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Printed and Published by Prof. S. Krishnan Nair for
INSTITUTE OF MANAGEMENT DEVELOPMENT AND RESEARCH
 Convent Road, Thiruvananthapuram, Pin: 695001
 Phone: 0471-2453039, 2477952, Mobile: 9496776039 E-mail: imdrtvm@yahoo.com

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	Single Copy	Annual	For 5 years	Abroad (Annual)
Individuals	Rs.200/-	Rs.600/-	Rs.2500/-	\$75
Institutions	Rs.250/-	Rs.1000/-	Rs.4000/-	\$150

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The Chief Editor, Management Researcher,
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Chief Editor's Voice

COP-24: PARIS TO POLAND

Reduction of carbon emission taken up by the people and parties across the globe is a global mission and a formidable challenge. The United Nations Framework Convention on Climate Change (UNFCCC) is an international body that has come into force at the famous Rio Earth Summit in 1994. UNFCCC is a Rio Convention which has now near universal membership. The countries that have ratified the convention are called parties to the convention. Preventing the increasing human interference with the climate system is the ultimate aim of the UNFCCC. The Conference of Parties (COP) is the supreme body of the UNFCCC, which takes decisions for effective implementation of the provisions of the convention and regulatory reviews.

COP 24 conference took place from 2 to 15 of December 2018 in Katowice, Poland, which discussed among other things implementation of the provisions of Paris Convention and regulatory reviews. India does not want to make any review of the Paris Agreement in the matter of climate change and control of global warming. India is not against making any contextual changes in this matter. But it is the responsibility of all countries to carry forward the Paris Agreement which stipulates to contain the global temperature of 2 degree Celsius of pre-industrial level. India and China have committed to ensuring that their industrial activities will not cross the threshold limit of carbon footprint.

Limiting global warming to the 2015 Paris Agreement goal is a formidable task. It requires the stakeholders to keep the global temperature increase to well below 2 degree Celsius this century. This compels the countries to contain carbon dioxide emissions by 50 per cent by 2030 and reach net zero by 2050. Carbon dioxide

(CO₂) is a major greenhouse gas that causes global warming.

Besides carbon dioxide, Hydro Fluoro Carbons (HFC) also causes the global warming. It is believed that by 2022 India is expected to have a fourth of the world's air conditioning units, and the risk to climate change could be immense. The refrigerators used for cooling are the major contributors to global warming. If unchecked it may lead to a rise of global temperature by 0.5 degree Celsius. India needs to develop highly efficient cooling technology that could help to reduce the impact by one-fifth.

Solving the global cooling challenge, the technology solution would significantly help consumption of electricity as well as the reduction of carbon emission. Innovators need to rise to the global challenge of phasing out the potentially powerful greenhouse gas called hydro-fluro carbons (HFC) and to prevent the potential 0.5 degree Celsius in global temperature by 2050. In India, coal is responsible for 65% of CO₂ emissions.

It is reported that the CO₂ levels poised for a record high in 2017. India, the third highest contributor is projected to see emissions rise by 6.3 percent from 2017. India's projected carbon emission of 2.6 billion tonnes in 2018 would account for 7% of the global CO₂ levels, which are set to hit an all time high this year. There has been a steady rise in global CO₂ emissions over the decades. China's emissions account for 27% of the global total. Global carbon emissions are set to hit an all time high of 37.1 billion tonnes of CO₂ in 2018. The 2.7 projected global increase in 2018 has been driven by considerable growth in coal use for the second year in a row, and sustained growth in oil and natural gas.

India is included in the list of top ten countries of biggest emitters in 2018. The other countries are China, U.S, Russia, Japan, Germany, Iran, Saudi Arabia, South Korea and Canada. European Union as a region of countries ranks third. According to study emissions in the U.S, which has withdrawn from its commitment to the Paris Agreement account for 15% of the global total and look set to have grown about 2.5% in 2018 after several years of decline. Chinese share of global emissions is now close to 30%, whereas its share in global population is just about 17%. India's share in global population is 18% while its share in emissions is only below 7%

This is in this context the representatives from more than 190 countries have begun discussions at the United Nations Framework Convention on Climate Change (COP 24), at the Polish mining city of Katowice. The main discussion of the summit was on the ways of effecting equitable cut in carbon emissions. Delegates representing nearly 200 countries took part in COP 24. The Katowice Climate Change Conference that began in Poland as the UN's follow up to the 2015 Paris Climate Agreement was significant in several counts. Delegates at the UN summit, COP 24, agreed on a common rule book to put the pledges made at the landmark 2015 Paris talk into practice. This means that all countries, rich and poor alike, must agree to action that will cap global temperature rise to well below 2 degree within the stipulated time frame.

The secret of our energy is still the coal. In India we can't live without coal, which is the principal source of energy for power generation. Presently more than 80% of energy is being generated using coal. The abundance of coal in India makes it the most important fuel. Availability of coal is abundant in India and it can provide affordable power to propel India's growth and is able to light every household. India uses about 800 million tonnes of coal. The current coal production in the country is 650 million tonnes while the rest is imported

Experts in the thermal energy argue that India's share in pollution is far less than its share of the global population. Using more coal to meet the energy demand from the same thermal capacity for the next twenty years will not put at disadvantage given its commitment to meet the climate change COP 21 obligation. As per the obligations, India's renewable capacity should be 40% of the total capacity by 2030. Once India implements the 175 GW renewable programme, the 40% criteria will be achieved. Besides, India is well within the COP 21 obligation till it uses 1500 million tonnes of coal a year as compared to 800 million tonnes now to generate energy. However, India should tap in its full the potentials of renewable energy source. India's ambitious journey of achieving renewable energy capacity of 175 Giga Watts by 2022 will help reduce the carbon emissions to a large extent.

According to W.H.O. exposure to air pollution cause seven million deaths worldwide every year and costs an estimated 5.11 trillion dollar in welfare losses. The same human activities that are destabilizing the earth's climate also contribute directly to poor health. India, with 18% of the world population, has a disproportionately high 26 % of disease burden and premature deaths due to air pollution. The COP Report of 24th Conference of the Parties of UNFCCC has mentioned in its report that the true cost of climate change is felt in our hospital and in our lungs. According to Maria Neira, Director of Public Health, Environment and Social Determinants, WHO, the health burden of polluting energy sources is now so high that moving to cleaner energy, transport and food systems effectively pays for itself. This shows the significance of climate summits conducted periodically to achieve the goal of sustainable development through environmental protection.

A PRAGMATIC APPROACH ON PADDY CULTIVATION IN KERALA

*Kavery B S

Abstract

Paddy cultivation is said to be one of the principal crops of Kerala. The state has about 300,000 rice growers, mostly small and marginal farmers with their average land holding below 0.4 ha—one-fifth the national average. Since the 1970s, the state has witnessed a steady decline in the area under paddy. In the last four decades, rice fields have reduced by 76 per cent from 875,000 ha in 1970 to 208,000 ha in 2012. The Area, Production and Productivity of the rice in Kerala are closely related with the periods. This implies that the change in period will affect the Area and Production of rice in Kerala. Moreover, the productivity of the crop is very low in the State (2790 kg/ha), though it is higher than the national average (2424 kg/ha). An attempt has been done by the researcher in this paper to examine the trend in the area, production and productivity of rice in Kerala.

Key words:- Paddy Cultivation, Production, Productivity, Regression Analysis, Harvesting Cost, Yield.

*K*erala is the southernmost State of Indian Union which lies of the south-west corner of the Indian peninsula between 8°18" and 12° 48", north latitudes 74.52 and 77.22 east longitudes. Kerala has a geographical area of 38,863 Sq.Km. which accounts for only 1.18 per cent of the total area of the country. The coastal

lines of the State are 590 Kms long and its breadth varies from 130 km in the middle to 32 Kms in the extremities. Kerala came into being in 1956 comprising the erstwhile princely state of Travancore-Cochin and Malabar Coastal district of Chennai. The total population of the State is 318.40 lakhs according to the 2001 Census. The density of

population is 819/sq.km. Paddy cultivation is said to be the principal crop of Kerala.

The state has about 300,000 rice growers, mostly small and marginal farmers with their average land holding below 0.4 ha—one-fifth the national average. Cultivable land in Kerala got fragmented into small holdings when the state government implemented land reforms Act between 1967 and 1982 to distribute agricultural land to the landless. The Act fixed a limit of 6 ha on farms. Plantations were exempted from this cap. Rice occupies 7.46 per cent of the total cropped area of the state. However, the area under rice has been falling at an alarming rate ever since the 1980s. From 8.82 lakh hectare in 1974-75, the paddy area has come down to 1.96 lakh hectare in 2015-16. The production has also concomitantly declined from 13.76 lakh MT in 1972-73 (peak of production) to 5.49 lakh MT in 2015-16. Moreover, the productivity of the crop is very low in the State (2790 kg/ha), though it is higher than the national average (2424 kg/ha).

1.2 Need and Significance of the Study

Since the 1970s, the state has witnessed a steady decline in the area under paddy. In the last four decades, rice fields have reduced by 76 per cent from 875,000 ha in 1970 to 208,000 ha in 2012. A crop's profitability depends on land size, production cost, harvesting cost, yield and marketing efficiency. "As for rice in Kerala, land size is small, cost of production high, yield moderate and market price has not

increased in proportion to the escalating production cost," says KG Padmakumar, former associate director of Kumarakom based rice research station under the Kerala Agriculture University. The area under rice has been declining consistently since the last three decades.

Today rice occupies the only third position in the area under cultivation way behind rubber and coconut. And though last year the trend was reversed with a marginal increase in area and production, in 2014-15, it again showed a declining trend. The area under rice has fallen in all the districts of the State in the period 1996-97 to 2012-13. However, the decline has been sharpest for Ernakulam (93 per cent) followed by Kollam (92 per cent), Thiruvananthapuram, (86 per cent) and Malappuram (78 per cent). On the positive side, in Kottayam and Alappuzha, the major rice growing districts the decline has been much less (13 and 12 per cent respectively). In 2014-15, Kollam, Alappuzha and the northern districts of Kozhikode, Wayanad, Kannur and Kasaragod have shown a decline in the area as well as production in the State. In Kottayam, despite an increase in the area of 9.8 per cent the production has not responded positively. Thus an attempt has been done by the researcher to examine the trend in the area, production and productivity of rice in Kerala.

1.3 Objective of the Study

The main objective of the study is to examine the relationship of the period with the Area, Production and Productivity of rice in Kerala.

1.4 Hypothesis of the Study

1. There is no significant relationship of the period with the Area, Production and Productivity of rice in Kerala.

1.5 Methodology of the Study

The present study is empirical in nature. Secondary data were used for the analysis. Nine years data from 1972 is considered to examine the relationship. The data were collected from the official records of the Department of Agriculture. Regression Analysis and Anova test was the statistical technique relied on the researcher.

1.6 Results and Discussion

Details regarding Area, Production and Productivity of rice in Kerala are shown here.

From the table 1, it is clear that in 1972, the area (Lakh.ha.) assigned for the paddy cultivation was 8.75 Lakh.ha. with a production of 13.76 Lakh Tons and

productivity of 1577 Kg/.ha. But after a ten year period, in the year 1982, the area has been reduced to 8.07 Lakh.ha. with a production of 13.06 Lakh Tons and a growth in the productivity of 1660 Kg/.ha. In the year 2002, whooping reduction in the area has been noticed and it touched to 3.22 Lakh.ha. with a production of 7.04 Lakh. Tons and a growth in the productivity of 2182 Kg/.ha. In the year 2010, a deadly reduction in the area has been observed and it came to 2.29 Lakh.ha. with a production of 5.28 Lakh Tons and a growth in the productivity of 2308 Kg/.ha. Finally, in the year 2015, a fatal lessening in the area has been witnessed and it came to 2.13 Lakh.ha. with a production of 5.28 Lakh Tons and a growth in the productivity of 2452 Kg/.ha.

Based on the current scenario of the data, an attempt was done to examine the relationship of the period with the Area, Production and Productivity of rice in Kerala.

Table 1.1
Area, Production and Productivity of Rice in Kerala

Year	Area (Lakh.ha.)	Production (Lakh. Tons.)	Productivity (Kg/.ha.)
1972	8.75	13.76	1577
1982	8.07	13.06	1660
1992	5.41	10.6	1959
2002	3.22	7.04	2182
2007	2.64	6.42	2435
2010	2.29	5.28	2308
2013	2.34	5.9	2520
2014	2.34	5.98	2557
2015	2.13	5.28	2452

Source: Department of Agriculture

Table 1.2
The relationship of the period with the Area- Regression Analysis

r²		0.775			n	9
r		-0.880			k	1
Std. Error		1.333	Dep. Var.	Area (Lakh.ha)		
ANOVA table						
<i>Source</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p-value</i>	<i>Result</i>
Regression	42.9091	1	42.9091	24.15	.0017	Significant
Residual	12.4392	7	1.7770			
Total	55.3484	8				
Regression output					<i>confidence interval</i>	
<i>variables</i>	<i>coefficients</i>	<i>std. error</i>	<i>t</i> (<i>df</i> =7)	<i>p-value</i>	<i>95% lower</i>	<i>95% upper</i>
Intercept	1,675.1696					
t	-0.8457	0.1721	-4.914	.0017	-1.2526	-0.4387

Source: Secondary data

There is a high negative relationship between periods with the Area of rice cultivation in Kerala and it is -0.880. Anova test was performed to examine whether the model is fir for the prediction. The F value is 24.15 and p-value 0.0017(P<5 per cent), showing the model is fit for the prediction. The regression coefficient is 0.775, implies 77.50 per cent true for the relationship between periods with the Area of rice cultivation in Kerala. The OLS equation is

Area (Lakh.ha) =
1,675.1696+Period (-0.8457).

Similarly, a further attempt was done to examine the relationship of the period with the Production of rice cultivation in Kerala (Table 1.3).

There is a high negative relationship between periods with the Production of rice cultivation in Kerala and it is -0.892. Anova test was performed to examine whether the model is fir for the prediction. The F value is 27.37 and p-value 0.0012(P<5 per cent), showing the model is fit for the prediction. The regression coefficient is 0.796, implies 79.60 per cent true for the relationship between periods with the Production of rice cultivation in Kerala. The OLS equation is

Production =
2,192.2853 +Period (-1.1053).

Finally, the attempt was done to examine the relationship of the period with the Productivity of rice cultivation in Kerala(Table 1.4).

Table 1.3

The Relationship of the Period with the Production - Regression Analysis

r²	0.796			n	9	
r	-0.892			k	1	
Std. Error	1.637	Dep. Var.	Production			
ANOVA table						
<i>Source</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p-value</i>	Result
Regression	73.3057	1	73.3057	27.37	.0012	Significant
Residual	18.7471	7	2.6782			
Total	92.0528	8				
Regression output					<i>confidence interval</i>	
<i>variables</i>	<i>coefficients</i>	<i>std. error</i>	<i>t (df=7)</i>	<i>p-value</i>	<i>95% lower</i>	<i>95% upper</i>
Intercept	2,192.2853					
t	-1.1053	0.2113	-5.232	.0012	-1.6049	-0.6058

Source: Secondary data

Table 1.4

The Relationship of the Period with the Productivity - Regression Analysis

r²	0.840			n	9	
r	0.917			k	1	
Std. Error	161.036	Dep. Var.	Productivity			
ANOVA table						
<i>Source</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p-value</i>	Result
Regression	955,334.01	1	955,334.0167	36.84	.0005	Significant
Residual	181,527.98	7	25,932.5690			
Total	1,136,862.0	8				
Regression output					<i>confidence interval</i>	
<i>variables</i>	<i>coefficients</i>	<i>std. error</i>	<i>t (df=7)</i>	<i>p-value</i>	<i>95% lower</i>	<i>95% upper</i>
Intercept	-247,158.6					
t	126.1833	20.7896	6.070	.0005	77.0236	175.3430

Source: Secondary data

There is a high positive relationship between periods with the Productivity of rice cultivation in Kerala and it is 0.917. Anova test was performed to examine whether the model is fit for the prediction. The F value is 36.84 and p-value 0.0005 ($P < 5$ per cent), showing the model is fit for the prediction. The regression coefficient is 0.840, implies 84 per cent true for the relationship between periods with the Productivity of rice cultivation in Kerala. The OLS equation is

$$\text{Productivity} = -247,158.6 + \text{Period} (126.1833).$$

1.7 Conclusions

The present condition of rice cultivation in Kerala is not under the

control. Despite the improvement in the productivity, the Area and Production of rice in Kerala has been on lessening very sharp. The regression analysis done in this direction satisfies the same result. The Area, Production and Productivity of the rice in Kerala are closely related with the periods. This implies that the change in period will affect the Area and Production of rice in Kerala. Thus stringent measures are advised in this direction by the policymakers and Govt. officials. Sensitization of the future generation about the need of this vital sector has to be improved. Unless precautionary measures are not taken on a time-bound manner, the paddy cultivation in Kerala becomes impracticality.

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Paddy cultivation is said to be one of the principal crops in Kerala. It occupies the third position in the area under cultivation way behind rubber and coconut. Area and production of rice in Kerala has been on the decline and the productivity is one of the lowest among other rice producing states.

A STUDY ON THE TREND OF SHRIMP EXPORTS FROM KERALA

*Athena Prince

Abstract

The Sea food Exports Industry in India has attained great progress since its inception in 1953 and is on the path of growth. This has mainly become possible due to the modernisation and strict compliance of quality control in various sea food export processes, value addition and diversification of products and exploration of new market destinations. Apart from the marine landings, the growth of aquaculture production of various fish varieties has also given a major boost to the sea food export sector in India. Among the major sea food items, frozen shrimp is the major sea food items exported in terms of quantity and value. Kerala is one of the leading shrimp exporting states in India. The present study analysed the trend of the shrimp exports from Kerala during 2008 -18. The study has also attempted to predict the future quantity of shrimp exports from Kochi and Trivandrum which are two major ports engaged in shrimp exports from Kerala.

Key words:- Sea Food, Shrimp, Value Addition, Aquaculture

India is a nation blessed with oceanic resources and sea wealth. India has a long coastline of 8,129 km, continental shelf area of 5120 sq.km and Exclusive Economic Zone (EEZ) of 2.02 million sq.km . In addition to this, India also has vast stretches of fresh and brackish waters. Thus, it is well evident that there is

immense scope for the fisheries sector in India to utilise its fisheries potential so as to achieve food and nutritional security. Moreover, it provides employment opportunities and source of income to millions of people engaged in fishing and allied activities. Today, sea food products exports are a major contributor to the agricultural exports of the country and

**Athena Prince, Research Scholar, Post Graduate Department of Commerce and Research Centre, Mahatma Gandhi College, Kesavadasapuram, Thiruvananthapuram.*

are an important foreign exchange earner for the country. Indian Sea food exports industry has achieved exponential growth over past few decades and has achieved great progress from where it began its journey. It all began when a consignment of frozen shrimp was exported in 1953 from the port of Cochin by Mr. Madhavan Nair, the then owner of Cochin Company. Even though the exports of canned shrimp exports were targeted in the beginning, the plan was dropped due to the unavailability of cans and so, frozen shrimps were exported instead. Eventually, by the late 1960's, other fish varieties like squid, cuttle fish, clams, mussels were also exported. The sea food export industry has changed a lot over the past decades. A radical change is visible in the Indian sea food export industry due to the changes in the quantity, value and variety of sea food items exported, value addition, modernisation of the industry and diversification of export destinations.

Currently, India ranks second in fish production after China and is the 5th largest sea food exporting country in the world with a valuation of 4.6 billion US dollars. In 2017-18, India's seafood export reached a new record by exporting 13, 77,244 tonnes valuing Rs 45, 106.89 crore. As compared to the previous year, the quantity exported increased by 21.35 per cent and the value increased by 19.1 per cent. As per the reports of the Marine Product Export Development Authority (the regulatory body of marine products exports in India), the earnings from sea food exports are expected to cross 6 billion US dollars during the current fiscal year. USA, Japan, China, European Union, Middle East,

South East Asia are the major export destinations for the Indian Sea food. As of 2017, USA and South East Asia are the major Indian sea food export destinations with a respective share of 32.76 per cent and 31.59 per cent. The sea food export basket consist of Frozen fish, Frozen shrimp, Frozen Cuttle fish, Frozen squids, Dried items, Chilled items, Live items and other items. Andhra Pradesh, Tamil Nadu, West Bengal, Kerala, Maharashtra, Gujarat, Goa, Karnataka, Orissa are the sea food exporting states in India.

Frozen Shrimp is the major sea food item that is exported from India in terms of quantity and value. Presently India has attained the position of being the top farmed shrimp supplier in the world and it is also the largest frozen sea water shrimp exporting country in the world by value i.e. US\$3.9 billion (22.2%). In 2017-18, Frozen shrimp exports accounted to about 38.28 per cent in quantity and 64.50 per cent of the total earnings in dollar terms and it maintained its position as the top exported sea food item. As per 2017-18 export data, India is exporting shrimp to 80 countries across the globe and has over 400 sea food exporters located in different maritime states. As of 2017, USA is the major export destination of the shrimp exports from India and it accounts for about 45 per cent of total shrimp exports. USA is followed by Vietnam, Japan, United Kingdom and United Arab Emirates.

Kerala is one of the major sea food exporting state in India. Kerala was ranked third, quantity wise and second value wise among the states engaged in sea food export in India during 2011- 2012.

