivity, Chloride, Total hardness, Alkalinity, and Nitrite were the problematic parameters in CHA 01 and CHA 02, average values were exceeding the SLS 614:2013 maximum permissible level. Average values of other parameters were lower than the SLS maximum permissible level.

3.1.1 Electrical Conductivity

Fig. 1 shows the fluctuation of electrical conductivity of two tube wells with SLS standard value of 750 $\mu\text{S}/\text{cm}$. Most of the time electrical conductivity values were increasing trend with the period and minor fluctuations with the season. From July 2014 to March 2015 the system was not operated, after that, they started the operation, and from that the water quality degradation was high. CHA 02 was not in operation. It was used as a standby intake well, most of the time the well had stagnated water.

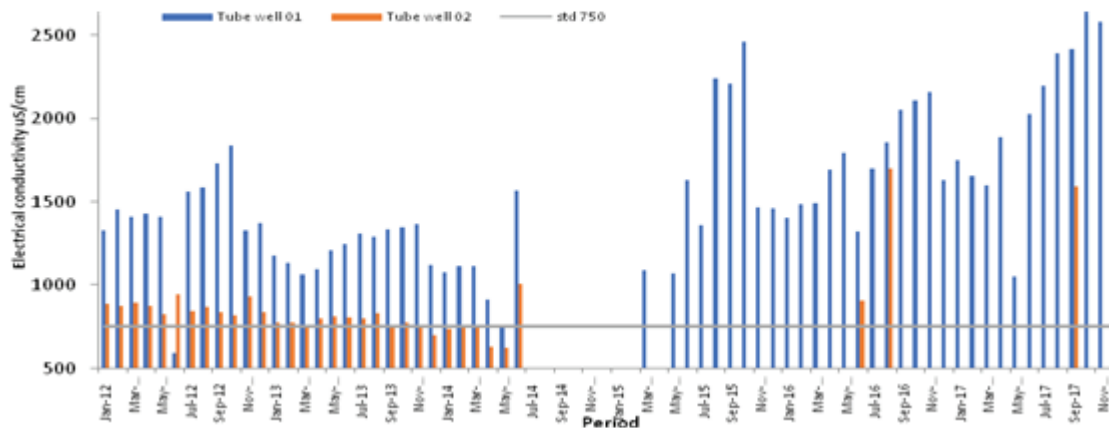
Even though two intakes well are in the same location, the electrical conductivity of tube well 02 was comparably low than that of tube well 01. Tube well 02 is and standby production well and it was not in continuous operation, which may be the reason for low electrical conductivity.

3.1.2 Chloride

According to Fig. 2, chloride ion also is showing a periodical increasing trend with time, concentration showed a sudden increase after April 2015 similar as electrical conductivity, After the rehabilitation, production, and number of consumers increased, which may be the reason for the increase trend and tube well 02 also showed a periodical increasing trend. Tube well 01 average was beyond the maximum permissible limits and the average value of Tube well 02 showed lower concentration than SLS 614:2013 standard.

Table 3 Variation of the water quality parameters for the period of 2012 to 2017

Parameter	CHA 1			CHA 2			SLS 614 2013
	Max	Mini	Avg	Max	Mini	Avg	
EC ($\mu\text{S}/\text{cm}$)	2670	593	1568	1703	624	864	750
Chloride (mg/L)	737	123	410	590	103	200	250
Alkalinity (mg/L)	610	180	332	410	180	251	200
Total hardness (mg/L)	684	160	390	413	118	235	250
Nitrite (mg/L)	0.260	0.000	0.014	0.004	0.000	0.001	0.100
Nitrate (mg/L)	4.0	0.0	0.7	5.0	0.0	1.2	50.0
Fluoride (mg/L)	1.44	0.00	0.21	0.40	0.00	0.09	1.00
Phosphate (mg/L)	1.82	0	0.36	0.95	0	0.35	2.00
Sulphate	422	90	163	285	69	137	200
Iron (mg/L)	1.82	0	0.24	1.25	0	0.13	0.3

**Fig.1. Variation of electrical conductivity in Vermpirai intake wells (CHA 1 & 2)**

3.1.3 Total Hardness

The concentration of hardness is very high in these wells, all the period it is showing higher concentration than the maximum permissible level of 250 mg/L (SLS 614:2013) after May 2015. The concentration showing periodical increase also may be due to the dissolution of the rocks with the extraction. Overall average concentration was 376 mg/L in tube well 01 and after 2016 the average was 431 mg/L it is clearly showing the increasing trend in the Water supply scheme. Tube well 02 was not in the continuous operation but that well also showed higher concentrations after 2016.

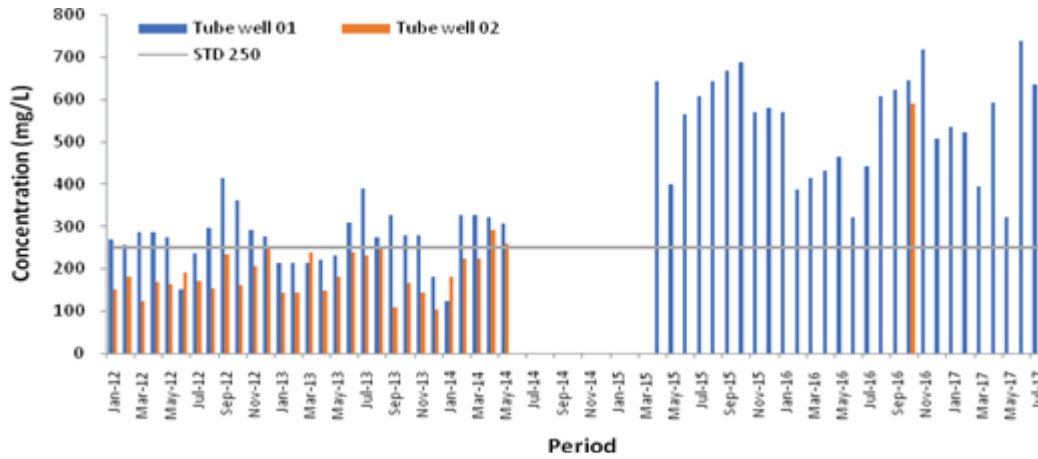


Fig.2. Variation of Chloride ions in Intake wells

3.1.4 Total Alkalinity

The concentration of total alkalinity is very high in these wells, for most of the period it is showing higher concentration than the maximum permissible level of 250 mg/L (SLS 614:2013). The overall average concentration was 332 mg/L in tube well 01 and 251 mg/L in tube well 02 but tube well 02 was not in continuous operation so we are unable to predict the effect of extraction.

The concentration of the minor anions such as phosphate, nitrate, nitrite, and fluoride are below the SLS 614:2013 maximum permissible levels, only in January 2016 the phosphate showed comparably higher concentration, it also may be due to the runoff water contamination or leaching in the rainy season.

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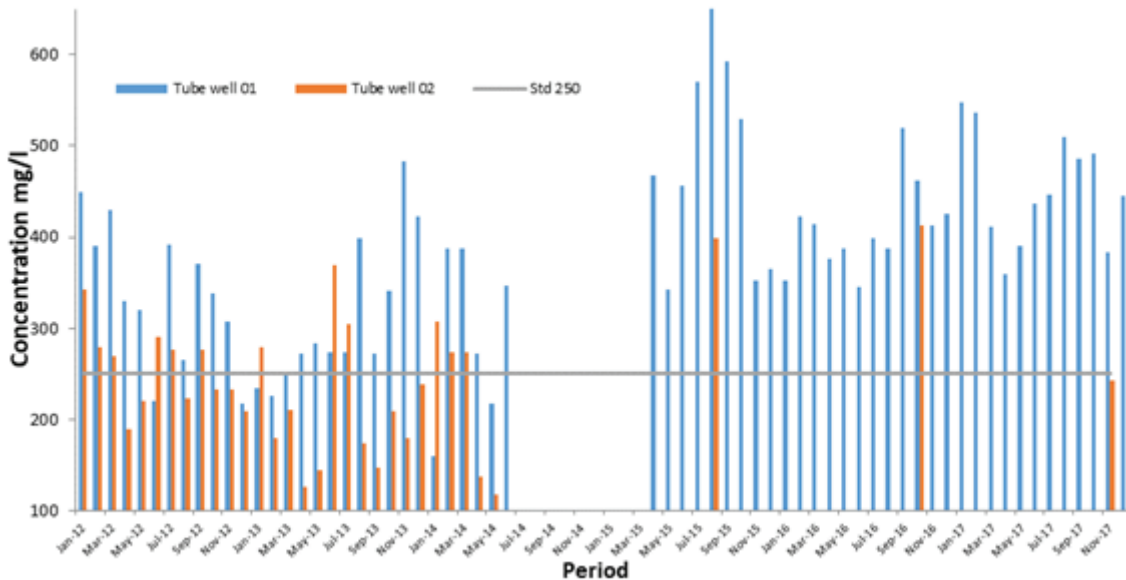


Fig.3. Variation of Total Hardness in Intake Wells

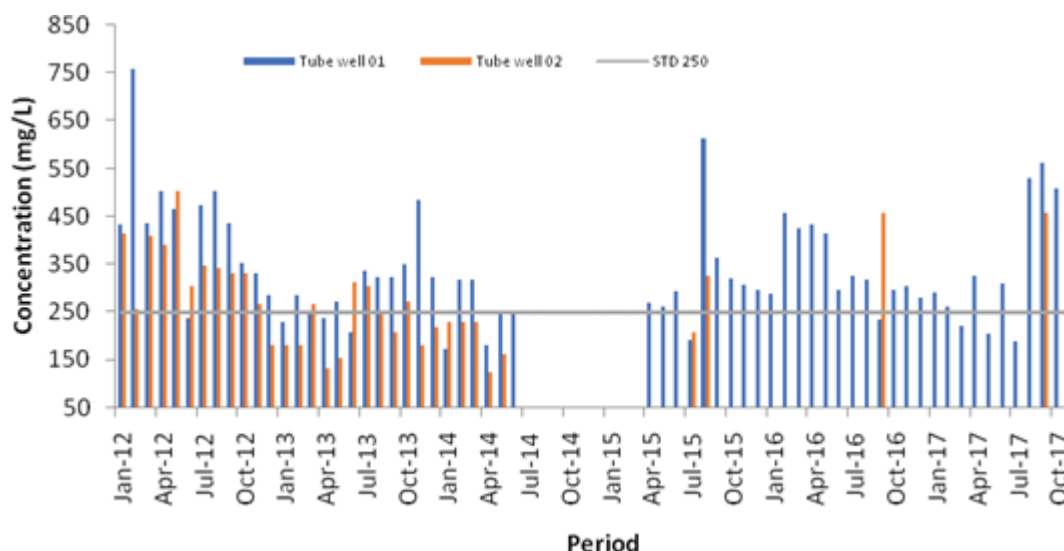


Fig.4. Variation of alkalinity in intake wells

3.2. Hydro Geochemical characteristics

3.2.1 Piper diagram for Vermpirai

According to Figs 5 and 6, all the wells are located in the sodium-calcium chloride sulphate type water including control wells in both diamonds, only control well CHA 03 is located in the mixed type of water in both months. Sodium, and calcium Chloride sulphate water was changed with the season and sodium chloride type water, commonly chloride ion influence is increasing in the dry season. There is a possibility of the influence of Vadamarachchi Lagoons' saltwater intrusion with the extraction (Table 4).