Frozen Shrimp, Frozen Fish, Frozen Cuttle fish, Clams and Mussels are the main sea food items exported from Kerala ports. Since 2013-14, frozen shrimp has become the largest export item from Kerala. In 2016-17, around 45133 MT of frozen shrimp accounting for a share of 28.36 per cent and worth 2178.01 crore (43.49 per cent share) was exported. Kochi and Trivandrum are the two ports engaged in the export of Shrimp in Kerala. The present study studies the trend of frozen shrimp from Kerala during the period 2008- 18. It also aims to predict the value of the frozen shrimp exported based on its quantity from the Kochi and Trivandrum Ports respectively and also predicts the quantity of frozen shrimp exports from Kochi and Trivandrum Ports based on the time period.

Review of Literature

- Jebadurai (2017) in his study identified that frozen shrimp, frozen fish, cuttle fish, squid, dried and chilled items were the 7 major sea food items that were exported from India. It was pointed out that among these; frozen shrimp registered a growth of 22.73 per cent in 2012.
- Rajool and et.al (2016) in their study pointed out that there has been a 16 per cent increase in the shrimp production globally and shrimp occupied an important position in the economy of India owing to its high export value. It was identified that the shrimp exports generated a value of 8833.29 crores from 2.09 lakh tonnes during 2012-13. The study also highlighted the need of the development of deep sea shrimp fishery operations to meet the increasing domestic and global demand for shrimp.
- Viswanatha and et.al (2015) in their study analysed the trend of sea food exports from India during the period of 1995-2013. It was found that frozen shrimp was the major export item in terms of value in 2012-13 and it accounted to about 52 per cent of the sea food exports. The export of white leg shrimp and depreciation in the value of rupee were identified as the major reasons for the high value realisation of shrimp.
- Anjana and Rosa (2015) in their study identified that there has been an increase in the Frozen Shrimp exports during the period of 2000-12. It was identified that there has been a growth of 31.85% in terms of quantity, 99.54 per cent in terms of rupee value and 78.06 per cent in dollar value of Frozen Shrimp Exports.
- Shyam and Bindu (2015) pointed out that the foreign exchange earnings from frozen shrimp exports accounted for about 64 per cent of the sea food exports during 2013-2014.
- Shinoj and et.al (2009) in their study identified that even though a visible increase in the quantity and value of shrimp exports was observed in the last decade, a comparative reduction in the respective share of quantity and value of shrimp exports was noted and the quantitative share of

shrimp exports reduced from 32.3 per cent to 22.4 per cent whereas, the share of value reduced to 53.9 per cent from 67.3 per cent. They also highlighted that penaeid shrimp from Maharashtra and Kerala coasts was the major shrimp variety that was exported from India whereas *Penaeus monodon* which is commonly known as the “Jumbo tiger shrimp” was the highly demanded and high priced sea food variety which was exported to Japan and European Union.

- Thulasimani (2004) in her study emphasized that shrimp was the major sea food variety that was exported in all four categories of live, dried, chilled and frozen sea food items. It was also identified that, shrimp was the major foreign exchange earner during the period of 1990-1999.

Statement of the Problem

Kerala is one of the leading shrimp exporting states in India. As on 2017, Kerala occupies the fourth position in Frozen Shrimp Export after Andhra Pradesh (first), Tamil Nadu (second) and West Bengal (Third). Inland and marine harvests of shrimp are the sources of shrimp exports from Kerala. Shrimp farming is very popular in Kerala. It is because shrimp farming requires only natural facilities, requires very short duration for growth, has quick turnover, provides assured return. The major varieties of shrimp exported from Kerala are Tiger Shrimp, Pink shrimp and Marine shrimp.

Kochi and Trivandrum are the two major ports engaged in shrimp exports from Kerala. The present study aims to analyse the trend of the shrimp exports from Kerala during the period 2008-09 to 2017-18. The study also attempts to predict the value of shrimp exports on the basis of the quantity exported from Kochi and Trivandrum ports respectively. Further, an attempt is also made to predict the quantity of shrimp exports from Kochi and Trivandrum Ports based on the time period.

Objectives of the Study

1. To analyse the trend of frozen shrimp exports from Kerala in terms of quantity and value during the period of 2008-2018.
2. To predict the value of frozen shrimp exports on the basis of its quantity from Kochi and Trivandrum Ports.
3. To predict the quantity of shrimp exports from Kochi and Trivandrum Ports based on the time period.

Hypotheses

1. There is no relationship in the quantity of frozen shrimp exports from Kochi Port and value.
2. There is no relationship in the quantity of frozen shrimp exports from Trivandrum Port and value.
3. There is no specific linear trend of quantity of shrimp exported from Kochi and Trivandrum based on period.

Research Methodology

The present study is based on secondary data. The secondary data have been collected from the export data of the Marine Products Export Development Authority. Trend Analysis of Frozen Shrimp Exports from Kerala has been made for period of 2008-2018. The study also used Single Linear Regression Analysis to predict the value of shrimp to be exported, based on the

quantity exported from Kochi and Trivandrum and to predict the quantity of shrimp to be exported from Kochi and Trivandrum for the next two years.

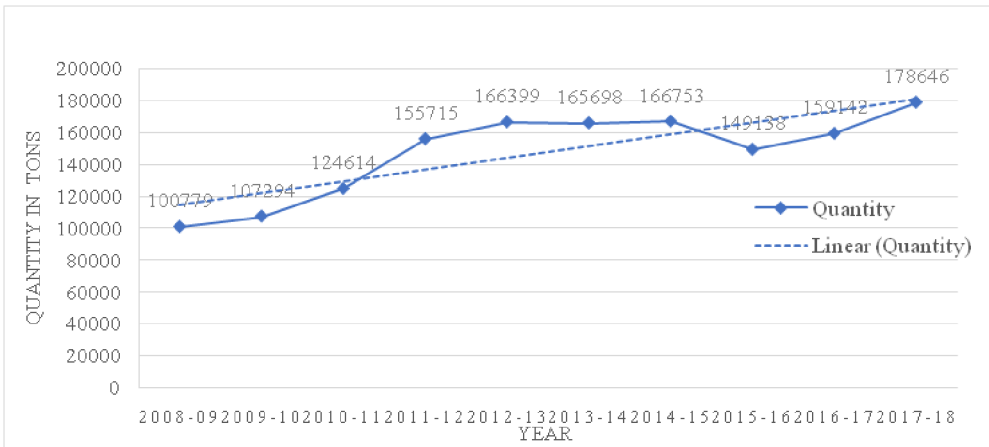
Analysis and Interpretation

A. Trend of Shrimp exports from Kerala in terms of quantity and Value during the period of 2008-2018.

Figure 1 shows the trend of the shrimp exports from Kerala in terms of

Figure 1

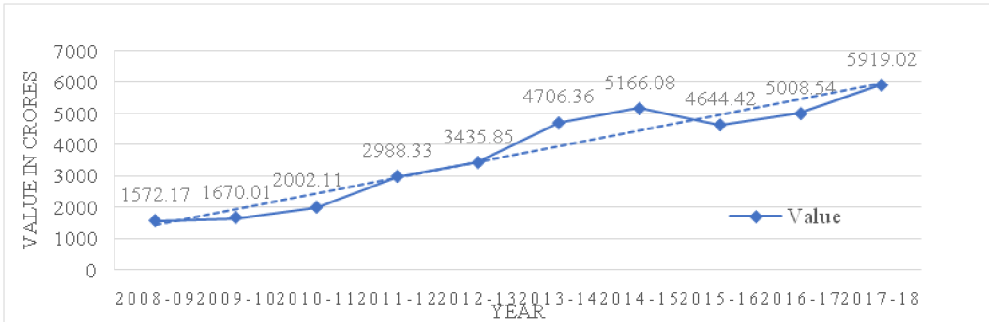
Trend of Shrimp Exports from Kerala in terms of Quantity during 2008-18



Source: Data from MPEDA

Figure 2

Trend of Shrimp Exports from Kerala in terms of Value during 2008-18



Source: Data from MPEDA

quantity during the period of 2008-18. The quantity of shrimp exports from Kerala showed an increasing trend from 2008 to 2013 and the quantity of shrimp exported from Kerala increased from 1,00,779 tons in 2008-09 to 1,66,399 tons in 2012-13. During the period of 2013 – 2014, the quantity of shrimp exported declined to 1, 65,698 tons and subsequently increased to 1, 66,753 tons during 2014-15. It was followed by a declining trend during the period of 2015-16 and the quantity of exports dropped to 1, 49,138 tons. During 2016-18, an increasing trend is observed as the quantity exported increased from 1, 49,138 tons in 2015-16 to 1, 78,646 tons in 2017- 18.

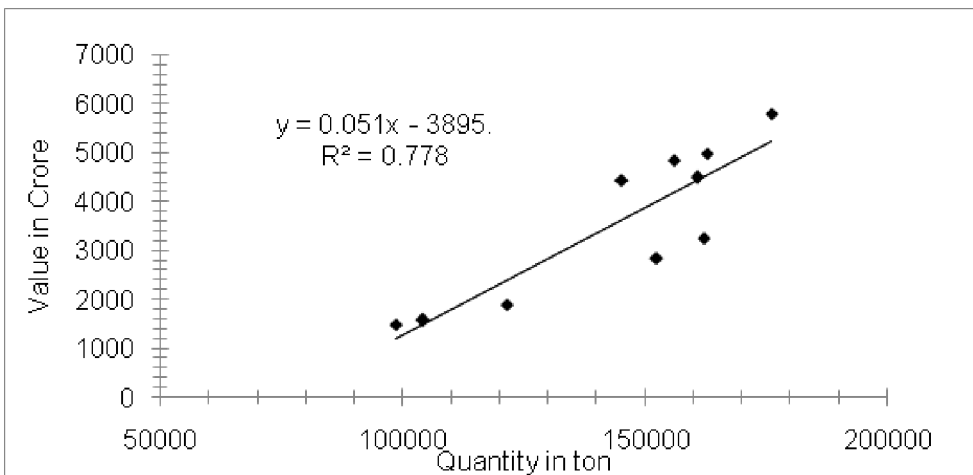
Figure 2 shows the trend of the shrimp exports from Kerala in terms of value in crores during the period of 2008-18 .The value of shrimp exports from Kerala shows an increasing trend from 2008 to 2015 and the value increased from 1572.17 crores in 2008-09 to

5166.08 crores in 2014-15. During the period of 2015 – 2016, a declining trend is observed and the value of shrimp exports dropped to 4644.42 from 5166.08 crores in 2014-15. It is followed by an increasing trend from 2015- 18 and the value rose from 4644.42 crores during 2015-16 to 5919.02 crores during 2017-18.

B. Prediction of Value of shrimp exports on the basis of quantity from Kochi and Trivandrum Ports.

The figure 3 shows the prediction of the Shrimp Export Value Based on the Quantity Exported from Kochi Port. Here Quantity is the independent variable or the predictor variable and value of shrimp exported is the dependent variable or the response variable. Here R square value is 0.7787 which means that 77 per cent of the variation in the value of shrimp is explained by the quantity of shrimp exported from Kochi Port. It shows that there is a linear relationship

Figure 3
Prediction of Shrimp Export Value Based On Quantity from Kochi Port



Source: Data from MPEDA

between the value and quantity of shrimp exported. Hence the null hypothesis that “there is no relationship in the quantity of frozen shrimp exports from Kochi Port and value” is rejected and alternative hypothesis is accepted.

Here the regression equation is $y = 0.0518x - 3895.2$ i.e. Value = $0.0518 \times$ Quantity – 3895 where 0.518 is the slope of the regression line and -3895 is the intercept. Using this equation, we can predict the future value of shrimp exports given its quantity exported.

The figure 4 shows the prediction of the Shrimp Export Value Based on the Quantity Exported from Trivandrum Port. Here Quantity is the independent variable or the predictor variable and value of shrimp exported is the dependent variable or the response variable. R square value is 0.73 which means that 73 per cent of the variation in the value of shrimp is explained by the quantity exported from Trivandrum Port. The

Scatter plot shows that there is a linear relationship between the value and quantity of shrimp exported. Hence the null hypothesis that “there is no relationship in the quantity of frozen shrimp exports from Trivandrum Port and value” is rejected and alternative hypothesis is accepted.

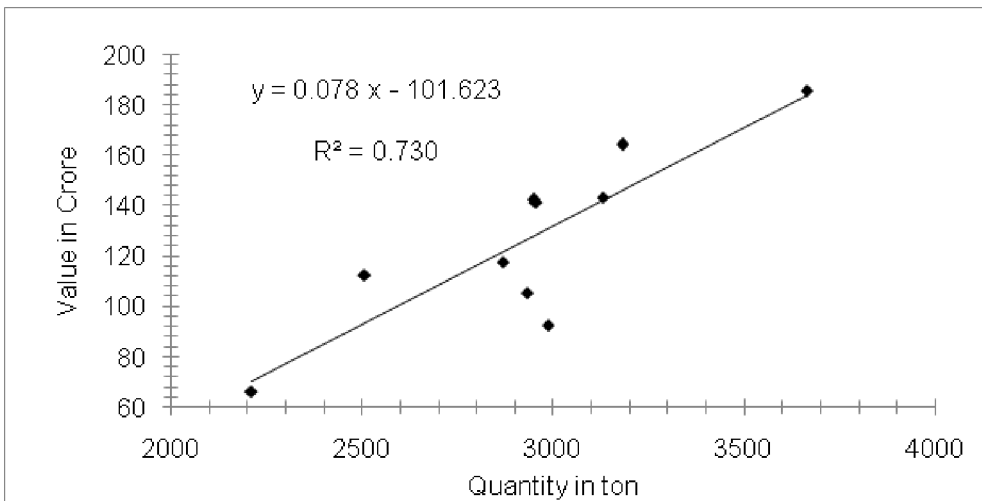
Here the regression equation is $y = 0.078x - 101.623$ i.e. Value = $0.078 \times$ Quantity – 101.623 where 0.078 is the slope of the regression line and -101.623 is the intercept. Using this equation, we can predict the future value of shrimp exports given its quantity exported.

C. Prediction of Quantity of Exports from Kochi and Trivandrum Ports

1. Regression Analysis of Quantity of Frozen Shrimp Export from Kochi Port

In this regression analysis, Quantity in ton is the dependent variable and Time

Figure 4
Prediction of Shrimp Export Value Based On Quantity From Trivandrum Port



Source: Data from MPEDA

Period is the independent variable. R shows the absolute value of correlation coefficient of the variables i.e. Quantity of shrimps exported and Time Period.

Table 1.1 shows that R value is 83.4 per cent which shows that there is a strong correlation between the quantity of shrimp exported and time period. R square value shows how well the regression model fits the data. Here the R square value is 0.695 which shows that the regression model is 69.5 per cent true

and this indicates that 69.5 per cent variation in the quantity of exports (dependent variable) i.e. can be explained by the time period (independent variable).

The ANOVA table shows that Significance F or the p- value of the model. Here the p value is 0.0027 ($p < 0.05$) . This means that the model is fit. As the p value is less than 0.05, the null hypothesis that *“there is no significant relationship between the time period and quantity of shrimp exported from Kochi”* is rejected and

Table 1.1
Regression Statistics

R²	0.695	N	10
R	0.834	K	1
Standard error	15561.425	Dependent Variable	Quantity in Ton

Source: Based on Secondary Data

Table 1.2
ANNOVA Table

Source	SS	df	MS	F	p-value
Regression	4,421,689,993.7455	1	4,421,689,993.7455	18.26	.0027
Residual	1,937,263,530.2546	8	242,157,941.2818		
Total	6,358,953,524.0000	9			

Source: Based on Secondary Data from MPEDA

Table 1.3
Regression Output

Regression output		confidence interval				
Variables	Coefficients	std. error	t (df=8)	p-value	95% lower	95% upper
Intercept	-14,596,742.6727					
t	7,320.9455	1,713.2565	4.273	.0027	3,370.1689	11,271.7220

Source: Based on Secondary Data from MPEDA

alternative hypothesis is accepted. This implies that there is a significant relationship between the time period and quantity of shrimp exported from Kochi Port.

Table 1.3 shows the coefficients of the intercept and the independent variable i.e. time period. From this the OLS equation can be obtained as follows:

Quantity = 7320.95*Time Period- 14,596,742.67. This can be used to predict the future quantity of shrimp exports from Kochi Port.

Table 1.4 shows the time series of quantity of shrimp exports from Kochi Port up to 2020. From the table, it is predicted that the quantity of exports will

Table 1.4

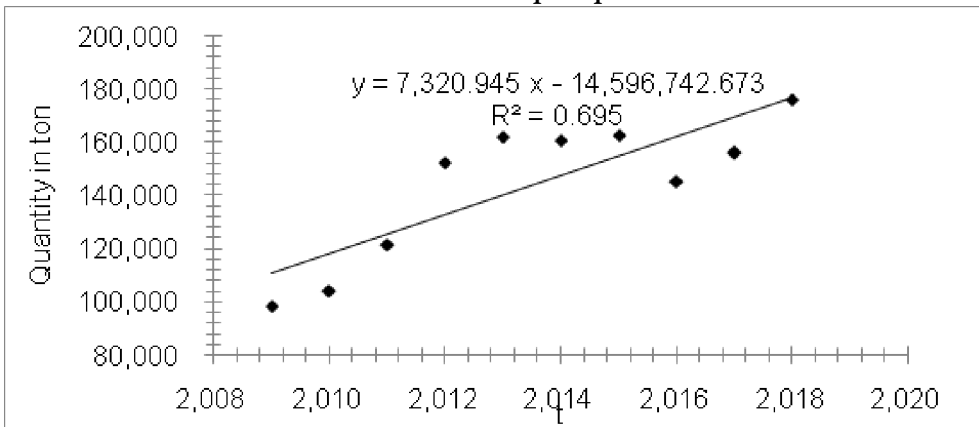
Time series of Quantity of Shrimp Export from Kochi Port up to 2020

T	Quantity in ton	95% Confidence Intervals		95% Prediction Intervals		Leverage
		Lower	Upper	Lower	Upper	
2009	98,537	89,945.4	1,32,128.1	69,412.7	1,52,660.8	0.345
2010	1,04,281	1,00,469.8	1,36,245.6	78,261.7	1,58,453.7	0.248
2011	1,21,550	1,10,634.5	1,40,722.7	86,768.0	1,64,589.3	0.176
2012	1,52,445	1,36,123.1	1,59,159.9	1,09,953.5	1,85,329.5	0.103
2013	1,62,109	1,42,160.4	1,67,764.4	1,16,862.5	1,93,062.3	0.127
2014	1,60,798	1,47,239.3	1,77,327.5	1,23,372.7	2,01,194.0	0.176
2015	1,62,818	1,51,716.4	1,87,492.2	1,29,508.3	2,09,700.3	0.248
2016	1,45,193	1,28,802.1	1,51,838.9	1,02,632.5	1,78,008.5	0.103
2017	1,55,989	1,36,123.1	1,59,159.9	1,09,953.5	1,85,329.5	0.103
2018	1,76,090	1,55,833.9	1,98,016.6	1,35,301.2	2,18,549.3	0.345
2019	1,84,246.2	1,59,732.3	2,08,760.1	1,40,787.7	2,27,704.7	0.467
2020	1,91,567.1	1,63,491.6	2,19,642.7	1,46,004.6	2,37,129.7	0.612

Source: Based on Secondary data from MPEDA

Figure 5

Linear Curve fit of Frozen Shrimp Export from 2009 – 2020



Source: Based on Secondary Data from MPEDA

increase to 1, 84,246.2 tons approximately in 2019 from 1, 76,090 tons in 2018. Further in 2020, quantity of exports will increase to 1, 91,567.1 tons approximately from 1, 84,246.2 tons in 2019.

Figure 5 shows the graphical representation of the regression analysis of the shrimp exports from Kochi Port upto 2020.

2. Regression Analysis of Quantity of Frozen Shrimp Export from Trivandrum

In this regression analysis, Quantity in ton is the dependent variable and Time Period is the independent variable. R shows the absolute value of correlation coefficient of the variables i.e. Quantity of shrimps exported and Time Period.

Table 2.1 shows that R value is 30.3 per cent which shows that there is a strong correlation between the quantities of shrimp exported and time period. R square value shows how well the regression model fits the data. Here the R square value is 0.092 which shows that the regression model is only 9.2 per cent true and this indicates that only 9.2 per cent variation in the quantity of exports (dependent variable) i.e. can be explained by the time period (independent variable).

The ANOVA table shows that Significance F or the p- value of the model. Here the p value is 0.3956 ($p > 0.05$). This means that the model is not fit. As the p value is more than 0.05, the null hypothesis that *“there is no significant relationship between the time period and quantity*

Table 2.1
Regression Statistics

R²	0.092	N	10
R	0.303	K	1
Standard error	391.555	Dependent Variable	Quantity in Ton

Source: Based on Secondary Data

Table 2.2
ANNOVA Table

Source	SS	df	MS	F	p-value
Regression	123,540.0758	1	123,540.0758	0.81	.3956
Residual	1,226,522.0242	8	153,315.2530		
Total	1,350,062.1000	9			

Source: Based on Secondary Data from MPEDA

of shrimp exported from Trivandrum” is accepted. This implies that there is no significant relationship between the time period and quantity of shrimp exported from Trivandrum Port. Hence we cannot predict the future quantity of shrimp exports from Trivandrum Port.

8. Findings of the Study.

- In terms of quantity of shrimp exports from Kerala, an increasing trend was observed from 2008 to 2018 except during the period of 2013-14 and 2015-16. During these two periods, declining trends were observed.
- In terms of value of shrimp exports from Kerala, an increasing trend was observed from 2008 to 2018 except during the period of 2015-16. During this period, a declining trend was observed.
- There is a relationship between the quantity of frozen shrimp exports from Kochi Port and value. Predicted value of shrimp export from Kochi Port = $0.0518 * \text{Quantity} - 3895$.
- There is a relationship between the quantity of frozen shrimp exports from Trivandrum Port and value.

Predicted value of shrimp export from Trivandrum Port = $0.078 * \text{Quantity} - 101.623$.

- There is a specific linear trend of quantity of shrimp exported from Kochi Port based on period. It is predicted that the quantity of exports will increase to 1, 84,246.2 tons in 2019 and 1, 91,567.1 tons in 2020 approximately.
- There is no specific linear trend of quantity of shrimp exported from Trivandrum Port based on period.

9. Suggestions and Conclusion

Frozen Shrimp is major foreign exchange earning sea food item from India in general and Kerala in particular. Presently, Kerala occupies only the fourth position in Frozen Shrimp Export. This is mainly due to the increased production of shrimp through aquaculture from other leading shrimp exporting states like Andhra Pradesh and Tamil Nadu. Hence, focus must be given to increase the shrimp production through aquaculture. This will help to boost the shrimp exports from Kerala. For this the state government should introduce new schemes and programmes to promote and increase aquaculture of shrimp and should provide subsidies and grants.

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India is nation blessed with ocean resources and sea wealth. It has a long coastline of 8129 km, continental shelf area of 5120 square kms and Exclusive Economic Zone of 2.02 million square kms. Currently India ranks second in fish production after China and is the fifth largest seafood exporting country in the world.

MEASUREMENT OF CATERING SERVICE QUALITY

***Sajitha V, **Dr. Vinod A S**

Abstract

Catering service face a tough competition in Kerala. The survival of a catering unit mainly depends on the quality of services provided to the customer. So the service quality is the outcome of attending to needs, demands and expectations of customers through service delivery or customer care. This study covers 260 customers selected at random from Thiruvananthapuram district of state of Kerala. Service quality is the result of a complex network of a several dimensions. Parasuraman, Zeithaml and Berry (1988, 1994) developed a SERVQUAL battery has produces a generic measure of service quality through examination of 22 service items, which factor into five basic dimensions. The service quality dimensions consist of tangibles, reliability, responsiveness, assurance and empathy. Here the assessment of service quality done through the perception and expectation of service quality from customers. Guest's perception of service quality varies widely. Likewise, guest's perceived satisfaction with services also varies widely because two distinct variables influence their perceptions that are customer expectation and service standard. Standard performance is the primary indicator of overall service quality. Moreover, customers are the judges of service quality. The expectations of service quality influence the customers' resulting level of satisfaction.

Key words:- Tangibles, Reliability, Responsiveness, Assurance, Empathy

*I*n this modern world services are widely used by people in all aspects of life. The American Marketing Association defines services as “activities, benefits, or satisfactions which are offered for sale or are provided in connection with the sale of goods.” There

is a growing market for services and increasing dominance of service in economics worldwide. This tremendous growth and economic contributions of the service sector have drawn increasing attention to the issues and challenges of service sector industries worldwide.

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The members of Indian families usually took care of different arrangements during a social gathering or an event. This trend is fast being replaced by the people's interest in hiring catering services. This often results in better arrangements and opportunity for everyone in the family to enjoy the function. This leads to the catering services industry is one of the fastest growing sectors of the Indian economy. In India though the progressive of catering sectors show through the tremendous growth percent of tourism and hospitality industry. The growth rate of hospitality sector is in 2016 are 14% annually.

The survival of the catering industry depends on the customer satisfaction of services available by hotels and other catering establishments. Generally the factors influencing the customers at the time of gathering services are environmental conditions of the eating out, taste of food, standard presentation, service quality and personal attention of every individual. In this sense the service offering can be measured through the comparison of customers' perceptions and expectation on quality of services.

Review of Literature

The customer satisfaction in catering service sector mainly depends to Service quality of catering by hotels. Thus service quality was measured through the GAP analysis which determines the perception and expectation of customers on catering services provided by hotels in Kerala. The service quality measurement was done by SERVQUAL technique. It has been mentioned in the literature by several

writers and researchers. Firstly, it is literary the means of quality is conforming the requirements (Roshy, 1984). This implies that organizations must establishments' requirements and specifications. The term service Jay Kandan Pully, Connie Mok and Beverley Spark(2004) is defined as "activities, benefits, or satisfactions which are offered for sale or are provided in connection with the sale of goods. A quality service has a direct impact on the customers level of satisfaction which creates the positive emotions of customers reflects on service providers the bottom line (Sudheer Andrews). The factors affecting customer satisfaction and quality are varied as the number of customers depending on the time of day, mood, and attitude and so on. Even though the quality of catering services measured through the SERVQUAL technique thereby analyzing five service quality dimensions such as tangibles, reliability, responsiveness, assurance and empathy.

Methods

In order to determine the service quality Parasuraman, Zeithaml and Berry (1988, 1994) developed a SERVQUAL battery has produces a generic measure of service quality through examination of 22 service items, which factor into five basic dimensions. The service quality dimensions consist of tangibles, reliability, responsiveness, assurance and empathy. Thus the service quality assessment is done through the gap analysis of customers about the variables included in the service quality dimensions.

Results

Tangibles

Tangibles consist of the appearance of physical facilities, equipment, personnel and communication materials. The study covers the tangibles of hotels are seating arrangements, presentation of food, hygienic caterers and attractive decoration.

From the table1, it can be seen that the gap between perception and expectation of all the components of tangibles are negative and the differences are significant as the significant level of t test are less than 0.05. The result indicates that the hotels are not able to provide tangibles to the expectation of the customers. The highest difference between perception and expectation is found in the case of hygiene of hotel caterers with a gap score of -0.35. From the result it can be inferred that the most important aspect of tangibles in the hotel to which the customers expressed their displeasure is the hygiene of the caterers. The other important aspects of tangible which the hotel failed to satisfy the

expectation of customers are the presentation of food in the hotel with the gap score of -0.28 followed by decoration of the hotel with a gap score of -0.24. The lowest gap score is found in the systematic seating arrangement. Average Tangibles SERVQUAL score is estimated at -0.27.

Reliability

Reliability reflects the service provider’s ability to perform service dependably and accurately. It includes doing it right the first time, which is one of the service components for customers. Reliability also extends to providing services as and when promised and maintaining error free record. Thus the penchant to over promise services and lead guests toward unrealistic expectations only serves to undermine guest’s tolerance and trust.

From the table 2, it can be seen that the gap between perception and expectation of all the components of reliability are negative and the differences are significant as the significant level of t

Table 1
Gap Score between Perception and Expectation of Customers about Tangibles

No	Components of tangibles	Perception (P)		Expectation (E)		Gap	t	Sig.
		Mean	SD	Mean	SD	P-E		
1	The hotel should have systematic seating arrangement	3.89	0.86	4.12	0.80	-0.23	-9.452	0.000
2	The hotel should always consider about the standard presentation of food	3.83	0.95	4.11	0.82	-0.28	-15.652	0.000
3	The hotel caterers are always hygiene	3.80	0.80	4.15	0.72	-0.35	-18.563	0.000
4	Decoration of the hotel is attractive	3.76	0.82	4.00	0.71	-0.24	-14.876	0.000
Average Tangibles SERVQUAL score						-0.27		

test are less than 0.05. The result indicates that the hotels are not able to provide reliability to the expectation of the customers. The highest difference between perception and expectation is found in the case of prompt delivery of food with a gap score of -0.34. From the result it can be inferred that the most important aspect of reliability in the hotel to which the customers expressed their displeasure is the prompt delivery of food. The other important aspects of reliability which the hotel failed to satisfy the expectation of customers are the hygienic factor in the presentation of food and delay of food supplied in the hotel with the gap score of -0.22 followed by problem solving interest of the caterers of the hotel with a gap score of -0.21. The lowest gap score is found in the hotel should ensure available items in menu. Average Tangibles SERVQUAL score is estimated at -0.23.

Responsiveness

Responsiveness represents the willingness to help customers and provide

prompt service. It has been said that “today luxury is time”. Consequently, service provider’s ability to provide services in timely manner is a critical component of service quality for many guests.

From the table 3, it can be seen that the gap between perception and expectation of all the components of responsiveness are negative and the differences are significant as the significant level of t test are less than 0.05. The result indicates that the hotels are not able to provide responsiveness to the expectation of the customers. The highest difference between perception and expectation is found in the case of convenient hotel tariff with a gap score of -0.25. From the result it can be inferred that the most important aspect of responsiveness in the hotel to which the customers expressed their displeasure is the providing of credible food to the customers. The other important aspects of responsiveness which the hotel failed to satisfy the expectation of customers are the

Table 2
Gap Score between Perception and Expectation of Customers about Reliability

No	Components of reliability	Perception (P)		Expectation (E)		Gap	t	Sig.
		Mean	SD	Mean	SD	P-E		
1	The hotel ensure the available items in menu	3.94	0.81	4.12	0.75	-0.18	-12.306	0.000
2	When you have a problem at time of serving food, the hotel shows a sincere interest in solving it.	3.82	0.84	4.03	0.72	-0.21	-12.872	0.000
3	Prompt delivery at the time of ordering of food	3.66	0.90	4.00	0.75	-0.34	-17.663	0.000
4	The hotel are always consider hygienic factors in the preparation of food	3.91	0.92	4.13	0.76	-0.22	-13.071	0.000
5	Delay on food supplied	3.55	0.93	3.78	0.78	-0.22	-12.655	0.000
Average Reliability SERVQUAL score						-0.23		

willingness of catering service providers in the hotel with the gap score of -0.09 followed by prompt services to the customers with a gap score of -0.03. But it is the lowest gap score in the service quality analysis. Average Tangibles SERVQUAL score is estimated at -0.14.

Assurance

Assurance reflects the knowledge and courtesy of suppliers and their ability to inspire trust and confidence. Guest expects to feel safe in their dealings with suppliers in hotels.

From the table 4, it can be seen that the gap between perception and expectation of all the components of assurance are negative and the differences are significant as the significant level of t test are less than 0.05. The result indicates that the hotels are not able to provide assurance to the expectation of the customers. The highest difference between perception and expectation is found in the case of behavior of catering service providers with a gap score of -0.13. From the result it can be inferred that the most important aspect of

Table 3
Gap Score between Perception and Expectation of Customers about Responsiveness

No	Components of responsiveness	Perception (P)		Expectation (E)		Gap P-E	t	Sig.
		Mean	SD	Mean	SD			
1	Catering service providers in the hotel are always willing to help you	4.06	0.79	4.16	0.71	-0.09	-7.148	0.000
2	The hotel should provide prompt service to the customers	3.78	0.88	3.81	0.85	-0.03	-4.705	0.000
3	The hotel tariff is convenient	3.63	0.90	3.88	0.78	-0.25	-15.590	0.000
4	The hotels should provide credible food to the customers	3.84	0.88	4.01	0.77	-0.17	-12.431	0.000
Average Responsiveness SERVQUAL score						-0.14		

Table 4
Gap Score between Perception and Expectation of Customers about Assurance

No	Components of assurance	Perception (P)		Expectation (E)		Gap P-E	t	Sig.
		Mean	SD	Mean	SD			
1	The behavior of catering service providers in the hotel instills comfort in you.	3.94	0.81	4.07	0.72	-0.13	-10.651	0.000
2	Customers can feel security from the hotel	3.96	0.77	4.04	0.72	-0.07	-7.556	0.000
3	The customers can feel the courtesy of the caterer	3.99	0.73	4.08	0.68	-0.09	-8.560	0.000
4	Catering service providers have the knowledge to answer to your questions regarding food supplied.	4.06	0.79	4.19	0.66	-0.12	-9.782	0.000
Average Assurance SERVQUAL score						-0.10		

assurance in the hotel to which the customers expressed their displeasure is knowledge of catering service providers about food supplied. The other important aspects of assurance which the hotel failed to satisfy the expectation of customers are the courtesy of the caterers with the gap score of -0.09. Followed by the hotel with a lowest gap score -0.07 is found in the customer’s security feeling from the hotel. Average Tangibles SERVQUAL score is estimated at -0.10.

Empathy

Empathy involves the caring individualized attention in the hotel provides its customers. Due to customers desires that suppliers see things from their point of view. For the purpose of understating the perception and expectation of customers on empathy of service providers are categorized as fulfill specific need of customers, convenient operating hours, personal attention and good environment

From the table 5, it can be seen that the gap between perception and

expectation of all the components of empathy are negative and the differences are significant as the significant level of t test are less than 0.05. The result indicates that the hotels are not able to provide empathy to the expectation of the customers. The highest difference between perception and expectation is found in the case of good environment with a gap score of -0.18. From the result it can be inferred that the most important aspect of empathy in the hotel to which the customers expressed their displeasure is fulfilling of specific need of the customers. The other important aspects of empathy which the hotel failed to satisfy the expectation of customers are the personal attention with the gap score of -0.14 followed by effective management of caterers of the hotel with a gap score of -0.12. The lowest gap score is found in the hotel is convenient operating hours. Average Tangibles SERVQUAL score is estimated at -0.14.

From the table 6, it can be seen that the average SERVQUAL scores of overall service quality and its components

Table 5
Gap Score between Perception and Expectation of Customers about Empathy

No	Components of empathy	Perception(P)		Expectatio(E)		Gap	t	Sig.
		Mean	SD	Mean	SD	P-E		
1	The catering service providers of the hotel fulfill your specific needs	3.86	0.84	4.01	0.71	-0.15	-11.496	0.000
2	The hotel operating hours of the hotel are always convenient to its customers	3.86	0.84	3.97	0.73	-0.11	-9.764	0.000
3	The hotels should always give personal attention	3.72	0.93	3.86	0.81	-0.14	-11.189	0.000
4	The hotel have good environment	3.87	0.78	4.04	0.64	-0.18	-12.348	0.000
5	The hotel have effectively management their caterers	3.80	0.80	3.92	0.71	-0.12	-10.272	0.00
Average Empathy SERVQUAL score							-0.14	

are negative. The result indicates that the hotels are not able to provide service to the customers up to their expectation. The highest negative SERVQUAL score is found in the case of tangible (-0.27). It indicates that the most important component of service in which the hotels failed to provide up to the expectation is the tangible component. The other important component of service in which the hotel cannot provide to the customer is reliability (-0.23) followed by responsiveness (-0.14) and empathy (-0.14). Assurance has got the lowest negative score of -0.10. From the analysis it can be concluded that the most important component of service in which hotels failed to maintain to the expectation of customers are the tangibles provided in the hotels followed by reliability of service. Customers viewed equally about the failure of hotel in providing

responsiveness and empathy. The overall unweighted SERVQUAL score is found to be -0.18.

In order to compute the weighted SERVQUAL score by giving due weights for each components, paired ranking method was used. Research scholar and another expert in the field of catering had given weights for the components of service using paired ranking method and the mean of the weights were computed as the weights of the components. Table7 presents weights computed for the component of service by paired ranking method.

From the table it can see that reliability has got the highest score of 0.36 followed by tangible 0.24 and empathy 0.20. The lowest score of 0.04 is obtained for assurance. Using the scores the average weighted SERVQUAL score estimated as

Table 6
The Average SERVQUAL Scores of Overall Service Quality and its Components

Average Tangible SERVQUAL score	-0.27
Average Reliability SERVQUAL score	-0.23
Average Responsiveness SERVQUAL score	-0.14
Average Assurance SERVQUAL score	-0.10
Average Empathy SERVQUAL score	-0.14
AVERAGE UNWEIGHTED SERVQUAL SCORE	-0.18

Table 7
Weights Computed for the Component of Service by Paired Ranking Method

Tangible	0.240
Reliability	0.360
Responsiveness	0.160
Assurance	0.040
Empathy	0.200

-0.204, which is slightly higher than unweighted score.

AVERAGE WEIGHTED SERVQUAL SCORE -0.204

From the result it can be seen that when the relative importance of the service quality is considered, the average

gap between perception and expectation is -0.204. It means that hotels are not able to provide quality of service at the expected level of the customers.

The table 8 shows the mean SERVQUAL score by the characteristics of customers.

Table 8
Mean SERVQUAL Score by the Characteristics of the Customers

		Mean	SD	F	Sig.
Gender	Male	-0.22	0.18	6.900	0.009
	Female	-0.19	0.17		
Age	Up to 20 yrs	-0.14	0.16	17.926	0.000
	21-30 yrs	-0.18	0.14		
	31-40 yrs	-0.24	0.19		
	Above 40 yrs	-0.28	0.22		
Education	School	-0.39	0.24	11.944	0.000
	Plus 2	-0.18	0.18		
	Degree/Diploma	-0.20	0.17		
	PG/Prof.	-0.21	0.16		
Occupation	Business	-0.30	0.19	5.223	0.001
	Govt .Employee	-0.23	0.18		
	Pvt employee	-0.20	0.17		
	Others	-0.19	0.17		
Income	Up to 5000	-0.21	0.17	0.657	0.578
	5001-15000	-0.20	0.18		
	15001-30000	-0.19	0.16		
	Above 30000	-0.21	0.17		
Purpose of visit	Business	-0.35	0.16	13.604	0.000
	Tourism	-0.15	0.14		
	Entertainment	-0.19	0.15		
	Education	-0.19	0.15		
	Others	-0.25	0.21		
Number of time visited the hotel	First time	-0.22	0.19	2.599	0.051
	2-3 times	-0.20	0.17		
	4-6 times	-0.21	0.16		
	More than six times	-0.16	0.11		

From the result it can be seen that the mean score of male and female respondent is -0.22 and -0.19 which shows the dissatisfaction of male respondents are more than the female respondents because the significant level is less than 0.05. But the age level score denoted dissatisfaction is increases on the increasing of age of the respondents. Meanwhile, in the education level of customers, the highest mean score is -0.36 in school level and the lowest mean score in plus two level educations. So the customers are significantly different. And also in occupation level, SERVQUAL mean score of business -0.30 and lowest mean score in the other group of employees. This shows the occupation level customers dissatisfaction on services from the hotels and restaurants. But the significant level of income based customers is more the 0.05 .it denotes the satisfaction of customers about the hotel services. Among the purpose of visit of the customers the highest mean score is in the business that is -0.35 and the lowest score is go to the educational purposes that is -0.19. And the component number of time visited the hotel the highest mean score is vested to the first time visitors. The significant level of it is 0.051. It shows the satisfaction level of the first time visitors

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Conclusion

This paper is to contribute the research by studying the measurement of service quality regarding the catering services by hotels in Kerala which have some idea for future research on the basis of available literature. Quality services has recognized as a strategic tool for attaining efficiency and creating customer satisfaction. The aim of this paper is to measure the quality of catering services. From various techniques of service quality measurement, the researcher chose the SERVQUAL instrument because this instrument in the form of multiple item scale that would be reliable and meaningful in assessing customers expectations and perceptions of catering service quality.

This study can be concluded that the most important component of service in which hotels failed to maintain to the expectation of customers are the tangibles provided in the hotels followed by reliability of service. Customers viewed equally about the failure of hotel in providing responsiveness and empathy. The overall unweighted SERVQUAL score is found to be -0.18. Through this analysis the researcher can find the answer regarding the questions how and why should service quality be measured?

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**STATEMENT ABOUT THE OWNERSHIP AND OTHER PARTICULARS
ABOUT THE MANAGEMENT RESEARCHER**

Form IV (See Rule 8)

- | | | |
|-------------------------------|---|--|
| 1. Place of Publication | : | Trivandrum, Kerala |
| 2. Period of Publication | : | Quarterly |
| 3. Printer's Name and Address | : | Navadhara Printers
Sreekaryam, Trivandrum - 695 017 |
| 4. Editor's Name and Address | : | Dr. C.V. Jayamani
TC 8/123, Pooja, Kavil Lane
Cheruvakal, Sreekaryam
Trivandrum - 695 017 |
| 5. Ownership | : | Institute of Management Development
and Research, Convent Road, Trivandrum |

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(Sd/-)

Prof. S. Krishnan Nair

Publisher

GREEN FINANCE IN INDIA: AN INNOVATIVE PRACTICE FOR SUSTAINABLE ECONOMIC DEVELOPMENT

***Dr. R. Vasanthagopal**

Abstract

Today, sustainability has been recognized as a buzzword across the world and cleaner production is one of the important media of attaining sustainable development. This approach prompts the manufacturers or service providers to adopt green, energy efficient technologies which help in lesser waste, positive impact on the environment and thus, leading to greater sustainability. However, financing for sustainable infrastructure assets in key areas such as buildings, energy, transport, water, and waste requires a huge amount of capital. Since sustainable development goals demand immense capital contribution which cannot be provided by governments and public sector institutions alone. Green financing is then considered an effective instrument to accelerate the process of sustainable development. This paper discusses the role of green finance in ensuring a sustainable development in the economy of India. The initiatives on the part of the financial institutions in green finance, its challenges and the way forward for making this approach a doable one for a sustainable economic development are also discussed.