The anion triangles also are showing the same characters, intake wells are shifted towards chloride type from April to August 2018.

According to Table 3, more than 1000 $\mu\text{S}/\text{cm}$ electrical conductivity contains wells showing high chloride concentration influences, those wells were changed to sodium chloride type water in the dry season. CHA 3 not showing significant changes with the season.

Table 4 Water type changes with the season in the Thenmaradchi aquifer in the months of April and August 2018

Well	EC ($\mu\text{S}/\text{cm}$)	Apr-18	EC ($\mu\text{S}/\text{cm}$)	Aug-18
CHA 1	1070	Na-Ca-Cl-SO ₄	1440	Na-Cl
CHA 2	2070	Na-Ca-Cl-SO ₄	2890	Na-Cl
CHA 3	714	Na-Ca-Cl-HCO ₃	607	Na-Ca-Cl-HCO ₃
CHA 4	2250	Na-Ca-Cl	3100	Na-Ca-Cl
CHA 5	4090	Na-Ca-Cl	5550	Na-Cl

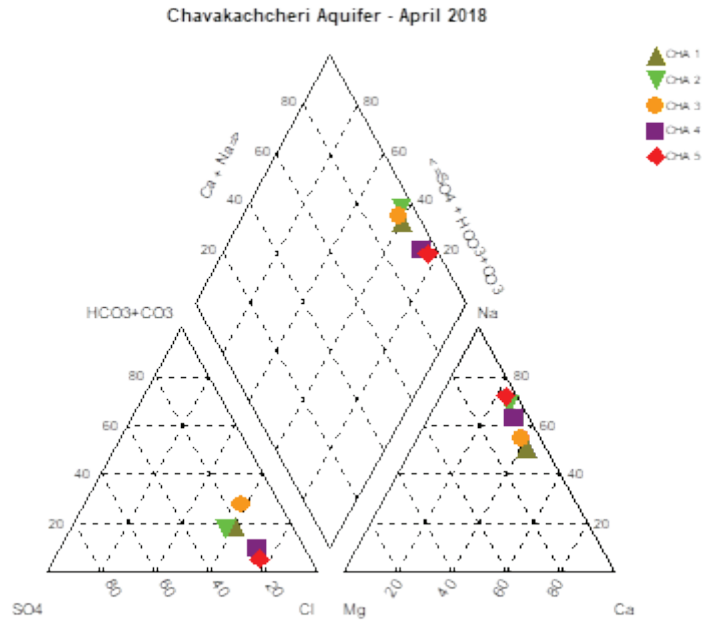


Fig. 5. Piper diagram for Vermpirai, the month of April 2018

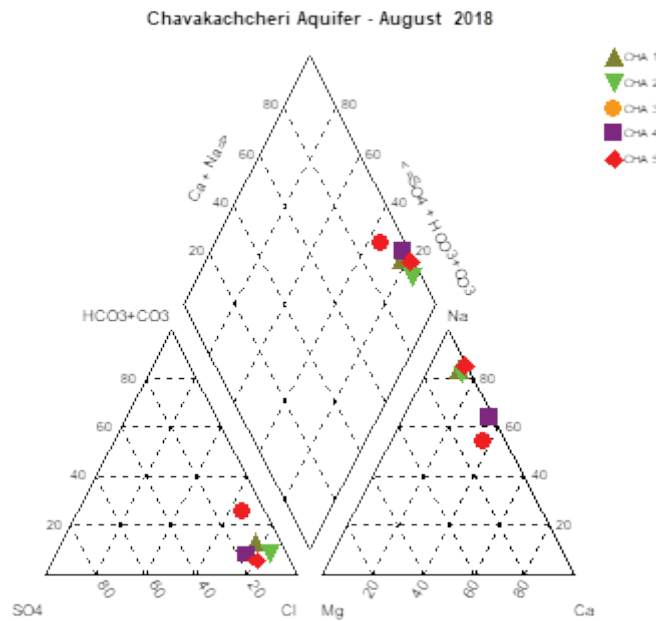


Fig. 6: Piper diagram for Vermpirai, the month of August 2018

3.2.2 Stiff diagram

Stiff diagrams are commonly used for displaying major-ion compositions of groundwater. The shape of the diagram indicates the relative proportion of different ions and the size indicates total concentrations. Developed stiff diagrams are shown in Fig. 7 and the geochemical domination pattern in different seasons is summarized in Table 5.

The intake wells only showed a prominent chloride ion increase in the dry season, it may be due to saltwater intrusion caused by the continuous extraction. Two Control tube wells

did not show a similar pattern and did not show any significant pattern changes with the season. All the wells are showing an increasing trend in the total ions.

3.2.3 Gibbs diagram

The Gibbs diagram is widely used to establish the relationship between water composition and aquifer lithological characteristics (Gibbs 1970). According to Fig. 08, Sodium ion domination is increasing in all the wells, and all are moving toward the Evaporation zone except CHA03. According to Fig. 09, Chloride ion domination is increasing in all the wells, and no movements was observed from zone to zone, rock domination is high in both season.