Key words:- Environmental Risk Analysis, Financial System, Green Finance, Sustainable Development, Sustainable Finance.

Placing the global economy onto a sustainable development pathway requires an unprecedented shift in investment away from greenhouse gas, fossil fuel, and natural resource intensive industries towards more resource efficient technologies and business models (Ulrich

Volz, 2018). The role of the financial sector is very significant in this green transformation. Generally, green finance covers the financing of investments that generate environmental benefits as part of the broader strategy to achieve an inclusive, resilient and cleaner economic growth. Though green finance had its roots in

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Western countries, which were the first to face widespread environmental problems from the consumption of fossil fuels and sustainable infrastructure assets. Per year, on average, this works out to INR 36 lakh crore or USD 565 billion. Again, the annual spending needed in India to achieve Sustainable Development Goals (SDGs) is worked out as USD 0.96 trillion and the financial gap is USD 0.56 trillion (Anshul Bhamra, Harshini Shanker, Zeenat Niazi, 2015). Green financing is then considered an effective instrument to accelerate the process of sustainable development. Meanwhile, unlike other mature economies, the green finance in India lies scattered and shallow and in most cases the approach ends with sustainable project financing by domestic banks.

This paper discusses the role of green finance in ensuring a sustainable development in the economy of India. It reviews the initiatives on the part of the financial institutions in the area of green finance and its challenges. It also suggests the way out for making this approach a doable one for a sustainable economic development.

Scope of Green Finance

The financial system in India, in line with other economies of the world, were largely concentrated in financing commercial projects with the expectation that these projects only could facilitate to recoup the funds advanced together with the interest income on time. Again, the financial institutions did not follow a positive attitude towards financing sustainable development projects and initiatives, and environmental products

that encourage the development of a sustainable economy then. Owing to the call by different international organizations, including the United Nations Environmental Programme (UNEP), different nationals, particularly developing countries started implementing environmentally sound policies and practices. Accordingly, the banks and institutional investors in India started in financing for green assets and projects and moderate their allocation to brown and high-carbon assets.

Green finance is a broad term that can refer to financial investments flowing into sustainable development projects and initiatives, environmental products, and policies that encourage the development of a more sustainable economy (Höhne / Khosla / Fekete / Gilbert, 2012). According to Volz et al. (2015) green finance comprises all forms of investment or lending that take into account environmental impact and enhance environmental sustainability. Green finance is often used interchangeably with green investment, sustainable finance, climate finance etc. However, in practice, green finance is a wider lens including more than investments and finance. It also includes a wider range of other environmental objectives, such as industrial pollution control, water sanitation, or biodiversity protection.

The broad categories of sectors generally included under the purview of green finance include: green buildings, green products and materials, renewable energy (solar, wind, hydro) adaptation (conservation, bio-system adaptation),

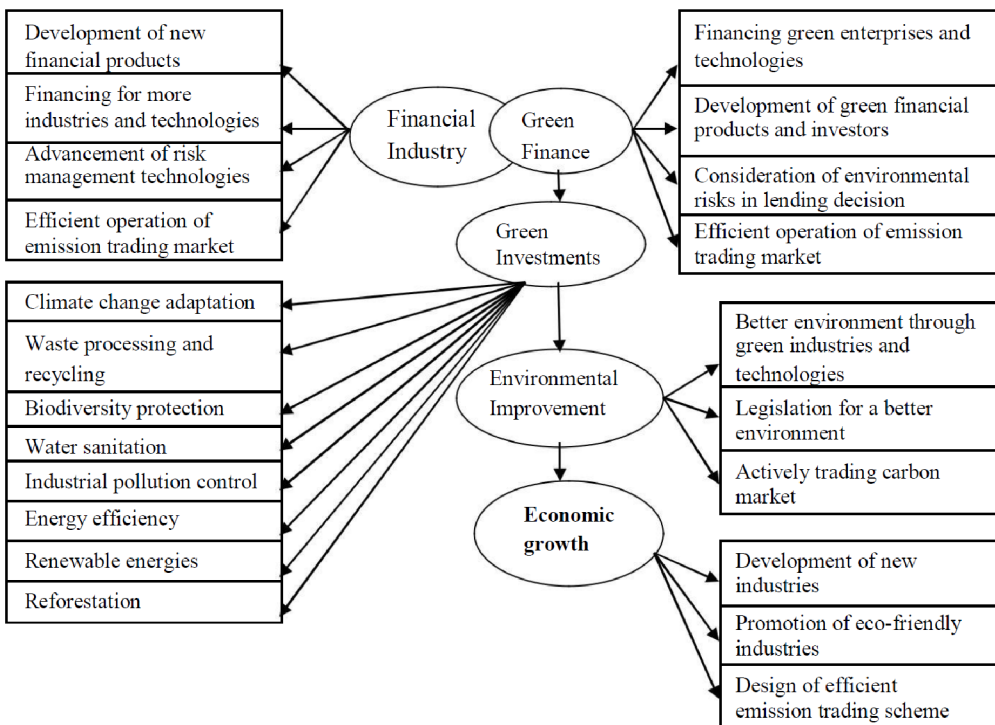
carbon capture and storage, energy and energy efficiency (cogeneration, smart grid), environmental protection (pollution control, prevention, and treatment), sustainable land management (sustainable agriculture, forestry), transport (urban rail/metro, electric, hybrid), waste management (recycling, waste management), water (water efficiency, wastewater treatment) etc.

However, different institutions across the world have developed their own criteria to determine whether a project is green. Generally, they follow International Finance Corporation (IFC) Corporate Governance Methodology, an approach

to evaluate and improve the corporate governance of a company, including the governance attributes of key environmental and social policies and procedures for identifying and financing green projects or assets.

The financing through green finance initiatives facilitate the financial industry, improve the environment, and promote economic growth through green investments in the areas including climate change adaptation, waste processing and recycling, biodiversity protection, water sanitation, industrial pollution control, energy efficiency, renewable energies, reforestation etc. (Hee Jin Noh, 2010) (Fig 1).

Fig. 1
Scope of Green Finance



Green Finance Practices

Since no development is possible without a sound financial system supporting it, countries across the world now started aligning their financial systems with the sustainability imperative. The role of the financial sector in supporting sustainable development and addressing climate change has been generated by the G20, and further strengthened by the Financial Stability Board and the Paris Agreement and the associated nationally determined contributions.

India's focus on harnessing the financial system to provide to socially important segments actually dates back to even pre-nationalisation days and got great impetus after bank nationalization (Gandhi, R., 2016). A range of voluntary and legislative sustainability actions have been initiated in India in order to ensure the sustainability imperative in India, particularly in the area of financial markets and the banking system. The Reserve Bank of India (RBI) issued its first circular on banking and sustainable development in 2007, encouraging the adoption of best practices and greater transparency. Since then, every year or in between the government or other machinery responsible under the government has been taken different initiatives (Table 1). In addition to various progressive measures, corporate social responsibility (CSR) has been formally introduced through the Companies Act of 2013 with effect from 1 April 2014. It states that all companies, private limited or public limited, with a net worth of INR 5 billion, a turnover of INR10 billion or a net profit of INR50 million have to spend at least two per cent of their average net profit

of the immediately preceding three financial years on CSR activities. In 2016, the Securities and Exchange Board of India (SEBI) proposed new norms for issuance and listing of green bonds and in 2017 the RBI started working on a framework for standardizing green bond issuances and financing issues. The finance for sustainability projects in India has been mostly provided through institutional investors, bond market and domestic banks, and non-banking financial intermediaries and development finance institutions. Since the categories of social infrastructure and renewable energy have been included under the Priority Sector Lending (PSL) norms by the RBI, the banks and non-banking companies in India are now including these categories projects as well under the present 40 per cent PSL limit. While financing for sustainability projects by International institutional investors is based on Environmental, Social and Governance (ESG) score and Equator Principles, raising funds by corporate in India through bonds is based on Business Responsibility Report (BRR), S&P BSE CARBONEX, adherence of Green Bond Principles etc.

The RBI has been conscious of the role of banks in providing finance for sustainable development. As early as in December 2007, banks in India were sensitized to the various international initiatives including the Equator principles and were asked to keep abreast of the developments in the field of sustainable development and CSR and dovetail / modify their lending strategies/plans in the light of such developments. In 2015, the RBI included lending to social

infrastructure and small renewable energy projects within the targets of PSL, which led a further fillip to green financing. In the renewable energy segment, bank loans of 7 up to Rs.15 crore for solar-based power generators, biomass-based power generators, windmills, micro-hydel plants, etc. will be considered part of PSL. For individual households, the loan limit will be Rs 1000000 a borrower. The RBI has also recently introduced market for trading

priority sector lending obligations, incentivizing lower cost delivery. The External Commercial Borrowing (ECB) norms have been further liberalized so that green projects can tap this window for raising finance across the borders.

In 2012, the SEBI mandated the Annual Business Responsibility Reporting (ABRR), a reporting framework based on the National Voluntary Guidelines on

Table 1
Sustainability Initiatives in the Financial Sector

Year	Initiatives
2007	RBI circular: Adoption of best practices and greater transparency in sustainable development
2008	Launched S&P ESG India Index Launched National Action Plan on climate change
2009	Introduced National Voluntary Guidelines for Social, Environmental and Economic Responsibilities of Business (SEER) Introduced Annual Business Responsibility Report (BRR) introduced and mandated by SEBI
2010	Introduced carbon tax
2011	Released of National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business
2012	SEBI issued the mandate for inclusion of business responsibility reports as part of the listed entity's annual reports Launched S&P BSE CARBONEX
2013	Launched MSCI ESG India Index
2014	The Companies Act of 2013 mandated 2% of profits towards CSR SEBI issued Infrastructure Investment Trusts (InvIT) Regulations
2015	Included renewable energy under Priority Sector Lending Miniratna status granted to IREDA IBA issued guidelines on responsible banking Exim Bank of India issued a five-year US\$500 million green bond YES Bank issued the first INR-denominated green bond Increased carbon tax from Rs.100 per ton to Rs.200 per ton
	Reserve Bank of India: Priority Sector Lending – Targets and Classification Indian Banks Association: National Voluntary Guidelines for Responsible Financing
2016	SEBI issued guidelines for the issuance and listing of green bonds
2017	RBI started working on a framework for standardizing green bond issuances and financing issues SEBI issued disclosure requirements for issuance and listing of green bonds

Social, Environmental and Economic Responsibilities of Business released by the Ministry of Corporate Affairs. These guidelines serve as a driver to pursue sustainable management practices as a means of reaching sustainable development goals. Again, the SEBI in January 2016 put in place the framework for the issuance of green bonds and the listing requirements for such bonds. Furthermore, 2015 was the year India entered the green bond market, with a total of US \$1.1 billion of green bonds issued from a handful of pioneer issuers viz. Yes Bank, EXIM Bank of India, CLP Wind Farms, and IDBI.

Challenges of Green Finance

Financing for sustainable development requires the availability of low-cost, long-term finance. In India, the flow of funds, its cost, security, and other conditions are subjected to the directions or regulations of banking regulation Act, guidelines from the RBI, Companies Act 2013, SEBI etc. Thus, the sustainable development financing in India faces barriers not only in terms of the amount available but also from risks associated with regulatory, political, technological and financial aspects concerning the bankability of new projects. The other challenges in mobilizing finance through this mode of finance in India are discussed below: No considerable access to multilateral finance or grant funding for plugging the gap in sustainable development-related expenditure as it has not developed a standardized framework for green bond issuances and financing issues, ESG Index, Green Bond Principles (GBP) responsibility reporting system for the corporates etc. Also finds lack of

consistency in market terms and standards of green finance. India faces the following challenges in financing sustainable products and projects:

1. No serious efforts to take forward the approach to the mainstream by incorporating the environmental impact into commercial lending decisions and balancing the needs of economic growth and social development.
2. No authentic data regarding environmental financing by financial institutions, institutional investors and funds raised through green bonds.
3. Though definitions and tracking are advanced in the bond market, no improvement in the decision making criteria and loan tracking process among domestic banks and institutional investors regarding green finance.
4. Poor cooperation among market players in the development, promotion, and dissemination of green financial products.
5. Weaknesses and failures within the financial system that are constraining its ability to respond to risks and opportunities for viable and resilient investments.
6. There is still a lack of awareness that environmental and climate risks can pose a threat to the financial sustainability of single projects or firms as well as entire industries. This can also cause problems to individual lenders and investors or even constitute a systemic risk to the entire financial sector (Carney, M., 2015).

7. Lack of staff knowledgeable in ESG issues and experienced faculty in the financial industry that has been trained in assessing environmental, climate risk and green lending.
8. Shortage of bankable and investable projects, a problem that is related to the 'real economy' barriers including legal, technological, or market forces that discourage or prevent potential competitors from entering a market.
9. Lack of mandatory environmental risk analysis and ESG disclosure requirements, which prevent lenders and investors to forgo opportunities for fear that competitors will snap them up.
10. Financing for sustainable development requires the availability of low-cost, long-term finance. In the Indian financial sector context, banking regulations and guidelines from the RBI direct credit to various sectors and influence interest rates, exposure limits, security and other conditions for lending by banks.
11. No institutional arrangement for ensuring substantial access to multilateral finance or grant funding for plugging the fiscal gap in sustainable development-related expenditure.
12. Poor banking credit available to finance long-term projects
13. Lack of institutional capacities to mitigate or manage political risk.
14. A common problem complicating sustainable investment across the

region has been the lack of or insufficient disclosure requirements that address environmental or long-term systemic risk factors. Even leading listed companies are not providing sufficient relevant disclosure for investors to assess their management of material ESG issues (WWF, 2015).

The Way Forward

The following actions are critical on the part of the government, regulators, financiers, data providers and standard setters in ensuring the sustainable development through green finance in India:

1. Developing awareness among stakeholders, including regulators and market participants in the financial sector for environmental vulnerabilities and climate risks.
2. Building up the capacities in the financial industry to develop sustainable financing practices and new lending instruments for financing sustainable projects, particularly for long gestation environment-friendly projects.
3. Understand and articulate national needs for green finance and the market players' current practice of green finance and set up an appropriate mechanism to identify and analyze the clients' demand for green finance.
4. Develop green finance typologies and standards based on the recommendations emerged from International agencies, commonly accepted set of green finance

definitions and indicators. Also, improve the methodologies for measuring green finance activities and their impact.

5. Adapt regulations for banking, bonds, and institutional investors based on the green banking regulations of countries like China, Nigeria etc. which have already initiated the system in a better manner and fruitful discussions with the stakeholders.
6. Develop clear definitions/tracking mechanisms for green bonds and advocate for better data on green activities at company level by building green revenue share data into corporate reporting procedures.
7. Ensure better understanding of the current supply of green finance will provide policymakers, regulators, international institutions, development banks, and the private sector with insights into the location and type of additional incentives to increase green finance
8. Develop a user-friendly system for environmental risk analysis. This will help banks and institutional investors to understand green projects and assets and develop a stronger preference for green projects and assets and reduce their allocation to brown and high-carbon assets. Also, develop a forum to facilitate knowledge sharing on environmental and financial risk.
9. Conduct pilot analysis comparing supply and demand for states in India with clear policy plans. Also,

persuade the private financial sector to integrate the existing environmental, social and governance criteria (ESG) into investing decisions.

10. Develop a framework of metrics for measuring the progress of environmental, social and governance criteria and enhance transparency through ESG disclosure requirements.
11. Promote international collaboration to facilitate cross-border investment in green bonds.
12. Provide incentives, where needed, to banks and NBFIs for the financing of green projects and also support developing new market segments such as the green bond market or climate risk insurance.
13. Link the participation of the private sector to the challenge of structural economic reform as longer the country delays substantive reforms in sectors ranging from public procurement to tax administration, the bigger the challenge.

Conclusion

Though India has been at the forefront of introducing sustainable finance guidelines and regulation alongside other Asian countries, the green finance approach is still in a niche souk in the Indian financial sector. It is true that challenges for scaling up a green transformation to a low-carbon economy are high; aligning the financial sector with sustainable development, improving ways of defining and measuring the progress across the

sustainable financial system, developing specific country context green finance instruments and ensuring a coordinated and systematic approach which involves all relevant stakeholders will be key elements for India to succeed. To conclude, a tailor-made green finance model based on International initiatives and networks such as the UNEP Finance Initiative, the Sustainable Banking Network, the Sustainable Stock

Exchanges Initiative, the G7 Initiative on Climate Risk Insurance, the G20 Green Finance Study Group, the Sustainable Development Goals of the UN replacing the Millennium Development Goals etc. may help India to go a long way to accomplish the Paris Agreement's long-term goal- keep the increase in global average temperature to well below 2 °C above pre-industrial levels; and to limit the increase to 1.5 °C..

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OCCUPATIONAL STRESS IN NEW GENERATION INDUSTRIES: AN EMPIRICAL STUDY IN KERALA

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Abstract

After decades of economic stagnation, the private sector has assumed critical significance as a generator of employment and as a contributor to the economy of a country. It is a known fact that employees working in the private sector are encompassing stress-related problems and many have imbibed coping techniques. The empirical study, based on a sample size of 450 executives in the three regions of Kerala spread across insurance, IT and banking sectors, aims to assess the causes of stress and its effects among executives in the private insurance, IT and banking sectors in Kerala (India). The study observed that though the causes of stress are different in these three sectors, work-related causes viz. working under pressure, monotonous and meaningless task, long and unsocial hours are the major causes of stress among executives. The study also found a positive effect of stress on the psychological, physical and occupational levels of executives.

Key words:- Occupational Effect, Occupational Stress, Physical Effect, Psychological Effect, Stress

*I*n the modern world and concomitant life style, we say, people of all age groups are affected by stress and its dreaded consequences. Employee stress, the reaction of the employee to excessive

pressures on account of external or internal factors, occurs whenever the body has to perform responsibilities that are beyond its range and scope and it results in harm and is damaging to employees, their organizations, families, and to society

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at large.

In India there has been a noteworthy transformation in insurance, IT and banking sectors, particularly in the private sector in post-liberalization era. This can mainly be attributed to the largest pool of professionally and technically qualified high class manpower. These sectors, in an endeavour to achieve their goal, try to tie together the manpower to the maximum. This causes mental and psychological problems owing to uncontrolled stress, the outcomes of which have been found to be costly to the organization.

The position of the workforce in insurance, IT and banking sectors in Kerala is also no different. The literature review further reveals that over 50 per cent of the workforce in insurance, IT and banking segments are encompassing stress-related problems and many have imbibed coping techniques. But when it comes to the studies conducted particularly in Kerala no systematic effort has been put in by individual researchers either to expose the causes of work stress or its effects, and hence this study. The study also aims to test the hypotheses that there is no difference in the causes of stress among executives in private sector in Kerala and stress has a negative effect on psychological, physical and occupational levels of executives in private sector in Kerala.

Review of Literature

Over the last four decades, extensive research has been conducted on occupational stress, its causes and effects as it is the single biggest contributor to occupational diseases and work-related ailments. Henkoff (2009) found that the

main cause of occupational stress is the organization in which the individual is working. Job satisfaction is inversely proportional to level of stress. Floyd and Woolridge (2012) observed that the less the level of job satisfaction, the more the level of occupational stress. Muirhead (2013) points out that restriction on freedom of the individual, autonomy and identity are further causes of occupational stress. Whittington et al., (2012) point out that improper behaviour on the part of the management and poor supervisory styles are the main causes of occupational stress. Mayer et al., (2012) point out that role ambiguity and role conflict are two big causes of stress. Greenberg and Baron (2012) are of the view that increased levels of communication and interactions between supervisors and their workers minimize both role conflict and ambiguities resulting in lower levels of stress and stress-related disorders

Balogun et al. (2011) observed that decision control is an important contributor to work-related stresses. It represents the extent to which employees are allowed to participate in the decision making processes and the freedom given to employees to choose their work. Hildebrandt (2010) believes that more control on the job increases and improves the coping ability of employees during times of high job demand. Low job control on the other hand was found to lead to lowered levels of job performance. Lewin and Johnston (2010) point out that the real cause of occupational stress is not the work environment, but is more dependent on the persons involved in the workplace and hence the most effective way to reduce

and even eliminate stress is to change the person-based factors. According to Teriyama et al., (2012) change at the workplace is one of the most common causes of occupational stress. Schilling and Steensma (2010) point out several causes of change in the workplace. These include changes due to technology, organizational restructuring and work redesign as well.

On reviewing the studies on the effects of stress Noer (2011) found that excessive working hours result in work stress leading to more hypertension amongst employees. The study conducted in California found that individuals working forty hours a week were 20% more likely to report hyper tension than those who worked lesser number of hours; and those who worked between 41 to 50 hours every week were 25% more likely to report cases of hypertension. Palliam et al., (2014) points out the link between various psychiatric disorders and stress. A study conducted in Canada amongst working persons of different ages and occupations shows how work-related stress exacerbate psychiatric disorders which in turn leads to physical ailments. Working for long hours was found to result in musculo-skeletal problems and work injuries. Shah, P.P. (2011) studied the impact of overtime and worker health in Japan. It was found that overtime is directly associated with cardiac problems, heightened blood pressure, more injury, weight gain and increased incidence of alcoholism.

The research conducted by Jones Lang Lasalle (2011) found higher levels of occupational stress amongst employees of private sector banks as compared to employees of nationalized

banks. Band, D. and Tustin, C. (2011) conducted a cross-section study amongst 200 IT professionals in the National Capital Region (NCR) of Delhi. The study found that of the 200 respondents, computer-related morbidity existed in 93% of them at different levels. 76% of them suffered from visual problems, 77.5% from musculo-skeletal disorders, while 35% of them suffered from symptoms of stress. David Fontana (1996) studied the impact of stress amongst women employees of call centers in Indore and the particular problems faced by them. The study found that work-life-balance severely impacted stress levels amongst female call centre employees. The monotony of call centre jobs, coupled with abuse from clients, result in higher levels of stress causing them to over-react to various situations. Meena Nanda (2006) identified six factors that contribute to stress levels amongst IT professionals in India. These include demands of the job, control over work, colleague, managerial support, work levels, job clarity and organizational change.

Marimuthu, Maran (2009) found that too many tasks, work overload, conflicting demands both from colleagues and superiors, incompatibility of demands on the personal and professional fronts, the inadequate provisioning of resources for performance, inadequate competency levels, a lack of autonomy to make decisions and a feeling of under-utilization, all contributed to higher levels of stress amongst the employees IT companies. Proctor, Tony (2010) found that the issues related to security of job as well as those related to remuneration, emoluments and

benefits were the staple causes of stress in the insurance sector. The study conducted by Band, D., Tustin, C. (2011) indicated that nearly a third of the working population in the insurance sector of developed countries of the West, consistently report high to very high levels of stress. Similar symptoms have been reported amongst employees of the insurance sector in emerging economies such as India and China. The particular factors that operate as contributors of stress in the insurance sector include time, excessive work demands, conflict of roles, ergonomic deficiencies, job insecurities and bad relationships with clients and customers. North-Western National Life Insurance (2013) studied stress level ratios in their offices and found a significant and positive correlation between the phenomenon of absenteeism and work-related stress. In their study 27% of the respondents said that their jobs contributed to stress in their lives; of them 46% indicating very to extremely high levels of job stress levels.

Mansor et al., (2013) studied the sources of occupational stress amongst Malaysian employees in an insurance firm in Kuala Lumpur. They found that the extent of work load, working conditions and work relationships were the main issues impacting stress levels amongst managers in the Malaysian insurance sector. Yammarino, F.J., and Dubinsky, A.J. (1987) conducted a study of stress amongst employees of the Japanese insurance industry. They found that stress levels are dependent on the employee commitment to their organizations and the level of satisfaction with their supervisors.

Foregoing analysis of the review of studies on occupational stress reveals that occupational stress has become a common phenomenon amongst workers across the world. The quantity of work is found to be an important source of stress where shorter working hours result in lowered amounts of stress while longer working hours produce more stress. Low job control is another major source of stress. Low support from surrounding superiors and colleagues strained relationships at work; role ambiguities, conflict of role, workplace harassment, bullying, being unable to adjust to changes in the working system etc. result in heightened levels of stress. On reviewing the studies on banking, IT and insurance sectors it is found that cutting across age levels work stress impacts everybody to a varying extent. Women are found to be more susceptible to occupational stress as compared to men. Again, stress is more amongst those who work in the private sector as compared to those who work in the public sector. Further, occupational stress is present in both white and blue-collar workers. Meanwhile, occupational stress as a phenomenon is most commonly studied in Western countries while it has been ignored in developing countries like India. Also, there hasn't been any significant attempt in the state of Kerala to study the causes and effects of stress in the public sector or the emerging private sector.

METHODOLOGY

The study is empirical in nature based on observed and field data collected from the sample executives by administering a structured interview schedule. The

executives working in information technology (IT), banking and insurance sectors in Kerala constitute the universe of the study. Fifty (50) executives each from the south, central and north regions of Kerala spread across insurance, IT and banking sectors were taken as samples that constitute a total of 450 executives. For data analysis, statistical tools such as average, percentage, Pearson correlation, mean score, ANOVA and post hoc test were used.

RESULTS AND DISCUSSION

Causes of Stress

Stress can be caused by a physical or emotional change, or a change in one's environment that requires him/her to adjust or respond. The causes of stress selected for the analysis include: (i) organisational related causes, (ii) interpersonal relation related causes, (iii) work related causes, (iv) financial related causes, and (v) family related causes.

On examining organizational related causes of stress in detail, all the employees irrespective of the sectors gave top priority to job insecurity as supreme factor.

While isolated and solitary work is cited as the main reason for interpersonal relation related causes of stress by the employees in the insurance sector bullying, harassment and violence are the important factors by the employees in the banking sector. But employees in the insurance sector, absence of rigid procedure for dealing with problems or complaints are attributed as the most preferred reason. With regard to work related causes, employees in insurance and IT sectors viewed working under pressure is the ultimate reason for stress whereas employees in the banking sector found monotonous and meaningless task are the grave reasons for such stress. On analysing the stress caused by finance related matter, the employees in all the sectors unanimously pointed out that loan repayment is the most important factor. On examining stress caused by family related matters, inadequacy of time to spend with the family has cited as the prime factor by the employees in the insurance and banking sectors. But in IT, the employees ranked health problems of the family as the most important factor.

Table 1
Causes of Stress (Overall View)

Cause of Stress	Insurance		I T		Banking	
	Mean	Rank	Mean	Rank	Mean	Rank
Organisational related	3.5600	4	3.7600	3	3.9800	2
Interpersonal relations related	3.6000	3	3.5600	4	3.3867	5
Work related	4.3867	1	4.4467	1	4.8200	1
Financial related	3.9067	2	3.9933	2	3.9133	3
Family related	3.4800	5	3.2800	5	3.4667	4
Others	0.7467	6	1.2200	6	0.8400	6

Source: Primary data.

The opinion of executives as the causes of stress has also been put to hypothesis testing to find whether there find any difference in the causes of stress among them. As per the mean score work related causes are major causes of stress among executives in the three sectors. But there found variation among executives in all the three sectors as to the other causes of stress. A comparison has also been made by using ANOVA to test whether there is any difference between groups or within groups as to the causes of stress among executives. The analysis reveals a significant difference of opinion among the executives with regard to all the causes of stress except financial related causes (Table 2). Further, multiple comparison with post hoc test has also been made. The test finds that the mean difference in the causes of stress among executives in the private insurance, IT and banking sectors is significant at 5% level (Table 3). Hence the null hypothesis stating

that there is no difference in the causes of stress among executives in the private sector in Kerala stands rejected.

Effects of Stress

The life of employees today, particularly that of employees in the private sector, is awfully stressful, which in turn imposes high physical demands on their body and emotional costs on their lives. While reviewing studies conducted in India and abroad it is observed that stressful working conditions result in several problems in workforce such as low productivity, increased absenteeism, excessive staff turnover, alcoholism, hypertension, cardiovascular problems and so on and so forth. In the study an analysis has also been made to assess the effect of stress on employees in the private insurance, IT and banking sectors in Kerala. Generally, stress may create psychological, physical and occupational effects on employees and hence the three

Table 2
Causes of Stress (ANOVA)

Causes	Comparison	Sum of Squares	df	Mean Square	F	Sig.
Organizational related	Between Groups	22.085	2	11.042	6.867	.001
	Within Groups	693.042	431	1.608		
	Total	715.127	433			
Interpersonal related	Between Groups	8.779	2	4.389	3.019	.050
	Within Groups	625.258	430	1.454		
	Total	634.037	432			
Work related	Between Groups	32.661	2	16.330	9.557	.000
	Within Groups	748.446	438	1.709		
	Total	781.107	440			
Financial related	Between Groups	9.238	2	4.619	2.343	.097
	Within Groups	849.776	431	1.972		
	Total	859.014	433			
Family related	Between Groups	9.238	2	4.619	2.343	.097
	Within Groups	849.776	431	1.972		
	Total	859.014	433			

Table 3
Cause of Stress-Multiple Comparison using Post Hoc Tests

Variable	Sectors		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Organizational related cause of stress	Insurance	IT	.26141	.14898	.080	-.0314	.5542
		Banking	-.29488*	.14818	.047	-.5861	-.0036
	IT	Insurance	-.26141	.14898	.080	-.5542	.0314
		Banking	-.55629*	.15024	.000	-.8516	-.2610
	Banking	Insurance	.29488*	.14818	.047	.0036	.5861
		IT	.55629*	.15024	.000	.2610	.8516
Interpersonal related causes of stress	Insurance	IT	-.22602	.14189	.112	-.5049	.0529
		Banking	.11905	.14138	.400	-.1588	.3969
	IT	Insurance	.22602	.14189	.112	-.0529	.5049
		Banking	.34507*	.14261	.016	.0648	.6254
	Banking	Insurance	-.11905	.14138	.400	-.3969	.1588
		IT	-.34507*	.14261	.016	-.6254	-.0648
Work related causes of stress	Insurance	IT	.57704*	.15249	.000	.2773	.8767
		Banking	-.00452	.15196	.976	-.3032	.2941
	IT	Insurance	-.57704*	.15249	.000	-.8767	-.2773
		Banking	-.58156*	.15300	.000	-.8823	-.2809
	Banking	Insurance	.00452	.15196	.976	-.2941	.3032
		IT	.58156*	.15300	.000	.2809	.8823
Financial related causes of stress	Insurance	IT	-.19518	.16524	.238	-.5200	.1296
		Banking	.16398	.16407	.318	-.1585	.4865
	IT	Insurance	.19518	.16524	.238	-.1296	.5200
		Banking	.35916*	.16607	.031	.0327	.6856
Banking	Insurance	-.16398	.16407	.318	-.4865	.1585	
	IT	-.35916*	.16607	.031	-.6856	-.0327	
Family related causes of stress	Insurance	IT	-.78862*	.17751	.000	#####	-.4397
		Banking	.25904	.17782	.146	-.0905	.6085
	IT	Insurance	.78862*	.17751	.000	.4397	1.138
		Banking	1.04765*	.17812	.000	.6976	1.397
	Banking	Insurance	-.25904	.17782	.146	-.6085	.0905
		IT	-1.04765*	.17812	.000	#####	-.6976

**The mean difference is significant at 5% level.*

effects have been the subject matter of the analysis.

For measuring the psychological effect of stress, variables viz. anxiety, boredom, low self esteem, forgetfulness, depression,

anger, apathy/worry, insomnia etc. have been used. On analyzing the combined psychological effect of stress (based on mean), anxiety is ranked first as a major effect of stress among executives. For

measuring the physical impact of stress, variables viz. head ache, diabetes, hypertension, chest and back pain, ulcers, hair loss and upset stomach have been used. On analyzing the combined physical effect of stress, head ache has ranked first as a major result among the physical effects considered

For measuring the occupational impact of stress, variables viz. getting totally exhausted at the end of the day at work place, feeling irritated, nervous and angry, total dissatisfaction with the job while performing it, thinking of job-quitting, feeling calm and relaxed at work, taking a number of days of leave, family life related problems, doing work in the best way and (i) weak health conditions. On analysing the combined occupational effect of stress, totally exhausted at the end of the day at work place is a major occupational problem which is created

by stress.

In the study an analysis has also been made to test the hypothesis that stress has a negative effect on psychological, physical and occupational levels of executives in the private insurance, IT and banking sectors in Kerala. As per ANOVA test, based on mean value, it is observed that anxiety is the major psychological effect of stress (Mean =3.4). While head ache is the major physical effect of stress (Mean=3.4), totally exhausted at the end of the day at work place is the major occupational effect of stress (Mean=3.2). Again, to know the effect of stress on psychological, physical and occupational level of executives' Persons correlation has been applied. The correlation finds a significant relationship between stress and psychological, physical and occupational levels of executives (Table 4). Hence the null hypothesis stating that stress has a

Table 4
Effects of Stress among Executives

Causes of stress		Psychological Effects	Physical Effects	Occupational Effects	Total
Organizational related	Correlation	.142	.170	.187	.181*
	Sig. (2-tailed)	.083	.038	.022	.046
	N	450	450	450	450
Interpersonal related	Correlation	.124	.138	.145	.167*
	Sig. (2-tailed)	.072	.039	.042	.042
	N	450	450	450	450
Work related	Correlation	.177	.138	.191	.194*
	Sig. (2-tailed)	.050	.093	.013	.015
	N	450	450	450	450
Financial related	Correlation	.195	.139	.129	.152*
	Sig. (2-tailed)	.047	.091	.011	.046
	N	450	450	450	450
Family related	Correlation	.120	.142	.126	.124*
	Sig. (2-tailed)	.044	.048	.038	.044
	N	450	450	450	450

negative effect on psychological, physical and occupational levels of executives in the private insurance, IT and banking sectors in Kerala stands rejected.

CONCLUSION

In conformity with the general understanding that stress is a common and contagious feature of modern life, the executives in private sector in Kerala are also more prone to stress today. The detailed analysis of the study arrived at the following conclusions:

1. Organisational, interpersonal, work, financial and family related causes are the causes of stress among executives in private sector in Kerala. Among the five causes, work-related causes are very significant. Finance-related and organization-related causes are the other major causes of stress.
2. Though the study found significant difference of opinion among executives on the causes of stress, apprehension on job security, isolated and solitary work, working under pressure, fear of loan default, and inadequacy of time to spend with the family are the main concerns under the organisational, interpersonal, work, financial and family related causes of stress respectively.
3. The study found that stress creates psychological, physical and occupational effects on executives in private sector. Anxiety, headache, and getting totally exhausted at the end of the day at work place are the psychological, physical and occupational effects of stress respectively.
4. The study found a significant relationship between stress and psychological, physical and occupational levels of executives in private sector.

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In India there has been a noteworthy transformation in insurance, IT and banking sectors, particularly in the private sector in post-liberalization era. This can mainly be attributed to the largest pool of professionally and technically qualified high class manpower. These sectors, in an endeavour to achieve their goal, try to tie together the manpower to the maximum. This causes mental and psychological problems owing to uncontrolled stress, the outcomes of which have been found to be costly to the organization.


A STUDY ON JOB SATISFACTION OF WOMEN POLICE IN RURAL KERALA WITH SPECIAL REFERENCE TO KOLLAM DISTRICT

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Abstract

Policing is an extremely demanding profession and they have no choice for working hours. Once a woman joins and defines herself as police officer then the perspective of her friends and family changes. Making sure that she has made a right choice to become a police officer and finding fulfillment in that job is critically important to remove possible causes. Family work and dissatisfaction are more likely to exert negative influences in the family as well as work, resulting in lower life satisfaction and greater internal conflict within the family and work. Factors such as the size of the family, the age of children and the working hours are the reasons of work family conflict.

Key words:- Job satisfaction, Woman Police, Personal Life, Societal Activities, Professional Life

ocietal changes in India have made women to come out from home and participate in the entire field equally with men. In this process, women have participated in various societal activities including demonstration and riots. As the existing strength of female police personnel is

inadequate, the need to hire more number of female personnel in police department is identified. As women are sensitive and delicate in nature, they face various difficulties in balancing their personal life and work. Juggling between the obligations towards the families and expectations of the organization and

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constant struggle to maintain a balance of work can have serious implications on the life of an individual. Therefore it is important for women police to maintain a healthy balance between work and their private lives. This will help them to achieve their personal and professional goals. From individual career ambitions to pressure to cope up with family and work, the reasons can be the situation and individual specific. The speed of advancement of information technology, the increasing competition in the talent supply market has to lead to a technology to lead to a 'performance driven' culture creating pressures and expectation to performance more and better every time. Also many times many people find it difficult to say 'no' to others especially to their superiors. They usually end up over hardening themselves with work. The increasing responsibilities on the personnel front with age can also create stress on personnel and professional fronts. The present study explores aspects like to measure the level of satisfaction as perceived by the women – respondent employees in the police determinant of work life balance, to identify the major factors that influence the work life balance and the level of satisfaction among different grades of women police offices in police department.

Job Satisfaction

Employee satisfaction refers to a collection of positive and /or negative feelings that an individual hold towards his or her job. Job satisfaction is a part of life satisfaction. It is the amount of pleasure or contentment associated with a job. Job

satisfaction is an emotional response to a job. Locke (1976) defines job satisfaction as a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences. Employees who have higher job satisfaction are usually less absent, less likely to leave, more productive, more likely to display organizational commitment, and more likely to be satisfied with their lives. There are variety of factors that can influence a person's level of job satisfaction. Some of these factors include the level of pay and benefits, the perceived fairness of the promotion system, the quality of working conditions etc.

Kollam Rural Police

Kollam rural police comes within the jurisdiction of Thiruvananthapuram police range which comes under Southern Police Zone. The force headed by a superintendent of police of IPS cadre designated as District police chief, comprises number of women officers like woman inspector of police, woman sub inspector of police, woman senior civil police officers and woman civil officers.

The police district is subdivided into two sub divisions, nine circles and seventeen police stations each headed by the officer of the rank of Deputy Superintendent of police, circle inspector of police designated as Inspector of police and sub inspector of police respectively. In addition to that a women cell headed by a woman inspector of police and one traffic unit are also functioning in this unit.

Objectives of the Study

- To examine the socio economic profile of the women police.
- To examine the problems faced by women police force in their work environment and at home.
- To examine the level of job satisfaction with them emerge from the service.

Literature Review

1. Cinni K R(2013) studied about job satisfaction in Information Technology Industry in Kerala. This sector creating many employment opportunities and thus helps in providing a solution towards the problem of unemployment in Kerala. However, employee attrition is a nightmare of the industry. Attrition rate are alarmingly high which leads to increase in cost. Only solution to overcome this problem is to create and maintain satisfied work force. This study tries to find out the causes and cosequences of job satisfaction and dissatisfaction. An attempt is also made to find out whether there is any relationship between the elvel of job satisfaction and the demographic variables.
2. Javaria Khaliq, Muhammad Zia-ur Rehman(2011) focused a topic the role of human resource management and nurses job satisfaction in medical service organizations. The study aims to find out the effects of human resources in terms of result to be achieved so that it can give a basis for assessing

the effectiveness of the process carried out

3. Jagannathan R, Sundar K (2012) conducted a study on the impact of demographic and organizational factors on job satisfaction. The study has found out that the employees irrespective of gender experience job satisfaction: the level of satisfaction varies according to age; the education level of employee has a bearing on job satisfaction. The factors analysis confirmed the fact that the higher level motivational factors are causing more job satisfaction among the officers while the hygiene factors are generating job satisfaction among the clerical cadres.
4. Kumari Preet, Sharma Gargi(2013) attempt to study the self- esteem and job satisfaction among male and female teachers. This study designed to compare the self esteem and job satisfaction amon male and female married teachers. The study revealed that there is a significant difference in the self esteem of male and female teachers but there is no significant difference in the job satisfaction of male and female teachers.
5. Mahalakshmi A, John S Franklin(2018) carried out a study on the impact of motivational factor on employee job satisfaction. The objective of the study is to analyse the impact of motivational factors on job satisfaction of employees. The study found out that the intrinsic motivational factor are having significant relationship with job

satisfaction of employees than the other factor such as working condition, compensation benefits and fringe benefits.

Sample Design

The Kollam district has two zone, Kollam city and kollam rural. Kollam rural police has selected for the study. It has 21 police stations comprises 89 women police which includes 1 women circle inspector, 4 women head constables and 84 women police constables. All are selected for the study.

Data Analysis and Interpretation

In this study percentage analysis was used for analysing the data. Accordingly,

a questionnaire was designed to gather relevant feedback on “job satisfaction” from the women police force. Data was collected both from the primary and secondary sources. Apart from collecting first information through questionnaire, secondary source of data used to include records, reports, brochures and other published and unpublished material relevant to the topic.

■ Socio Economic Profile of the Women Police Respondents

The study was intended to identify the difficulties faced by the women police and its association with selected demographic variables. In the present study the obtained data were tabulated, organized, analysed

Table 1

Distribution of Respondents by Socio Economic Profile

Characteristics	Category	No. of respondents	Percentage
Age	21 - 30	32	35%
	31 - 40	24	27%
	41 - 50	12	14%
	Above 50	21	24%
Designation	Women Circle Inspector	1	1.1%
	Women Head Constables	4	4.5%
	Women Police Constables	84	94.38%
Days of Work in a Week	Less than 5 days	-	-
	5 days	-	-
	6 days	-	-
	7 days	89	100%
Hours of work in a day	7 -8 hrs	21	23.5%
	8 - 9 hrs	42	47.19%
	9 - 10hrs	13	14.60%
	10- 12 hrs	9	10.11%
	Morethan 12hrs	4	44.94%
Marital status	Single	33	37%
	Married	56	63%
Shift of work	Day shift	48	54%
	Night shift	12	13%
	Alternative shift	29	33%

and interpreted based on the objectives of the study. The findings were presented on table as follows:

The result indicated that 35 percent of the respondents were in the age group of 21 – 30 years followed 27 percent in the age group of 31 - 40 years, 24 percent in the age group of above 50 years and 14 percent of the respondents were in the age group of 41 – 50 years. Regarding designation, 94.38 percent respondents were women police constables, 4.5 percent were women head constables and 1.1 percent were women circle inspectors. All the respondents work for seven days in a week. Majority of the respondents work 8 to 9 hours in a week. Majority of

the respondents are married and majority(54%) of the respondents work in day shift.

■ Problems Faced by Women Police Force in Their Work Environment and at Home.