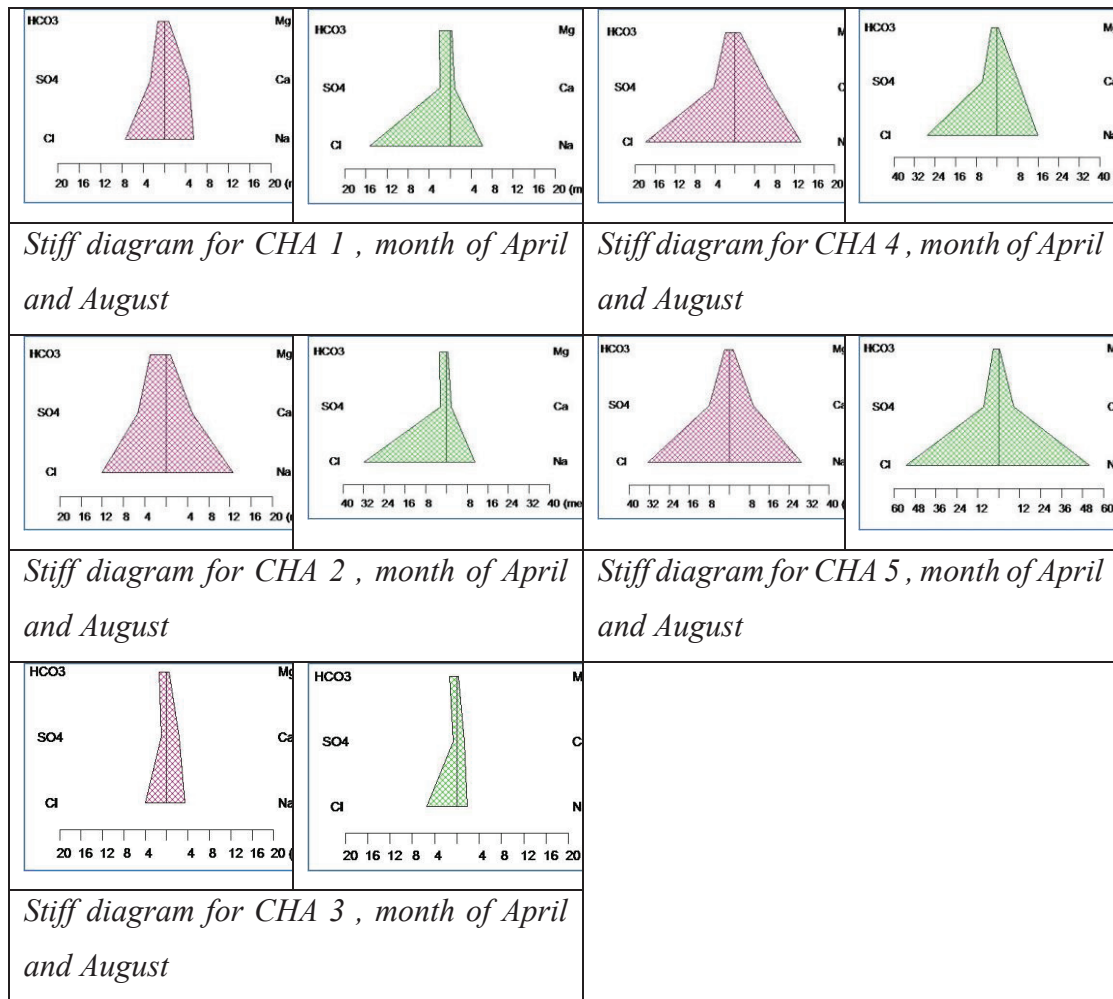


Fig. 7: Stiff Diagram for CHA 01,02,03,04& 05, Months of April and August 2018

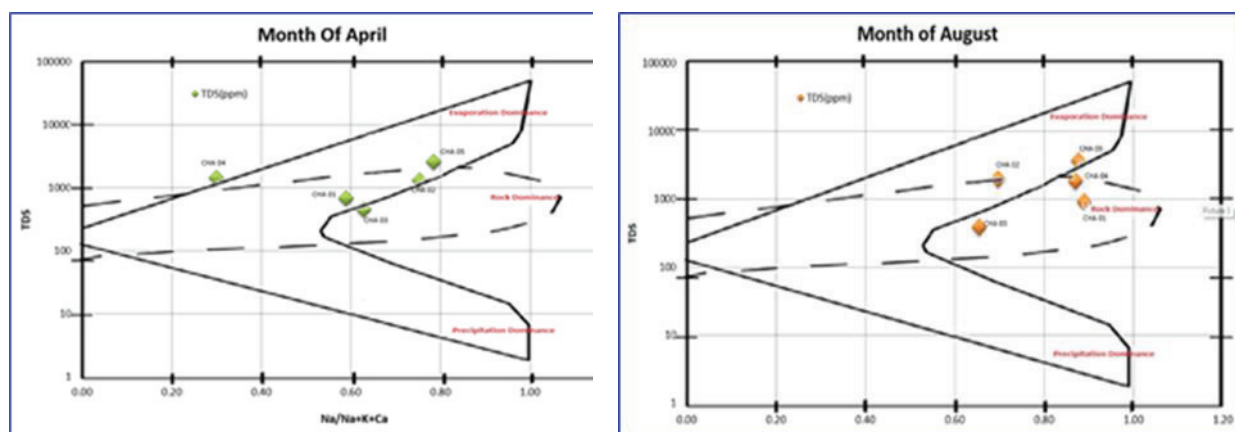


Fig.8. Gibbs diagram of $(Na/Na+K+Ca)$ for CHA 01, 02, 03, 04 & 05, Month of April and August

Table 5 Geochemical domination pattern with dry and wet seasons in 2018

Well No	Character
CHA 01	Calcium ion was the dominant species in cations in the wet season, the sodium ion domination is increasing in the draught, and chloride ion was the dominant anion species and showed an increasing trend with the dry season
CHA 02	Sodium and chloride ions are dominant species in the well and chloride ion is showing a significant increasing trend with the dry season
CHA 03	No prominent domination and no significant seasonal fluctuation in the geochemical parameters. Slightly increasing chloride ions
CHA 04	Sodium and chloride ions are dominant, with no significant ion domination with the season, and the total ion concentration is creasing in the dry season.
CHA 05	Well is showing sodium chloride-type water and no significant seasonal ion fluctuation, only showing the increasing trend in the ion concentration.

4 CONCLUSION

In Vermpirai WSS, Chloride ions showed a periodical increasing trend with time: and it decreased in the wet season and increased during the dry season. There was a sudden increase in chloride concentration after May 2015 similar to that of electrical conductivity. It might be due to heavy extraction. The Chloride concentration increased significantly in all these intakes, hence chloride ion was the major contributory factor for this quality deterioration. The concentration of total hardness and total alkalinity were very high and exceeding the maximum permissible level of SLS 614:2013, it may be due to the possible dissolution of the rocks during the extraction. Minor anions such as Nitrate, Phosphate, Fluoride, and Iron were always lower than SLS 614:2013 maximum permissible level and not shown seasonal fluctuation. Vermpirai intakes showed high deterioration than the control wells.

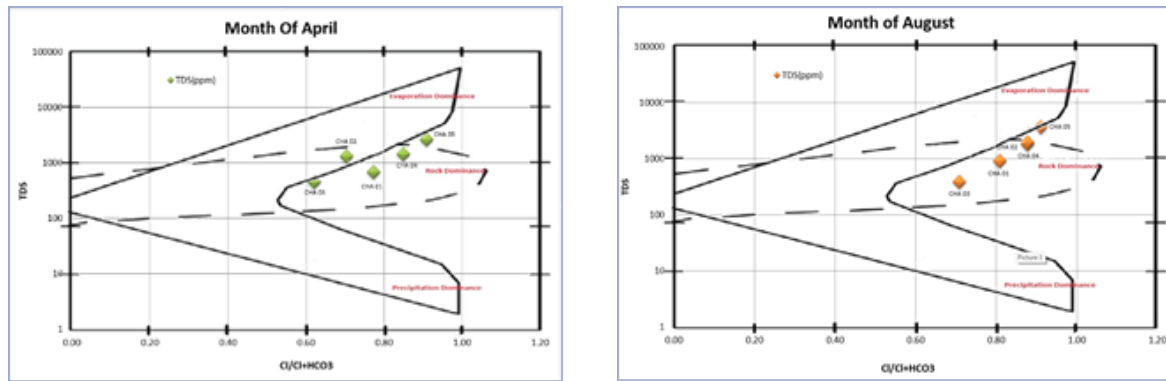


Fig. 9: Gibbs diagram of $(Cl/Cl+HCO_3)$ for CHA 01, 02, 03, 04 & 05, Month of April and August

According to the Piper diagram, in Thenmaradchi Aquifer all the tested wells were observed as the Sodium Calcium Chloride Sulphate type water including control wells. Only one control well was found to be with the mixed type of water in both seasons. These wells have changed with the season to Sodium Chloride type water. This was confirmed with the anion triangles.

According to Stiff diagrams of the Thenmaradchi Aquifer, only intake wells showed a prominent chloride increase in the dry season. Both control tube wells showed different water quality characteristics, but they did not show any significant fluctuation with season.

According to the Gibbs diagram, sodium and chloride domination is increasing in all the wells, and rock domination also was high in both seasons. Chloride ion was increased prominently in the scheme, it may be due to the seawater intrusion.

Vempirai Intakes have comparably low-quality water, those showed higher concentrations of chloride and total hardness. Geochemical parameters profiled with high sodium and chloride ions influences other than the geological influences such as calcium and bicarbonate. Based on this, it can be concluded that the Vempirai WSS aquifer is vulnerable to saltwater contamination. Therefore, additional water sources need to be identified to meet the increasing consumption and demand. Further, if the same wells are used for a long time, it may affect the entire aquifer. Therefore, it is advisable to look for additional sustainable water sources or alternative water sources in these areas.

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The Significance of Fashion for the Advancement in Career of Female Employees in the Apparel Industry in Sri Lanka

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Abstract –People are not willing to present themselves without dressing. It is a distinctive mark that influences people and interpersonal connections. Fashion expresses emotive meanings and has the ability to reveal information about the person. Many people think they can maintain a strong sense of self while dressing passively. As a result, fashion is one of the fundamental languages for the human lifestyle because it communicates from different perspectives such as body size, economic factors, politics, and so many aspects. In this sense, fashion serves as an expressive medium and has a long history of being connected to women's lifestyles. Fashion may have an impact on women's careers if it takes a broad view of women's responsibilities in society. Since fashion reflects how society perceives women, it might have an impact on women's professional lives. From that vantage point, this study will examine the importance of fashion for women's professional lives in Sri Lanka's apparel industry. The garment industry, one of Sri Lanka's most important sectors, draws female employees and has considerable potential for job growth. In Sri Lanka, women make up about 80% of the workforce in the apparel industry. As a result, the research tends to only focus on female employees working in the Sri Lankan garment industry. The researcher evaluates the significance of fashion on female employees' career life related to the apparel industry in Sri Lanka. According to the study, the current findings offer a useful way to recognize the connections between career life and the application of design concepts in the Sri Lankan garment industry, and this will help develop innovative marketing plans for the country's popular fashion movements. It also provides guidance for future scholars as they construct their arguments on Sri Lankan fashion in relation to people's professional lives.