The conflicting situation of working women could be solved only if the traditional notion of society towards women changes. While simultaneously recognising the contribution of women to economic development, it is essential to examine the environment where women work and the conditions under which they become significant members contributing to economic growth. In this

Table 2
Distribution of Respondents by Problems Faced at Home.

Problems	No of respondents	Percentage
Hamper the family relationship	7	7.87%
Hindrance to carryout the responsibility of wife/daughter	13	14.67%
Inadequate time to look after family affairs	24	26.98%
Inadequate time for personal work	16	17.98%
Too much responsibility	8	8.9%
No time to participate in social and religious functions	21	23.60%
Total	89	100%

Table 3
Distribution of Respondents by Problems Faced at Work Place.

Problems	No of respondents	Percentage
Unsatisfactory working condition	22	24.72%
Hardwork	32	35.96%
Bad atmosphere	12	13.48%
Health hazard	6	6.74%
Over work	5	5.62%
Increased stress and burnout	12	13.48%
Total	89	100

context, the following table 2 have attempted to examine the work family challenges faced by women police.

From the view point of problems faced by the respondents at home, the study indicates that majority of the respondents 26.98 percent find inadequate time to look after family affairs, 23.60 percent of them find no time to participate in social and religious functions, 14.67 percent of them are unable to carry out their responsibility as a daughter / wife, 17.98 percent of them find inadequate time for their personal work, 8.9 percent of the respondents are over burdened with respondents find that their family relationship is hampered.

From the view point of problems faced by the respondents at work place, (Table 3) the study reveals that 35.96 percent of them are exposed to

hardwork , 22 percent of them were not satisfied with the working conditions, 12 percent of them find the working atmosphere as bad and left with increased stress and burnout. 6 percent of them are affected by health hazard and 5 percent of the respondents are left with overwork.

■ **On Job Satisfaction**

Where the women police under study were satisfied with their job or not was verified by putting them the questions represented in the following two tables. The table shows that all the respondents were satisfied and not satisfied with their job due to various reasons.

From the view point of reasons being satisfied on this job (Table 4), the study reveals that 26.98 percent respondents are satisfied due to complete job security, 20

Table 4
Reasons of being Satisfied on This Job

Reasons	No of respondents	Percentage
Handsome salary, allowances	13	14.62%
Complete job security	24	26.98%
Safe working conditions	9	10.11%
Recognition for good work	18	20%
Good social prestige	13	14.7%
Unlimited power	12	13.48%
Total	89	100%

Table 5
Reasons for Not being Satisfied on This Job

Reasons	No of respondents	Percentage
Feminity is sacrificed	9	10.11%
Poor salary	5	5.62%
Uncertain working hours	38	42.70%
Stressful job	29	32.58%
More harassment	8	8.9%
Total	89	100

Table 6
Overall Job Satisfaction

Particulars	No of respondents	Percentage
Highly satisfied	18	20.23%
Satisfied	45	50.56%
Moderate satisfied	20	22.47%
Dissatisfied	4	4.5%
Extremely dissatisfied	2	2.24%
Total	89	100%

percent respondents are satisfied for getting recognition for good work, 14.7 percent respondents were satisfied on their job due to good social prestige whereas 14.62 percent respondents were satisfied due to the reason of handsome salary, allowances and 10.11 percent respondents are satisfied with the safe working condition in work place.

From the above table (Table 5), reasons being not satisfactory by the respondents on this job, the study reveals that 42.70 percent of the respondents are not satisfied due to uncertain working hours, 32.58 percent respondents were not satisfied due to stressful job, 10.11 percent were not satisfied on their job due to feminity is sacrificed, 5.62 percent respondents are not satisfied due to poor salary, 8.9 percent respondents are not being satisfied on this job due to more harassment.

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■ Overall Job Satisfaction

The table 6 shows that majority (50.56%) of the respondents were satisfied, 22.47 percent of the respondents are moderate satisfied. 20.23 percent of the respondents highly satisfied and remaining 4.5 percent of the respondents were extremely dissatisfied.

Conclusion

The work of the women police may not be easily compared with women working in other walks of life. She plays a dual role as to do family commitments as well as police job. But at the same time the job security and working environment in unorganised sector do not facilitate the proper job satisfaction among the employees and especially women police who undergo for work pressure, poor inconvenience and so on. Due to the reason the job satisfaction among women police turned to be job satisfaction and dissatisfaction.

WATER RESOURCE CONSERVATION AND SUSTAINABLE SOCIO-ECONOMIC DEVELOPMENT STRATEGY: A CASE STUDY OF INTEGRATED WATERSHED MANAGEMENT PROGRAMME IN KERALA

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Abstract

Water scarcity adversely impacts all aspects of life, including public health. Watershed Management brings about the best possible balance between natural resources on the one side and human beings on the other. A watershed approach uses hydrological defined areas (watersheds) to coordinate the management of water resources. Watershed management basically involves harmonizing the use of soil and water resources between upstream and downstream areas within a watershed towards the objective of natural resource conservation, increased agricultural productivity and a better standard of living for its inhabitants. IWMP is a flagship programme of Government of India launched with the object of managing natural resources on watershed basis for sustainable development. Therefore an attempt was made to evaluate the socio-economic impact of the programme in the project area and the study found that the project has made a significant impact in terms of generating employment, reduction immigration of labour and increased availability of water due to raise in water table in the area.

Key words:- Water scarcity, Watershed, Integrated watershed management, sustainable development.

Soil, water, animals, plants and forests are the nation's most vital and basic natural resources. In rural areas, livelihood and natural resources such as land, water, vegetation and livestock are interlinked. Only judicious use of resources will help

the sustainable development of a community. A watershed is a geo-hydrologic unit or pieces of land that drains into a common point or outlet. Watershed management involves the wise use of soil, water, and bio resources in a watershed to obtain optimum production

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with minimum disturbance to environment. The basic objective of watershed management is to solve the problems of soil and water based on the concept that all the resources are interdependent and must therefore be considered together.

The concept of soil and water resources development on a watershed basis has got high significance as these are the basic resources that directly influence the overall development. Development without damaging the resource base is the main requisite of sustainable development and it can be possible through watershed based development approach.

The Integrated Watershed Management Programme (IWMP), initiated by the Ministry of Rural Development, Government of India, is a unique watershed programme calling for multidisciplinary approach to natural resource management which ensures continuous benefit on a sustainable basis. The programme launched in 2008. IWMP not only helps in land, water and biomass management of degraded areas but also the conservation of the protected areas so that biodiversity and genetic resources are available for future generations. The programme is implemented through Panchayati Raj institutions thereby ensuring people's participation in different stages such as planning, implementation, monitoring, evaluation and post project activities. Integrated watershed management strategy is more significant in a country where the economy depends predominately on agriculture. The IWMP has been launched by the Government with the target of food security for the country by the judicious use of every drop of water for sustainable development.

Objectives of IWMP

The main objective of the IWMP is to restore the ecological balance by harnessing, conserving and developing degraded natural resources such as soil, vegetative cover and water. The important objectives of IWMP are:

1. To prevent and conserve the ecology, restore and develop degraded natural resources by arresting soil loss.
2. To restore and charging of ground water; enables multi cropping which help to provide sustainable livelihood to the people residing in the watershed area.
3. To enhance the capacity of community to manage common natural resources.
4. To reduce soil loss and improving on-site filtration or soil moisture.
6. To regenerate of natural vegetation.
7. To recharge ground water table.
8. To promote livestock development and to encourage marketing of dairy products.
7. To utilise the available land for maximum productivity by adopting various suitable measures according to the land capacity and without any environmental degradation.

Eligible Criteria for Selection of Watershed Projects

The following criteria shall be used in selection and prioritisation of watershed development projects.

- Acuteness of drinking water scarcity.

- Extent of over exploitation of ground water resources.
- Predominance of wastelands/ degraded lands
- Extent of poverty and unemployment

Institutional Mechanism under IWMP

For the effective and professional management of watershed development project, there are various institutional arrangements made at various levels. At the central level, there is a nodal agency under the Department of Rural Development for managing and implementing watershed development projects. There is state level nodal agency in the state for coordinating and to look after the progress of the program at the state level. They are guided by the nodal agency at the central level. The various institutional arrangements at the state level are as follows.

State Level Nodal Agency (SLNA)

The SLNA is responsible for overall planning, management and monitoring of the programme in the state. It is a dedicated state level nodal agency having an independent financial power. The central assistance for the programme is transferred directly to the account of SLNA and not into the state Government budget. There has a multi-disciplinary professional support team at the state level to implement the programme. The chairperson of the SLNA is agricultural production commissioner, nominated by the state government and the SLNA would be a full time chief executive officer in order to ensure the smooth functioning of the program.

Watershed Cell Cum Data Centre (WCDC)

At the district level, a separate cell called the WCDC has been established to oversee the implementation of watershed program in the district. It would function in close co-ordination with the district planning committee.

Project Implementing Agency (PIA)

The Block Panchayat of the concerned watershed project is the project implementing agency for IWMP in Kerala. The PIA would provide necessary technical guidance to the Gram Panchayat for preparing development plans for the watershed through participatory rural exercise. It has various responsibilities such as to undertake community organisation and training for the village communities, supervise watershed development activities and maintenance of the assets created during the project periods. The PIA shall also arrange physical, financial and social audit of the work undertaken.

Watershed Development Team (WDT)

The WDT is an integral part of the PIA. The team have at least 4 members with knowledge and experience in agriculture, social science, water management, social mobilisation and institutional building. At least one member would be a woman. The expenses towards the salaries of WDT members shall be charged from the administrative support to the PIA.

Institutional Arrangement at Village Level Watershed Committee

Watershed Committee is constituted by the Gram Sabha with the technical support of the WDT in the village. The chairman of watershed committee is elected / appointed by the Gram Sabha and the secretary of the committee will be a paid functionary of the watershed committee. In Kerala, president of the concerned Gram Panchayat will be the chairman and VEO as the secretary of the project. At least nine members would be in the committee and half of the members would be representative from SHGs and UGs, SC/ST community, woman and landless persons in the village. One member shall be representative of watershed committee. The watershed committee would have a separate bank account for receiving funds for watershed project.

Self Help Groups (SHGs)

The watershed committee will constitute SHGs in the watershed area with the help of Watershed Development Team. The SHGs are from amongst poor, small and marginal farmer households, landless less poor agricultural labourers, women and people belonging to SC/ST. The groups shall be homogenous having common identity and interest and are dependent on the watershed area for their livelihood. Each self-help group will be provided with a revolving fund for setting up micro enterprises.

User Groups (UGs)

The user groups in the watershed area constituted by the watershed committee with the help of WDT. It consists of

persons most benefited by the project and shall include those having land holdings within the watershed area. The WDT with the help of watershed committee shall facilitate resource use agreements among the user 'groups based on the principle of equity and sustainability. It is the responsibility of user groups to operate and maintain all the assets created under the project in close collaboration with the GramaPanchayat and the Gram Sabha.

Implementation phases of IWMP

The project involves three phases. The first phase is known as preparatory phase and its duration is for one to two years. The second phase is known as watershed phase and its duration is 2 to 3 years and the third and final phase is consolidation and withdrawal phase and its duration is 1 to 2 years. The details of the activities covered in the various stages are presented in table 1.

Released Amount of Project Funds in Kerala

Details of released amount of project funds for Kerala from 2010-11 to 2018-19 are given in Table 2.

Integrated Watershed Management Programme in Chirayinkeezhu

Chirayinkeezhu Block Panchayat is one of the 11 Blocks in Thiruvananthapuram district. The project implementing agency is Chirayinkeezhu Block Panchayat in Thiruvananthapuram district. It has an area of 84.64 Sq.Km. There are 6 GramaPanchayats viz. Mudakkal, Kizahuviulam, Chirayinkeezhu, Kadakkavur, Vakkom and Anchuthenguand covers 11 villages viz.

Table 1
Implementation Phases of IWMP

Phase	Name	Duration
I	Preparatory phase Entry Point Activities (EPA), Capacity Building to stake holders of watershed area, preparation of (DPR	1-2 years
II	Watershed Work Phase Watershed development work, Livelihood activities for the poor people, production system and micro enterprise	2-3 years
III	Consolidation and Withdrawal Phase Monitoring, Evaluation, Social Audit	1-2 years

Table 2
Amount Released under IWMP in Kerala

Year	Centre share	State share	Total released amounts (Rs. In lakhs)
2010-11	1101.43962	46.92300	1148.36262
2011-12	1081.56411	184.94500	1266.50911
2012-13	480.87405	57.70400	538.57805
2013-14	-----	6.000000	6.00000
2014-15	1516.00000	168.44000	1684.44000
2015-16	2000.00000	1333.33334	3333.3333
2016-17	1662.00000	761.50333	2423.50333
2017-18	1783.00000	-----	1783.00000
2018-19	1306.00000	-----	1306.00000
Total	10930.87778	2558.84867	13489.72645

Source: Official publication of Department of Land Resources, Government of India

Alankode, Azhur, Chirayinkeezhu, Edakkode, Elamaba, Kadakkavur, Kizhattingal, Kizhuvilam, Kuntalur, Melethonnakkalvakkom and Sarakara.

Project Area

The project area lies between North latitudes and East longitudes and is spread

over the northern part of the Thiruvananthapuram district in Kerala state. It is bounded by Varkala Block in the North, Kilimanoor Block in west, Pothencode Block in the south and Arabian Sea in the west. The watershed has a total area of 68.03 sq.km (6803 ha) covering 10 villages spread over 9

panchayats viz. Mudakkal, Kizhuvilam, Chirankkeezhu, Kadakkavoor, Vakkom, Mangalapuram, Azhoor, Karavaram and Anchuthengu.

The total population of the Block as per 2011 census is 1, 73,663 of which 81,755 are male and 91,908 are female. The literacy rate of this block is 74.04%. Physiographical dimension, the block consists of low hills with isolated hillocks,

laterite mounds, coastal land, wetlands and valleys. Agriculture is the primary occupation of the people in the watershed area. Cultivable lands are classified as wet, dry, garden and plantations. Rubber is the major plantation crop and coconut and banana and vegetables are also cultivated in the area. The major river draining through Block is the Vamanapuram and Mamam River. The Block falls in the 'White' category which

Table 3
Details of IWMP in Chirayinkeezhu

Sl. No	Watershed code	Name of the watershed	Area in Ha	Gramapanchayat under the watershed
1	3M1a	Pulinthruthu	170	Chirayinkeezhu
2	3M2a	Kolichira	920	Chirayinkeezhu, Azhoor&Kizhuvilam
3	4VIa	Thekkumbhagom	1423	Chirayinkeezhu, Kadakkavoor&Vakkom
4	4V28b	Elamba	978	Mudakkal
5	4V29a	Vilayinmoola	891	Mudakkal, Kizhuvilam
6	4V29e	Kizhuvilam	1321	Mangalapuram, Mudakkal, Kizhuvilam
7	4V30a	Sarkara	618	Chirayinkeezhu&Kizhuvilam
8	4V4b	Melattungal	481	Kadakkavoor&Karavaram

Source: Data from Chirayinkeezhu block Panchayat

Table 4
Number of Beneficiaries and Number of Employment Generated

Sl. No	Name of the watersheds	Total Number of beneficiaries from wage employment	Total Number of beneficiaries from Self employment
1	Pulinthruthu	2263	1075
2	Kolichira	6026	2841
3	Thekkumbhagom	19388	9193
4	Elamba	3791	1789
5	Vilayinmoola	3733	1764
6	Kizhuvilam	5918	2798
7	Sarkara	5463	2593
8	Melattungal	2579	1221

Source: Data from Chirayinkeezhu block panchayat

means less than 65 per cent of the ground water is utilized.

The IWMP in Chirayinkeezhu was sanctioned during the financial year 2011-12. The details of the project is given in Table 3.

Employment Generation

Employment generated and number of beneficiaries under the project are enlisted in table 4.

There has been significant raise in the number of employment created in the project area in terms of wage

employment and self-employment of the project.

Details of Migration from Project

The major reason for migration was lack of job opportunities in the agriculture and allied sectors, low productivity and poor income from land, weak infrastructure and support services for agriculture. Searching for better livelihoods and changing life styles are also the reasons for migration. The details of reduction in the number of persons migrating is given in table 5

Table 5

Reduction in the Number of Migrating Persons in the Watershed Area

Sl. No	Name of the watershed	Number of persons migrating	Number of days per year of migration	Reduction in number of persons migrating
1	Pulinthruthu	67	6705	54
2	Kolichira	181	10651	162
3	Thekkumbhagom	576	70887	346
4	Elamba	113	2722	85
5	Vilayinmoola	111	11149	95
6	Kizhuvilam	177	10416	141
7	Saarkara	162	19945	146
8	Melattungal	77	1843	46
Total		1464	6716	1075

Table 6

Status of Drinking Water in the Project Area

Sl. No	Name of watersheds	Availability of drinking water (no. months in a year)	
		Pre project	Post project
1	Pulinthruthu	9	10
2	Kolichira	8	10
3	Thekkumbhagom	11	12
4	Elamba	10	11
5	Vilayinmoola	7	9
6	Kizhuvilam	11	12
7	Saarkara	9	10
8	Melattungal	9	11

Table 7

Major Crops Grown and Productivity in the Project Area

Sl, No	Name of the crop	Current status		Post project status	
		Area (ha)	Productivity kg/ha)	Area (ha)	Productivity (kg/ha)
1	Khariff	475	2477	523	2849
	Paddy				
2	Rabi	475	2535	665	4183
	paddy				

Due to the project activities there were significant reduction in the migration rates from the project area.

The study identified that the project caused a raise in the water table and hence the availability of drinking water in terms of months in a year has increased.

Major Crops Grown and Productivity in the Project Area

Paddy was the major crop in both seasons and there were significant raise in area of production and productivity per ha. And the details have been presented in table 7.

During the financial year 2015-16, Government of India has launched a new programme called Pradhan Mantri Krishi Sinchayi Yojana (PMKSY) by amalgamating the on-going schemes such as Integrated Watershed Management Programme (IWMP), Accelerated Irrigation Programme (AIBP), and On-Farm Water Management Component of National Mission on Sustainable Agricultural Management (NMSA).

IWMP has now been converted as PMKSY-Watershed Development component from July 1 2015. All the on-going projects of IWMP are included in

the watershed development component of PMKSY.

CONCLUSION

The demand for natural resources will be very high in future due to increase in the total population. Integrated Watershed Management Programme was implemented with the objective of restoring ecological balance by harnessing, conserving and developing natural resources such as soil, vegetative cover and water. The programme ensures prevention of soil run off, regeneration of natural vegetation and recharge of ground water table. It facilitated multiple-cropping and diverse agro based activities. Management strategies for each watershed would be formulated according to its own conditions and environment. Community participation in terms of planning of the post project activities to a great extend contributed the sustainability of the programme. IWMP is flexible enough to accommodate all sorts of changes and perspectives according to the situations. In Chirayinkeezhu, the project has a significant impact on generating employment, reduction in migration of labour and due to raise in water table,

availability of water in terms of months in a year has increased and it had a significant impact on raising production and productivity cultivable land and

therefore it can be concluded that the programme Has got a positive impact on the socio-economic status of the people in the project area.

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A STUDY ON STRESS FACED BY WOMEN EMPLOYEES IN INFOPARK ERNAKULAM

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Abstract

Stress is a part of day to day living of every individual. Stress can destroy the mental ability of an individual. Stress is the way human beings react both physically and mentally to changes, events and situations in their lives. Stress within the comfort zone can help to perform under pressure and motivates people to do the best. Stress characterized by loss of feelings of security and adequacy. Any kind of job have target to achieve and the employee will undergo stress if the target is unattainable. Job stress can be defined as the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources and needs of the employees. Reduced work stress will make the women employees more energetic and enthusiastic in order to provide effective service to the society and enhance the prospects of the organisation.

Key words:- Stress, Unattainable, Resources, Emotional Responses, Motives.

*S*tress is a state of pressure experienced by individuals facing extra ordinary demands, constraints or opportunities. Stress has become common and very frequent when and wherever there is human involvement. Therefore women

working in an environment with little flexibility or choice would be a greater risk of distress than a climate of no voice. Women are multi- taskers by nature and embrace task within tasks. Work, family and home are not separate and the issues around balance

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exist in any case of working for yourself or someone else.

In a competitive markets survival and success of business will depend seriously on the ways in which an organization manages its resources, especially the human resources. Today human resources engage more than ever the center stage of all economic activities. It is upsetting time for all those organization that wish to be successful in global market to gear up and execute a preferred shift in their existing human resource management practices and influence their human resource along with other resources .

Also to become more flexible and modern, organization need to adopt new ways of attracting, retaining and inspiring employees who are eager to learn and can contribute to the growth and development of the organization.

Work place stress is arise due to

1. Un reasonable demand for performance
2. Absence of interpersonal communication between the employer and employees
3. Lack of cordial relationship among the employees
4. Fear of instability of the job
5. Continuous working hours
6. Little time to spend with the family
7. Difficult to balance work and home demands
8. Treated inferiority to male colleagues.