Keywords: Fashion, Career advancement, Female employees, Apparel industry

1. INTRODUCTION

Fashion is all about change, but for that change to be noticed, other things must first be in order. Researchers have been busy attempting to address the topic of what influences fashion's ongoing alterations, and a variety of theories have been offered as explanations. Simmel (1904) elaborates on cultural differences in clothing styles. Fashion serves two fundamentally symbolic purposes: it may distinguish people and it can convey a sense of community (Kaern, 1990). Women's status in society has also been linked to variations in fashion's significance. Veblen (1998) believed that a woman's place was as a virtual consumer, representing the man's money through her purchases, making her the face of

fashion (Veblen, 1998). Theories of fashion with a psychological element usually focus on universal human wants like the need to be liked. People's need to flaunt and bolster their egos is frequently noted as being particularly powerful. In the quest for self-expression, fashion has significant shock value since it offers a concrete "Look at me." Clothing has historically attracted the attention of many scientific fields, including social science, psychology, anthropology, art, history, and cultural and communication studies. It does, however, protect all facets of existence. Fashion is never steady; as time passes, it changes rapidly.

The term "Fashion" includes a variety of disciplines. Two perspectives that are highlighted with reference to the study areas are listed below.

- "The purpose of fashion can be as simple as you need clothing to maneuver in the world. You need a pair of pants, a shirt, and shoes to go to that interview, to the grocery store, to your cousin's wedding. It's how we present ourselves to live (Leandra, 2018)."
- "Human language underlies the meaning and the word of fashion spreads it, establishing its reality. When speaking of fashion, such a position remained valid until the late 1970s – the verbal text dominated the visual. In contemporary society, fashion relies on visual communication" (Roalnd, 1990).
- "Our clothing is the physical representation of our perceptions, our dissatisfactions, and our desires. When we look beyond the physical to our internal workings, we can create a change at the core. Unlike changes that occurs in therapy, these difficult internal examinations are softened by the light of the wardrobe makeover. Taking care of yourself begins with self-discovery. The clothing you put on your back is an incredibly accurate indicator of what you think of yourself and your life. Cracking open the closet doors can lead to great insight. When you strive toward self-discovery, improvement often follows wearing clothing that makes you feel comfortable, happy, and good about yourself does make life better" (Baumgartner, 2012).
- "Fashion is not a trivial and ephemeral phenomenon is the way in which fashionable clothing and have been used to express and shape personal and social identities" (González & Bovone, 2012).

The previous definiteness makes it abundantly evident that somebody's external look in social environments is a mirror of their inner self. The way someone looks when you first meet them makes a big impression. The way employees dress, especially women, may influence their jobs.

Traditionally, careers have been viewed as a purposeful advancement through a succession of linked jobs (White, 1995). According to previous research in the field of career life, women are believed to have equal opportunities as men to climb the corporate ladder if they pursue the same professions and have the same objectives and skills as men. However, previous research has not focused on the impact of fashion on the career life of female employees. A study on this topic could provide valuable insights into the relationship between fashion and professional life for women.

The apparel industry in Sri Lanka employs a large number of women, making it an important source of income and employment for many females in the country. According to a study by the International Labor Organization (ILO, 2017), women make up about 80% of the total workforce in the Sri Lankan apparel industry. This high proportion of female

workers reflects the strong presence of women in this industry and the opportunities it provides for them. In addition to providing employment, the apparel industry in Sri Lanka also contributes to the country's economy (ILO, 2017), making it a vital sector for both women and the overall economy.

From an employee's perspective, career development has a significant impact because it provides them with a valuable tool or even a launching pad to achieve their goals. These goals could include earning a higher salary or receiving incentives and bonuses, as well as achieving job flexibility and satisfaction (Owusu, 2021). Some common definitions of "career development" include:

"Career development is the process of implementing and developing the self-concept" (Huang, 2006).

"Career development refers to a change or a series of changes that occur in an individual's career" (Brown, 2002).

The garment industry plays a significant role in Sri Lanka's economy, as it is one of the major sources of employment for the country (Kelegama, 2009). The present study examines the garment sector in Sri Lanka, with a particular focus on the role of women in the ready-to-wear industry. This industry is of particular interest as women constitute the second most important source of foreign income for Sri Lankans who work in this sector. The research is driven by a literature review and face-to-face interviews with secondary data from pioneers in representing the apparel industry in Sri Lanka.

The research findings offer valuable insights into the career advancement of female workers in the Sri Lankan apparel industry.

Based on the findings of past studies there can be found some evidence for the interconnection between fashion and career life. Therefore, the literature review can guide the methodology of the research to achieve the objective of the study. The objective of the study is, to analyze the interconnection in-between fashion practices with career growth related to female employees through literature.

Research findings may give a positive impact to uplift the strategies for organizations related to the Apparel industry. Hence past research findings described fashion as a nonverbal communication method of a human's lifestyle, the research objective it can hypothesize a significant positive influence that fashion is having a positive importance for the career growth of female employees.

2. BACKGROUND

Fashion is a primary form of non-verbal communication, and it can greatly impact the way individuals are perceived by others. According to Sampson (2016), fashion is a nonverbal communication method that reflects an individual's values, attitudes, interests, lifestyle, social relationships, identity, authority, status, and occupation. Through fashion, individuals are able to express themselves and communicate information about who they are and what they stand for. As such, fashion plays a crucial role in shaping our social interactions and perceptions. (Sampson, 2016).

Fashion is a powerful means of communication that can reveal an individual's inner mindset and influence their behavior. Recent research has found that fashion sense can have a significant impact on how people act and behave. This study aims to explore the importance of fashion on the career growth of female employees in the apparel industry in Sri Lanka. By examining the role of fashion in this context, the researcher hopes to gain

insight into how fashion can impact an individual's professional success and career development.