Stress Faced by Women Executives

The presence of work place stress is commonly unavoidable. Stress may be defined as a state of inequality arising due to excessive psychological and or physiological demands on a person. The main causes of stress among women executives in the bank are

1. Poor Working Condition

Poor working conditions contribute to stress among employees. Women executives may face the problem of poor working conditions in organization such as poor lighting and ventilations, unhygienic situations facilities, extreme noise and dust, long working hours also fetch strain to women executives, which may lead to stress. Inadequate facilities provided to women executives also develop stress among them.

2. Rotating Shift

Generally in IT industries employees are forced to work in different shifts. This is in most time very difficult to the women employees. Such situation they are in the feel of high stress, because they find difficulties to fulfill their family matters successfully.

3. Work Over load

Quite often women executives are asked to do many tasks in very little time. So they experience stressful situations. Work over load can be of two types. Quantitative and qualitative. Quantitative overload involves performing more number of activities in the prescribed time. Qualitative task which may be beyond the employee's capacity.

4. Role Ambiguity

Sometimes the women employees do not know what they are supposed to do, their tasks and responsibilities are not clear. This creates misunderstanding and may lead to stress.

5. Lack of Participation in Decision Making

Participation in decision making involves invitation for important meetings, consultation, invitation for membership for important committees etc..Many of the experienced women executives feel that they are not consulted in important decision making matters affecting their job careers. Thus the women executives develop a feeling of being neglected, which may lead to stress.

6. Inappropriate Leadership Style

There is a major difference in leadership styles, where people does not consult the subordinates and believes that they are always right. Women employees may not like the leadership style and their supervisors, which may create a feeling of tension and anxiety.

7. Lack of Social Support

Women executives are really affected by the support of one or more members of a organized group by sharing their joys and problems with other members, they feel contended. In the absence of such social support the women executives feel stressful

8. Transfers

Transfers refers to movement of employee from one department to another, or from one division to another without any increase in job responsibilities. Women executives resist transfers as it disturbs their family lives. Such problem of transfer is widely experienced by women employees in bank.

9. Poor Working Relationship

Women executives may have strained relationship with the members in the field. They may have extremely formal relations with their superiors and or negative verbs may be exchanged with the peers. Especially the men executives may not have a positive attitude towards their women colleagues. Hence the environment becomes aggressive and unhealthy to work in the bank.

10. Technological Changes

Changes in the technological field can be source of stress among employees including women executives.

Effect of Stress on Women Executives

Extended exposure to stressful situations produces serious physical psychological and behavioral effects. The effect of stress on women executives are

1. Physical Health

Medical indication suggests and supports a link between stress and heart disease. Stress also gives rise to

negative effects like high blood pressure, ulcers, headache, constipation and skin diseases. The managers and professionals experience extreme fatigue, bodily disorder including hyper tension, peptic ulcers, migraine headache, fevers etc. However despite these disorders executives fare better than employees at the bottom of the organization with respect to their mental health.

2. Psychological Health

High level of stress is result in anger, anxiety, depression, nervousness, tension and boredom. The change in employee behavior affects his job performance. It affects his self confidence towards self esteem, lack in concentration and reduces job satisfaction.

3. Behavioural Effects

The women executives experiencing stress may possess themselves with routine work and make-believe to be busy. Some of them opt for early retirement or due to their inefficiency. The management may ask the executives to leave. Some people choice to alcoholism and drugs to run away from the evil effects of high level of stress. It is found to have unpleasant effect on employee's performance. It may lead to increased absenteeism, work accident and loss of production.

Objectives of the Study

1. To study the job stress of women employees in info park.
2. To study the impact of stress on physical and psychological well being of women employees in info park

3. To analyze the strategies adopted by the organization to reduce stress

Methodology

Study is descriptive in nature. Population for selecting sampling units of the study includes women employees working in info park at Ernakulum. Convenience sampling is used for this study. Total sample size 50 is selected for the study.

Significance of the Study

There are number of women workforce in info park. This study focus on women employees in info park at Ernakulum district. The women executives experience a lot of stress due to various problems like lack of training and development opportunities, sexual harassment at work place and so on. They also face same problems like work, family, conflict, hostile environment at home children and elderly care etc

Statement of the Problem

Job stress can lead to poor health and even injury. Employees who are stressed are also more likely to be un healthy, poorly motivated, less productive and less safe at work. Stress can be brought about by pressures at home and at work. Generally women employees have lot of responsibilities in home ,but they spend majority of time in workplace, this will create full of stress and strain in them. So the study is mainly concentrated on the stress suffered by women executives in info park.

Analysis and Interpretation

The collected data is analysed on the basis of percentages.

Table No. 1.1

Table Showing the Age wise Classification and Stress of Respondents

Age	Number of respondents	percentage
Below 30	26	52
30-40	12	24
40-50	8	16
50-60	4	8
Total	50	100

Source: Primary data.

The above table reflects that majority of respondents in this study are youngsters, belongs to below 30 years of age. That is out of total 50 respondents, 26 are of this group. But 12 respondents in the age group between 30-40 years of age, and 8 respondents is in the age group of 40-50 years of age, and 4 respondents in the age group of 50-60 years of age.

Table No. 1.2

Table showing the Stress of Women Employees in Infopark.

Sl No	Stress level	Respondents	Percentage
1	High	38	76
2	Normal	12	24
3	Low	--	---
	Total	50	100

Source: Primary data

From the above table it is understood that out of the total 50 respondents 38 respondents (76 percentage) of women employees have the opinion that they are facing high stress. Out of 50 respondents 12 of them (24 percentage) says that they feel normal stress that is usual. From the study it is

found out that majority of respondents are high stress.

Table No. 1.3

Table Showing the Opinion of Women Employees regarding the Workload in Infopark.

Sl No.	Work load	Number of respondents	Percentage
1	High	43	86
2	Normal	7	14
3	Low	--	
	Total	50	100

Source: Primary data

From the above table it is found out that out of the total 50 respondents 43 of them (86 percentage) have the opinion that work load in the organisation is high. Out of the total 7 respondents (14 percentage) feel normal stress. Majority of respondents work load is high.

Table No. 1.4

Table showing the Opinion of Respondents Relate to Absence of Participation in Decision Making

Sl No	Absence of participation	Number of respondents	Percentage
1	Agree	41	82
2	Disagree	4	8
3	Neutral	5	10
	Total	50	100

Source: Primary data

The above table shows the lack of participation of employees in decision making. It is found out from the table that 41 respondents (82 percentage) of respondents have the opinion that

management does not participate the employees in decision making. Instead 5 respondents(8 percentage) said that management cooperate with them for taking decision. But 5 respondents(10 percentage)

Table No. 1.5

Table showing the Technological Changes Affecting Adversely to Women Employees

Sl No	Technological changes	Number of respondents	Percentage
1	Strongly agree	39	78
2	Agree	11	22
3	Disagree	-	--
	Total	50	100

Source: Primary data

The above table shows that nearly 100 percentage of the respondents have the opinion that technological changes in the organisation adversely affecting to them. Out of this 39 respondents(78 percentage) strongly supported to this.

Table No. 1.6

Table Showing the Behavioural Effects of Women Employees due to Stress

Sl No	Level of work load	Number of respondents	Percentage
1	Strongly agree	33	66
2	Agree	17	34
3	Disagree	--	---
	Total	50	100

Source: Primary data.

Table 1.5 shows that the stress in the work place have an impact in their behavior adversely. Some times they find difficult to control their behaviour. Out of the total respondents 33 respondents (66 percentage) strongly supported to this.

Table No. 1.7

Table Showing the Opinion of Employees Regarding Poor Working Condition, Rotating Work Shift, Role Ambiguity.

Sl No	Causes of stress	Number of respondents	percentage
1	Poor working condition	18	36
2	Rotating shift	19	38
3	Role ambiguity	13	26
	Total	50	100

Source: Primary data.

From the table it is inferred that out of the total 50 respondents,18 respondents(36percentage) have the opinion that the working condition is poor. Rotating shift of the work is the major cause of stress concerning 19 respondents(38 percentage).But 13 respondents(26percentage) says that role ambiguity is the cause of stress.

Table No 1.8

Table Showing Stress Relaxation Technique (Regular Exercise, Meditation and Yoga help to Relieve Stress.)

Sl No	Response received	No of response	Percentage
1	To a greater extend	10	20
2	To a certain extend	35	70
3	Not at all	5	10
	Total	50	100

Source: Primary data

Table 1.7 reflects that out of 50 respondents 10 respondents (20 percentage) says that relaxation technique is effective to a greater extend to reduce

stress. But 35 respondents(70 percentage) have the opinion that to an extent these strategies help to reduce stress. However 5 respondents (10 percentage) opines that these strategies have no effect in them to reduce stress.

Findings

1. Meeting deadlines and job security is the major factors influencing job stress of women employees.
2. Due to job stress the women employees are experiencing more psychological stress than the physiological stress.
3. There is negative relationship between job stress and employee engagement.
4. Physical and psychological impact has no relationship with the employee engagement.
5. Management should take more care to reduce the stress of employees.

Suggestions and Recommendations

1. Infopark job is stressful and the organization must consider the deadlines given to their employees. So considerable time can be given to reduce the job stress.

2. Psychological support from the management can reduce the job stress.
3. Organisation can improve the stress management strategies to reduce job stress. It helps to improve employee engagement.
4. Ensure more cordial atmosphere to the employees for doing their work systematically. more cordial .
5. Due respect and care must be provided to the most valuable resources of an organisation.

Conclusion

Stress is not always bad. But sometimes it causes several problems both for organization as well as employees. Most of the organization should take care of their employees and providing stress management strategies to reduce their stress. But periodical review is necessary to know stress level of employees. It helps the organization to identify the effective strategies to be implemented to reduce the employee stress. Reduced work stress will make the women employees more energetic and enthusiastic in order to provide effective service to the society and enhance the prospects of the organisation.

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Pages 175

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Price Rs. 200

STUDY ON INSTITUTE- INDUSTRY INTERACTION TECHNIQUES AMONG COMMERCE AND MANAGEMENT STUDENTS TO ENHANCE INTERPERSONAL SKILLS

***Santhi V R**

Abstract

Technical education forms the backbone of development of any nation. India has one of the largest technical manpower in the world. The co-operation between Industries and institutes has taken different forms at different times, i.e., simple interaction with a very close partnership. But still, there are some gaps in the commerce, management education system, in the form of lack of interaction between industry and institution. The study is about the importance of interactions of industry and the Institute for the development of student's interpersonal skills. The study aims to assess the benefits of industry institution interaction by examining the persistent interaction techniques among commerce and management students to enhance interpersonal skills.

Key words:- Institute Industry Interaction, Interaction Techniques, Interpersonal skill, Short term Training, Case Studies

There exist two worlds – academic and industry. These two worlds have a different mindset and goals. Student's find it hard to enter the industry world from the academic world unless they are brought together. It is essential for ensuring that practice meets theory across all functional areas. It helps in enhancing a

student's interpersonal skills and making them industry – ready. The interactions shouldn't be limited to case studies or internships. Summits, panels, visits, workshops, short-term training classes etc. also are organized by institutes to bring together thinkers, experts, and practitioners. Such activities benefit students in the way of intensive mentoring

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by enthusiastic and highly committed industry professionals.

With industry-institute interactions, students get in-depth knowledge about what they can expect and how they have to ready themselves to achieve successes. These interactions help to clear doubts and concerns that students usually have about the industry. They get the confidence to take their theoretical and practical knowledge ahead to make a place for themselves in their chosen industry. Just theoretical knowledge is not enough for making a professional career. Such interactions let the students learn practically by applying theoretical knowledge, through working methods, interactions and employment practices.

Review of Related Literature:

Mukesh dhunna (2002) observed that the present Indian U.G and P.G management and commerce curriculum hardly contain information related paper. Faculty members and administrative staff in the university systems are not taking initiative and many of them resist change. Affiliated colleges are not having the autonomy to revise the syllabi.

V. Parthiban and Varadaraj observed that continuous interaction between industry and institution is a must to make graduates produced by the institutions up to the mark and meet the needs of the industry. Any organization or institution needs to follow good strategies in order to reach excellence. In order to achieve excellence, they recommend reshaping and recreating business education.

Need for the Study:

The important outcome of the industry-institute interactions among the

students should be bringing economic development through educational excellence. Different academic institutions associated with various industrial sectors. It gives an opportunity to work with real-life projects to have experience and possible implementation of the continuing education program.

The outcomes of industry-institute interactions among the students may be

- The continuing education program, develop courses for industrial employees as a continuing education program.
- The restructuring of the curriculum of programs as per the industry need.
- Short-term training programs targeted at middle and high-level managers
- Skill up gradation courses
- Renewed faculty, having industry experience.
- Involvement of industry experts in curriculum designing
- Internship in foreign companies
- Making available institute infrastructure facilities to the industries and vice versa for joined R and D activities
- More placement opportunities in MNC's by integration of industrial training and other inputs from industries with teaching-learning process.

Benefits of Industry Institute Interaction:

The Industry- Institute interaction is a beneficial and meaningful method of teaching. Students who are equipped only with theoretical knowledge are not going to be able to achieve much. In today’s competitive world, the recruiters are also looking for those candidates who have the ability to combine theory with practical and industrial knowledge. During these interactions, students can also build good relationships with companies. In short, the benefits can be enlisted in the following figure 1.1.

Objectives:

1. To study the benefits of Institute-Industry interaction.
2. To study the persistent interaction techniques among commerce and

management students to enhance interpersonal skills.

Hypothesis:

The persistent interaction techniques among commerce and management students to enhance interpersonal skills are common.

Methodology:

Simple convenient sampling technique is adopted by the researcher as the sampling method. Accordingly, a survey was conducted among commerce, management students in Thiruvananthapuram city with a sample size of 30 each. To conduct the survey a questionnaire was used. The study period of the research is one month. Primary data was mainly relied on by the researcher. The discriminant analysis was mainly done by the researcher to examine

Figure 1.1
Benefits of Industry-Institute Interaction

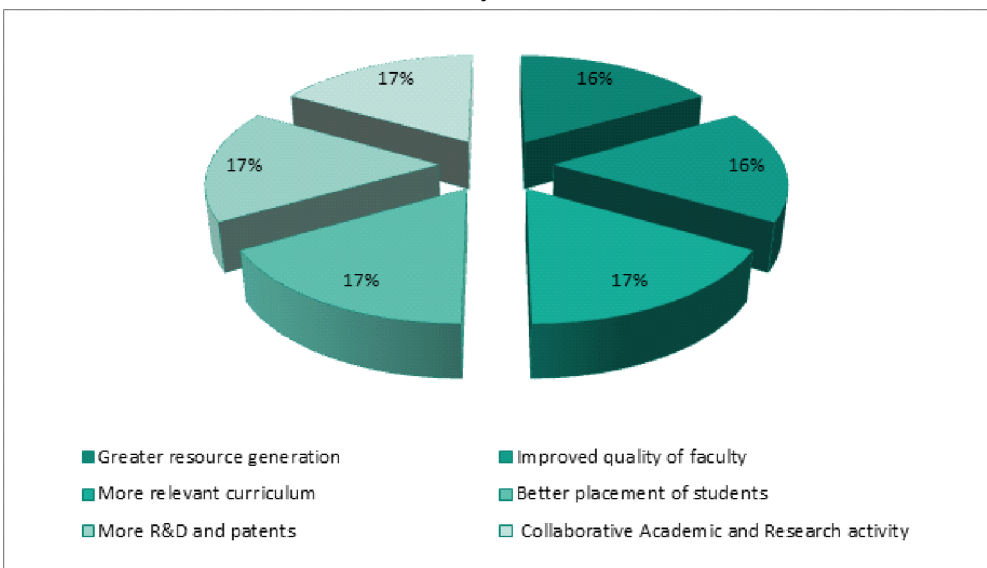


Table 1.1
Interaction Techniques among Commerce and Management Students

Techniques	Commerce Students		Management Students	
	Mean	Std. Deviation	Mean	Std. Deviation
Internship	1.923*	.9112	2.137*	0.0334
Assignments	3.333***	0.3455	3.294***	0.2875
Training	2.821*	0.7549	3.081***	0.7331
Visiting faculty from industries	2.932**	0.4955	3.336***	0.5629
Workshops	2.359**	0.2762	2.656**	0.4435
Seminars	3.222***	0.7425	3.279***	0.7315
Short-term training programs	2.675**	0.4612	3.091***	0.5752
Live projects	1.547*	0.0297	1.624*	0.1024
Vestibule training	2.154*	0.5515	2.173*	0.4501
Hired faculty from industries	2.752**	0.4075	2.675**	0.4833
Communication classes	4.044***	.9233	4.391***	.9869
Leadership classes	3.903***	0.3733	4.000***	0.4250
Industrial visit	2.393*	0.5863	2.472*	0.4865
ICT enabled classes	3.215***	0.2769	3.340***	0.4918
Participatory learning	2.222*	0.3716	2.477*	0.4519
Learning by doing	3.538***	0.5949	3.437***	0.6170

Source: Primary Source

the persistent interaction techniques among commerce and management students to enhance interpersonal skills

Limitations:

- Time is the important constraint.
- The credibility of the data is up to the data given by the students

- The study is mainly based on small sample size.

Results and Discussion:

Some benchmarks are designed and based on the variables; a comparison was made between students in Commerce and Management faculties of Thiruvananthapuram district. Accordingly,

the mean score assigned by students in commerce and Management faculties of Thiruvananthapuram district is 3.54 (High) and 3.43 (High) 'Learning by doing', 3.22 (High) and 3.34 (High) 'ICT enabled classes', 3.90 (High) and 4.0 (High) 'Leadership classes', 4.04 (High) and 4.39 (High) 'Communication classes', 3.22 (High) and 3.27 (High) 'Seminars' and 3.33 (High) and 3.29 (High) 'Assignments'. This implies the colleges give due importance for this technique among commerce and management students to enhance interpersonal skills.

A comparison was made between Commerce and Management Students with the help of Anova test. Accordingly significant difference is found in the variables 'Training' ; $p=0.001$, 'Visiting faculty from industries' ; $p=0.023$; Workshops; $p=0.031$; 'Short-term training programs', $p=0.021$; 'Communication classes', $p=0.004$. But no significant difference found in the remaining variables.

The techniques among commerce and management students to enhance interpersonal skills were further tested with the help of Chi-square test and found significant, as the p-value is 0.029.

Table 1.2
Tests of Equality of Group Means -Interaction Techniques among
Commerce and Management Students

Techniques	Wilks' Lambda	F	df1	df2	Sig.
Internship	.989	3.431	1	312	.065
Assignments	0.000	.065	1	312	.799
Training	.995	4.646	1	312	.001
Visiting faculty from industries	.999	4.335	1	312	.023
Workshops	.989	3.523	1	312	.031
Seminars	0.000	.079	1	312	.779
Short-term training programs	.983	5.404	1	312	.021
Live projects	.999	.379	1	312	.538
Vestibule training	0.000	.012	1	312	.914
Hired faculty from industries	.999	.205	1	312	.651
Communication classes	.999	5.227	1	312	.004
Leadership classes	.999	.391	1	312	.532
Industrial visit	.999	.197	1	312	.658
ICT enabled classes	.979	6.633	1	312	.010
Participatory learning	.993	2.358	1	312	.126
Learning by doing	.999	.295	1	312	.588

Source: Primary Source

Table 1.3

Wilks' Lambda -Interaction Techniques among Commerce and Management Students

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1	.911	28.314	16	.029

Source: Primary Source

Table 1.4

Functions at Group Centroids -Interaction Techniques among Commerce and Management Students

Category of students	Function
	1
Commerce Students	-.358
Management Students	.342

Source: Primary Source

Table 1.5

Functions at Group Centroids -Interaction Techniques among Commerce and Management Students

Standardized Canonical Discriminant Function Coefficients				
	Coefficient	Rank	Coefficient	Rank
	Commerce Students		Management Students	
Internship	--		.321	4
Assignments	-.068	4	--	
Training	--		.189	5
visiting faculty from industries	--		.155	6
Workshops	-.456	1	--	
Seminars	--		.028	10
Short-term training programs	--		.491	2
Live projects	--		.091	9
Vestibule training	--		.124	8
Hired faculty from industries	-.089	5	--	
Communication classes	-.356	3	--	
Leadership classes	-.387	2	--	
Industrial visit	--		.130	7
ICT enabled classes	--		.528	1
Participatory learning	--		.436	3
Learning by doing	--		.021	11

This implies there is association among the variables.

Unstandardized canonical discriminant functions evaluated at group means shows that the coefficient function in the groups as belonging to -0.358 for Commerce Students and 0.342 for Management Students.

The perception of the interaction techniques among commerce and management students was assessed. Accordingly, the perception level is high for the Workshops, Leadership classes, Communication classes, Assignments and Hired faculty from industries by the commerce students. This implies commerce students expect more for the above variables as the interaction techniques. Likewise, the perception of the Management Students was high for the ICT enabled classes, Short-term training programs, Participatory learning, Internship, and Training. This implies management students expect more for the above variables as the interaction techniques.

Findings:

1. From the study, the important finding is most of the students

need a change in their present curriculum.

2. The perception level is high for the Workshops, Leadership classes, Communication classes, Assignments and Hired faculty from industries by the commerce students.
3. The perception of the Management Students was high for the ICT enabled classes, Short-term training programs, Participatory learning, Internship, and Training.