Fashion has long been recognized as a reflection of an individual's way of life, and it can have a profound impact on the way a person is perceived by others. When meeting someone for the first time, an individual's appearance can leave a lasting impression. This is particularly true for female employees, whose fashion choices may affect their career growth and professional development. Previous research has shown that fashion is an important factor in shaping the perceptions of others and that it can influence an individual's success in the workplace.

It is widely accepted that self-worth and self-confidence are essential for career growth and success. Previous research has shown that external factors such as social expectations and stereotypical ideologies can pose significant barriers to an individual's professional development. However, internal barriers like low self-esteem, lack of confidence, and lack of resilience can also play a significant role in hindering career advancement. By addressing these internal barriers and building self-worth and confidence, individuals may be able to overcome external obstacles and achieve greater success in their careers. (Collins, 2009). The concept of "self" is a complex and multifaceted construct that is developed through an individual's experiences in the domains of work, relationships, and social interactions. Previous research has shown that the self is a dynamic entity that is shaped by a person's interactions with their social environment and that it is continually evolving and changing throughout the lifespan. As such, the self is an important psychological construct that has significant implications for an individual's well-being and success in various domains of life (Powell, 2011).

The garment industry plays a significant role in the career growth of female employees in Sri Lanka. Women make up the majority of the workforce in this sector, and it is a major contributor to the country's economy. This study aims to explore the importance of fashion for career growth in the garment industry. By examining the role of fashion in this context, the researcher hopes to gain insight into the ways in which fashion can impact an individual's professional success and career development (Svarer, 2017). The study is restricted to female workers in the Sri Lankan apparel industry.

2.1 Concept of Workwear Fashion in Sri Lanka

Over time, workwear has evolved into various designs and patterns. Previously, office attire was formal for both genders. However, since the rise of the internet in the 1990s, corporate clothing has shifted towards more casual or informal styles. (Wardhana, 2020). A formal dress code differs from a business casual in terms of appearance. Business formal attire may be referred to as conventional dress attire, formal wear, or formal attire.

Due to globalization and the adoption of free-market economic principles, Sri Lanka has become more receptive to international design trends. In addition to its thriving garment manufacturing industry, the country has embraced Western fashion trends in the 21st century (Wardhana, 2020).

In Sri Lanka's apparel industry, the majority of managers who frequently engage with clients prefer to don "Smart casual attire," or semi-formal attire. For some employees, the absence of specific business attire guidelines in Sri Lanka proved to be a major challenge. Other challenges included clothing that was prohibitively costly, uncomfortable, and inadequate in terms of fabrics and styles (Seram, 2022). Previous findings indicate that it is crucial to pay attention to the attire of employees, as they engage with consumers and fashion can impact personal productivity. The decisions employees make regarding their

fashion choices can greatly affect their attire. Researchers have found that employers who consider themselves to be "Well dressed" are perceived as more reliable, competent, and trustworthy, and as having the necessary skills and knowledge. This contrasts with employers who do not present themselves in a "Properly dressed" manner. (Kwon, 1994).

Solomon and Solomon (1982) noted that employees who are interested in fashion tend to be more productive. Over the past few generations, workwear has undergone significant changes, adopting new patterns and styles. In the past, both men and women typically wore traditional, business-casual attire in the office. However, since the internet boom of the 1990s, the workplace has generally adopted a more casual or informal dress code Solomon (1982).

Previous research on workwear fashion in Sri Lanka has identified a lack of awareness regarding the importance of fashion for organizations. Conducting research on this topic can benefit both the selected organization and its employees by filling this gap in knowledge.

2.2 Fashion and Career Growth

Keywords are usually composed of about five terms or phrases in alphabetical order, separated by commas. According to Gibson et al., organizational culture is comprised of the beliefs, values, and expectations held by employees and the ways in which these beliefs drive their actions (Lunenborg, 2012).

The clothing people wear can influence their self-perception (Karl, 2007). People often have mental representations of appropriate attire and the behavior that is expected to accompany it. This means that how employees dress at work can affect their behavior at work. Another study by Kwon (1994), cited by Karl et al. (2007), focused on how employees feel when they are dressed appropriately for work, which can make them appear more responsible, competent, knowledgeable, professional, honest, reliable, intelligent, trustworthy, hardworking, and efficient than when they are not dressed according to proper dress codes (Karl, 2007).

Wearing whatever one wants could lead to open cultural conflict with others and within oneself. In their interactions with others, people also use clothing to achieve specific goals (Planchette, 2007). Previous research has shown that people often choose specific types of attire to achieve professional goals, with formal business attire being used to enhance status and command respect (Rucker, 1999).

In the past, finding fashion was described as a key component of the lifestyle of humans. Especially, fashion and women are having an unconditional interconnection. Appearance is important for creating a positive first impression in the service industry. However, the quality of the service is the customer's primary concern. Bowen (2000) argue that appearance is a powerful design element that can help to create an impression. Lennon and Miller (1984) (cited in Bowen, 2000) found that attractive people tend to be more outgoing and successful in achieving tasks. (Bowen, 2000).

Karl et al. (2007) argue that people's self-perceptions can vary depending on the clothing they are wearing. Schneider (1973), cited by Karl et al. (2007), suggests that people often have mental models of appropriate clothing and the behavior that is expected to accompany it. Karl (2017) suggests that the appropriateness of employees' work attire may affect their work behavior.

Bowen (2000) assert that employee uniforms can typically have a positive impact on customer satisfaction, as certain uniforms can create a favorable environment for

customers. Mishra & Mishra (2015) add that personal appearance decisions reflect a reliance on the gaze of others for existence to have meaning, as well as a reliance on an idea of individual existence. Therefore, freedom of attire can lead to open cultural conflict with others and within oneself.

The relationship between fashion and the career life of female employees has been the subject of much discussion and debate. While fashion can certainly affect a woman's professional image and the way she is perceived by her colleagues and clients, it is important to recognize that the impact of fashion on a woman's career may vary depending on the specific industry and company culture.

In some industries, such as fashion or entertainment, a woman's appearance, and personal style may be an important part of her brand and can influence her success. For example, a female fashion designer who is known for her bold and unique personal style may be seen as more creative and innovative, and this may help her to stand out in a competitive market. On the other hand, in more traditional or conservative industries, dressing in a more conservative and conventional manner may be seen as more professional and may help a woman to be taken more seriously.

Overall, it is clear that the impact of fashion on a woman's career life can be complex and multifaceted. To navigate this issue successfully, it is important for women to strike a balance between expressing their personal style and being professional, and to consider how their choices may be perceived by others. By doing so, they can maximize the potential benefits of fashion for their career, while minimizing any negative effects.

It appears that uniforms may have a positive impact on external factors such as customer satisfaction. However, when it comes to the self-satisfaction and personal freedom of female employees, uniforms may not have as much of an impact. In fact, the freedom to choose one's attire, which is often associated with fashion, may be beneficial for career growth and the overall satisfaction of female employees. This hypothesis warrants further research and analysis.

3. METHODOLOGY

This study conducted a narrative and systematic review to explore the importance of fashion on the career growth of female employees in the apparel industry in Sri Lanka. The review focused on peer-reviewed articles published in English-language journals between 2010 and 2022.

The literature search was conducted using an electronic database, Google Scholar. The following search terms were used: "fashion," "career growth," "female employees," "apparel industry," and "Sri Lanka." Inclusion criteria were as follows: (a) studies that examined the impact of fashion on career growth, (b) studies that focused on female employees, (c) studies that were conducted in the apparel industry, and (d) studies that were published in peer-reviewed journals.

This study aims to explore the importance of fashion on the career growth of female employees in the apparel industry in Sri Lanka. The study will employ a narrative approach to investigate the role of fashion in shaping the perceptions and career development of women in this sector. The research will draw on a range of scholarly sources to develop a comprehensive understanding of the significance of fashion in this context. The narrative approach will provide a holistic view of the role of fashion in shaping the career paths of female employees in the apparel industry.

The study will begin by reviewing the literature on fashion as a nonverbal communication method that reflects an individual's values, attitudes, interests, lifestyle, social relationships, identity, authority, status, and occupation. The review will draw on the work of Sampson (2016) to establish the theoretical foundation for the study. The review will also examine recent research that highlights the impact of fashion on behavior, particularly in the workplace.

The study will then focus on the Sri Lankan apparel industry, which is a major contributor to the country's economy and employs a significant number of female workers. The research will examine the role of fashion in shaping the perceptions of female employees in this industry and its impact on their career growth and professional development. The study will be restricted to female workers in the Sri Lankan apparel industry.

To gain a comprehensive understanding of the significance of fashion in this context, the study will use a range of data collection methods, including surveys, interviews, and focus groups. The survey will be used to collect quantitative data on the importance of fashion in the workplace and its impact on the career growth of female employees. The interviews and focus groups will be used to collect qualitative data on the experiences of female employees in the Sri Lankan apparel industry and the role of fashion in their professional development.

The study will use a narrative analysis approach to analyze the data collected from various sources. The narrative analysis will be used to identify common themes and patterns in the data and to develop a comprehensive understanding of the role of fashion in shaping the career paths of female employees in the apparel industry. The study aims to contribute to the body of knowledge on the significance of fashion in the workplace and its impact on career growth, particularly for women in the apparel industry in Sri Lanka.

4. CONCLUSION

Previous studies have shown that there is a strong connection between fashion and the career lives of women. Fashion is a crucial method of nonverbal communication, and thus it is important for career growth. Fashion and identity are closely intertwined, with fashion influencing and being influenced by an individual's personal and social identities. This relationship is complex and multi-dimensional, extending beyond just one field of study and garnering attention in various industries including politics, business, entertainment, academia, and law. Fashion encompasses not only sociological and psychological elements, but also artistic and economic elements. Clothing is often a reflection of the wearer and fashion plays a significant role in both individual lives and society as a whole. It can serve as a form of self-expression and even facilitate self-discovery and personal growth. In addition, fashion can enhance one's quality of life by making the wearer feel comfortable, confident, and positive about themselves.

There is a lack of research on the connection between dress codes and job performance in Sri Lanka, as well as the influence of fashion on career advancement. Clothing and appearance act as forms of nonverbal communication and can convey an individual's professional identity, values, and attitudes. The dress code within an organization can mirror the company's culture and values, which can impact employee attitudes and morale. It can also shape customer perceptions of a business and be a part of the company's brand identity. Further investigation is required to explore the specific ways in which fashion impacts career development in Sri Lanka.

This research aims to address one of the most interesting questions regarding the relationship between fashion and career growth for women, providing a path for future research and offering a forum for discussion on the topic. It also offers potential strategies for industry leaders to consider. Overall, this research seeks to shed light on the role of fashion in the professional advancement of female employees in the Sri Lankan apparel industry.

In conclusion, this study sheds light on the connection between fashion and career advancement for women in Sri Lanka's apparel industry. It highlights the importance of dress codes as a means of nonverbal communication that can influence employee attitudes, customer perceptions, and brand identity. However, there is a need for further investigation into the specific ways in which fashion impacts career development in Sri Lanka, particularly for women in the apparel industry. This research raises important questions and provides a starting point for future studies on this complex and multi-dimensional relationship. It also offers potential strategies for industry leaders to consider in promoting the professional growth and development of their female employees.

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