Conclusion:

Any institution or organization needs to follow good strategies in order to reach excellence. Continuous interaction between industry and institution is a must to make the graduates produced by the institution up to the mark and meet the needs of the industry. Establishment of industry institute interaction cell, Organizing seminar/ workshop on topics pertaining to industry-institute interaction, changing curriculum according to the need of industry, Compulsory practical training of students in industries and Visiting faculty or professors from industries.

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TRANSFORMATION OF FAMILY BUSINESS IN INDIA IN THE ERA OF GLOBALIZATION

***Pratheep P S**

Abstract

Family business is the oldest and most common model of economic organization. Family business is a form of business that involves some family members in business ownership or operations. Few of the largest wealth creators and businesses are family owned like Wal-Mart. Family firms are family-owned and family-managed enterprises in which family business corporate identity is born in multigenerational environment. The study of Family Firm Institute stated that, family firms account for two thirds of all businesses around the world, generate around 70-90% of annual global GDP, and create 50-80% of jobs in the majority of countries worldwide. In India, family run businesses account for 85% of all Indian companies and account for the vast majority of national output and employment. Globalization, aggressive worldwide competition, fast technological advancement, and new growth prospects beyond national boundaries pressurize family firms toward international diversification and global strategic growth to nurture their competitive advantage and/or to overcome economic uncertainties. The objective of the paper is to highlight the transformation of family business in India in the era of Globalization.

Key words:- Family Business, Globalization, Liberalization, Transfer of Technology

Globalization implies the opening of local and nationalistic perspectives to a broader outlook of an interconnected and interdependent world with free transfer of capital, goods, and services across national frontiers. It is widely claimed that in current era, globalization has a greater

say in our day today dealings. National cultures, national economies and national borders are becoming increasingly fluid. Much transition and developing countries through liberalization and increased openness to trade have benefited from the process. Research on the internationalization of family firms has

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flourished in recent years, yet the mechanisms through which family involvement shapes the determinants, processes, and outcomes of internationalization remain little understood and largely under-theorized. The interest of management and organization studies in family firm internationalization does not come as a surprise. Notwithstanding that the worldwide diffusion and international growth of family businesses has intrigued researchers for decades, the debate on the role of family involvement in influencing international diversification, growth, and performance is still far from conclusive. A major environmental change that has taken place in the last twenty seven years is the globalization of business. The world has become a global village and business has become global in character. Organizations are venturing beyond national boundaries in the pursuit of business opportunities. The objective of the study is to highlight the challenges of family business in India in the era of Globalization and the methodology is descriptive.

Family Business

Family businesses dominate the economic landscape in nations around the world. Family business is a vibrant area of growing interest today among researchers, theorists, investors, policymakers, practitioners, and many others- with good cause. These businesses, regardless of their size, have unique complexities, issues, and problems that non-family-owned enterprises simply do not encounter. Some examples of these issues are sibling rivalry, multigenerational succession, nonworking

family members, divorce, familial interpersonal conflict, and inheritance tax issues that face the ever-expanding generations of family members. For a family business to have faced those types of complex issues and still be thriving multiple generations later is a situation worthy of examination if not emulation. It is interesting to speculate on what a non-family business can learn from a family business.

Erenesto J. Poza (2007), in his widely used text *Family Business* defined family business as:

1. Ownership control (15 % or higher) by two or more members of a family or a partnership of families;
2. Strategic influence by family members on the management of the firm, whether by being active in management, continuing to shape culture, serving as advisers or board members, or being active shareholders;
3. Concern for family relationships;
4. The dream (or possibility) of continuity across generations.

The vast majority of business in the world are owned or controlled by families. According to the latest statistics from the Family Firm Institute, family firms account for two thirds of all businesses around the world, generate around 70-90 percent of annual global GDP, and create 50-80 percent of jobs in the majority of countries worldwide (Family Firm Institute, 2017).

Family business have existed for centuries. Family business is by far the

most prevalent form of business in the world (Alderson, 2011). They are an almost natural creation of families who live and work together over time, and need and want to take care of and provide for one another in the present as well as in the future (Kaslow, 2008). Alderson (2011) has stated that as many as 80% - 95% of all businesses in the United States are family owned or controlled. In Europe, the prevalence of family business is approximately 70 % - 80 %. It is estimated as much as 75%-90% of firms in the Middle East are family owned. In Latin America, 70% of all firms are owned or controlled by family. The Australian economy is controlled by family firms, estimated at approximately 67 % of all business and Asia is dominated by family firms, many of them Chinese family firms that are based in other countries (Alderson, 2011).

It is undisputed that family businesses are among the most important contributors to wealth and employment in virtually every country of the world (Astrachan & Shankar, 2003). Family businesses are the world's economic backbone, with a special blend of entrepreneurial thinking and forward looking focus. Family businesses, the predominant form of business organization around the world-can make numerous, critical contributions to the economy and family well-being in both financial and qualitative terms. The family business has a far-reaching influence on economics throughout the world. It is learned that family businesses are fast becoming the dominant form of business enterprises in both developed and developing economies, and play an

important role, both economically and socially, in these economies. No other type of business had driven economic development in the same way, and in almost all countries family businesses, including such giants as |Ford, Levi, L'Oreal and Ferrero, are the source of more than half of the Gross National Product and employment (Neubauer and Lank, 1998).

Family Business and Globalization

Globalization has become an imperative and is no longer avoidable as a strategic choice for family businesses. However, globalization strategies are far from the norm among small and medium-sized family enterprises. Globalization, aggressive worldwide competition, technological developments, and new growth prospects beyond national borders increasingly force family firms toward international diversification and global strategic growth to nurture their competitive advantage and/or to overcome economic downturns. Internationalization allows these firms to take advantage of economies of scale, lower labour costs and commodity prices, access to qualified and cheaper human resources and know-how in foreign industry clusters, and local opportunities for innovation. Internationalization is widely acknowledged as an important determinant of the sustained performance of family firms in the global economy. Irrespective of size, these firms have recently seen significant international growth through exports, foreign direct investments, contractual agreements, joint ventures, or a mix of these entry modes

in foreign markets. In fact, many of the world's largest multinational companies (MNCs) are family influenced (Casillas and Pastor, 2015), and several small and medium sized family enterprises are internationally recognized for their globalization strategies (e.g., for recent analysis on German Mittelstand firms, See De Massis *et.al.*, 2018).

This is very important to address whether family firms internationalize less or more than non-family firms generally in terms of foreign sales, exports, and more recently foreign direct investments. Research agrees that specific aspects distinguishing firms with family involvement from other forms of business or organizations such as the innate tendency of family owners to centralize and personalize administrative power (Carney, 2005), their personal investment and consequent parsimony (Carney, 2005), the pursuit of non-economic goals (Kotlar and De Massis, 2013; De Massis *et.al.*, 2018), and the asymmetrical treatment of family and non-family employees (Verbeke and Kano, 2012) pose unique challenges for their growth and development.

The family firms are considered inclined to remain in their domestic markets and adopt conservative behaviours, tending to protect their socio-emotional wealth (Gomez-Mejia *et.al.*, 2007; Kotlar *et.al.*, 2017), which refers to the family member's affective endowment, including family control and influence over the firm, their emotional attachment and shared identification with the firm, their social ties with stakeholders, and their desire to renew family bonds through dynastic succession.

Departing from these discussions, some authors (Verbeke and Kano, 2010; Hennart, Majocchi and Forlani, 2017) argue that the question of whether family firms internationalize more or less than their non-family counterparts is ill-posed, since every firm has an optimal level of internationalization, and the important theoretical problem to address is under which conditions family firms tend to move toward or away from these optimal levels.

Factors for Family Business Global Expansion: Pull and Push factors

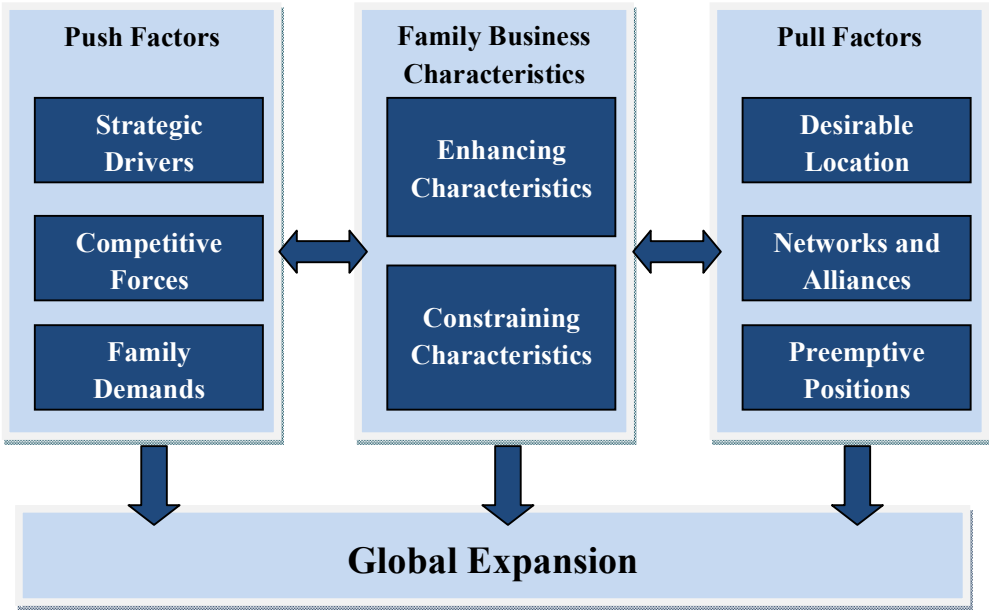
Push factors are pressures on family businesses to expand beyond national borders. Push factors include strategic drivers, competitive forces, and family demands. Pull factors are opportunities that incentivize family firms to expand globally. Such factors include desirable locations, networks and alliances, and pre-emptive positions. Family businesses have distinct characteristics that may enhance or constrain their global expansion. Such characteristics range from enhancing elements like altruism, stewardship, and trust to constraining factors like resource restrictions, risk aversion, and family conflicts. Family businesses must consider both forces when pursuing global expansion (See Figure 1).

The impact of Globalization on Business

The flow of foreign investment caused increase in competition and deregulation which allows businesses to enter markets from which they once precluded. Greater awareness and reactions to customer needs - the consumer is now very selective on such

Figure 1

Push and Pull factors for family business global expansion decision



Source: Adapted from Etemad (2004, p. 5)

essentials as quality, service and price. Selling across many continents business can acquire economies of large-scale production. This makes them very competitive. Modern production techniques and service provisions can enhance the flexibility in the selection of location anywhere. This allows to them gain the advantages of low cost labour and other resource charges. Increased mergers and joint ventures allowing access to bigger markets and associated cost advantages.

Family Business in India in the Era of Globalization

When India became independent in 1947, few business ‘houses’ like the Tatas, the Birlas, the Mafatlals and the Walchands had substantial controlling power on the

entire economy, due to their sound financial position and diverse activities. Though, none of them had a monopoly in any industry (Chaudhuri, 1972). The period from 1947 to 1990 was characterized by high tariff rates, restrictions on imports, foreign exchange, private and foreign investments, a creation of state-led monopolies and nationalization of banking and insurance sectors (Kotwal, Ramaswami, & Wadhwa, 2011). Prior to 1991, the private sector in India was predominantly controlled by ‘business groups’ in spite of all the restrictions and regulations that existed. From the days of a few business houses controlling the economic and industrial activities of the country, we have come a long way. This period lasted till 1990, after which the government was forced to

liberalize the Indian economy due to a balance of payments crisis.

Widespread economic reforms in 1991 were expected to bring about significant transformations in the structure, operations, investments and competitiveness of the businesses in India. The liberalization of the economy in 1991 and the ensuing economic reforms saw the sprouting of several standalone family businesses. The Indian family businesses have adapted well to the changing business environment and continue to contribute to the country's economy in a big way. Many sectors that were earlier reserved only for the public sector, such as telecommunications, power generation and distribution, mining and airlines, were opened up for private players. A new wave of entrepreneurial ventures, in traditional as well as new sunshine industries, emerged post-1991. Norms were also relaxed for foreign multinational companies to set up businesses in India. There were widespread apprehensions about the capabilities of Indian private sector (predominantly family-controlled businesses) to withstand the pressure of the newly created "freedom".

The overall effect of liberalization, on the economy, was very encouraging. The GDP growth rate that averaged a mere 3.5% from 1950 to 1980 averaged 7.4% from 2001-2010 (See Table 1). India became one of the fastest growing economies in the world. Yet, business houses such as the Thapar, Mafatlal, Lalbhai, Shriram (DCM) and Shah (Mukand) which were amongst the top 50 business houses in the country at the beginning of the 1990s lost out to the new entrepreneurial ventures, of families like Adani, Reddy (Dr Reddy's), Mittal (Bharti) and Shanghvi (Sun Pharma). Other top business houses like Tata, Birla, Ambani (Reliance), Bajaj and Mahindra had to reinvent themselves to stay relevant and on top (Bang, Ray&Ramachandran, 2017).

Change is not new. As Charles Darwin's work in the Origin of Species may suggest, it is not the strongest of species that survives, nor the most intelligent, but the one most adaptable to change. What seems different though, is that today, we live in an era of unprecedented change brought about by human ingenuity and huge leaps in technology and globalization, the

Table 1
Indian Growth 1900-2018

	1900-50	1950-80	1981-90	1991-2000	2001-10	2011-15	2015-16	2016-17	2017-18
GDP growth rate in %	0.8	3.5	5.6	6.2	7.4	6.7	8.01	7.11	6.53

Source: 1900-2000: Das, Gurucharan. (2007). "India: How a rich nation became poor and will be rich again", <https://gurcharandas.org/rich-nation-poor>, accessed on 25 November, 2018; 2001-2015:

Data Source: World Development Indicators, Economic Survey 2017-18

magnitude and pace of which boggles even the most imaginative of minds. While businesses have always lived, and even thrived, amid uncertainties, the current environment throws up unique challenges and indeed opportunities with the need to constantly adapt, evolve and innovate like never before. This is true for every business and family businesses are no exception. In particular, they need to deal with some unique issues. For one, family businesses typically have a mix of various members across generations jointly involved in the business, including decision making.

There is widespread agreement that small and medium enterprises (SMEs), which generally tend to be family businesses, must consider global expansion for both offensive and defensive reasons. Absent timely and constructive responses to global shifts, many family businesses likely face decline or failure (Etemad, 2004; Fernández & Nieto, 2005). India's family-run businesses will be forced to adapt amid globalization and increased foreign direct investment.

Family businesses make up about 95 per cent of all firms in India, according to estimates. The country's corporate landscape is dominated by a few major family names, including the Ambanis, which cover a whole spectrum of sectors ranging from groceries to mobile communications through the Reliance Group. Others are synonymous with particular industries, such as Mahindra & Mahindra, which is best known for its tractors, but also has interests ranging from finance to tourism. The Jindal family, meanwhile, is associated with steel, and

the Ruia brothers of the Essar Group with energy. The list of top business group in India has undergone a significant change since the early days of economic liberalization (See Table.2).

Five Takeaways

- Family businesses have retained their entrepreneurial spirit and adapted to the changing business environment.
- Family businesses were traditionally strong in manufacturing but they have shown an equal penchant for the services sector, when the opportunities arose.
- Many of the family businesses, especially the standalone firms, are staring at a change of guard in the near future.
- The promoter holdings in family firms have gone up over the years, indicating the confidence of the promoter family in the business.
- There is a lot of heterogeneity within the family firms.

Major Changes

Opening of the economy and the influx of multinationals further aggravated the complexity of a business family ecosystem. Reduced trade barriers, increasing privatization and economical activities to increased competition and eliminating monopolies - have resulted in changing the landscape of doing business in the India. Like other companies, the family-run companies found themselves on the back foot. The rules of the game significantly changed and these companies were finding it difficult to carry the iron

Table 2
The List of Top Business Group
STAYING POWER

The list of top business groups in India has undergone a significant change since the early days of economic liberalization. The chart below depicts the top 15 Indian business groups and shows that only five have stayed in the Top 15 list through the 25 years between 1990 and 2015, compared with eight groups that stayed in the list through the 20-year period between 1970 and 1990. Tata group, Reliance Industries Ltd, Aditya Birla Group, ITC Ltd and Larsen & Toubro (L&T) are the five that have remained in the list for the past 25 years. Among these, Tata, Aditya Birla and L&T have been in the top 15 since 1970, while Mahindra & Mahindra returned to the list in 2015 after dropping out in 1990.

Rank*	1970*	1990*	2015#
1	Tata	Birla	Tata
2	Birla	Tata	HDFC
3	Mafatlal	Reliance	RIL
4	KCT Group	J.K. Singhania Group	ITC
5	ACC	KCT Group	Infosys
6	LNB Group	Mafatlal	Bharti Enterprises
7	J.K. Singhania Group	Bajaj	Aditya Birla Group
8	Shriram Group	K.K. Modi Group	Sun Pharma
9	Ashok Leyland	L&T	ICICI Bank
10	Scindia	M.A. Chidambaram Group	Vedanta
11	Walchandnagar	TVS	Mahindra & Mahindra
12	Kirloskar	ACC	L&T
13	Mahindra & Mahindra	Shriram Group	Wipro
14	L&T	ITC	Adani
15	Bhiwandiwalla	UB Group	HCL

*Ranking is based on total net assets as of 1972 and 1990 for Indian business groups only. # Ranking is based on market capitalization for 2015; Bharati Group includes market capitalization of Bharti Airtel and Bharti Infratel; Infosys is included because of its large market capitalization and Indian origin, even though it is not technically a business group. Birla in 1970 and 1990 represent the Birla group as it stood at those two points; in 2015, Aditya Birla Group was the only Birla group company that featured in the top 15 by market capitalization; Reliance in 1990 represents the undivided Reliance; in 2015, RIL represents Reliance Industries Limited while ADAG did not make it to the top list.

Disclaimer: Since these are not individual companies but groups, which often don't have their own registered name but are identified by aggregating the assets/market capitalizations of their subsidiary companies, we have used the name of the promoter/brand as an identifier.

Source: Growth and Persistence of large Business Groups in India, published in the Journal of Competitive international management; BSE market capitalization for business groups from Accord Fintech; Bain Analysis.

business. They realized the need to re-examine their business model. This accentuates the need to become professional, not only in the business but also with people in the business (including family members). This calls for a change from the current way of work and systems.

The arrival of multinational companies is a boon to local consumers, who benefit from the wider choices now available. For local companies, however, the influx often appears to be a death sentence. Accustomed to dominant positions in protected markets, they suddenly face foreign rivals wielding a daunting array of advantages: substantial financial resources, advanced technology, superior products, powerful brands, and seasoned marketing and management skills. Often, the very survival of local companies in emerging markets is at stake. When India opened its automotive sector in the mid-1980s, the country's largest maker of motor scooters, Bajaj Auto, confronted a predicament similar to what many "emerging-market" companies face. Honda, which sold its scooters, motorcycles, and cars worldwide on the strength of its superior technology, quality, and brand appeal, was planning to enter the Indian market.

Instead of forming a partnership with Honda, Bajaj's owners decided to stay independent and fortify their existing competitive assets. The company beefed up its distribution and invested more in research and development. Its strategy has paid off well. Honda, allied with another local producer, did quickly grab 11% of the Indian scooter market, but its share stabilized at just under that level. Bajaj's

share, meanwhile, slipped only a few points from its earlier mark of 77%. And in the fall of 1998, Honda announced it was pulling out of its scooter-manufacturing equity joint venture in India (Dawar & Frost, 1999)

It is explicit that significant changes are already taking place in the large family firms. They are as follows:

1. They are moving to professional management rather than managing through family members.
2. They are taking a sharp view on their competencies rather than being across many sectors and areas.
3. They are moving towards much larger scales, in the domestic market which does not have production limits any more, as well as in global markets.
4. The competitive landscape for them now consists of new Indian entrants as well as large global firms entering Indian markets.
5. Vibrant equity markets have now made this a key source of capital rather than depending only on public sector bank debt.

The traditional family-run business model is under threat. Global scale is now necessary, global scales will require large capital infusions, large capital infusions will lead to ownership dilution. It is a process that has started and will continue.

Implications for Family Businesses

In spite of the opening up of the economy and increased competition family firms grew in the post-liberalization era. They retained their

entrepreneurial spirit by entering into new sunshine industries. Many standalone family firms were incorporated and subsequently listed to access funds through the capital markets. Family firms, especially business group affiliated family firms, led the way in creating more assets, especially in the manufacturing sector. Promoter families seem to have recognized the long-term benefits of reinvesting in their family business. This is reflected in them increasing their holdings in family firms over the years. This also indicates the clarity these families have about not only the strategic direction but also of the internal capabilities to build further, together (Bang, Ray & Ramachandran, 2017).

It needs to be seen if the family businesses, especially the ones that are at the crossroad to either transition to the next generation or are on the cusp of making non-family professionals their agents, survive the change. Succession remains the number one concern of most family businesses (Chua, Chrisman, & Sharma, 2003) and rightly so, as in Europe and the United States, succession challenges have contributed to the short life of the majority of family firms.

It was found that there is a lot of heterogeneity within the family firms. Business group affiliated family firms and standalone family firms displayed different characteristics in many aspects. Standalone family firms played an important role in the development of the services sector in

the country. Similarly, large and small business group affiliated family firms displayed different characteristics (Bang, Ray & Ramachandran, 2017). From study, it reinforces that family businesses are not just the past, they are the future and an integral part of the journey of India to become an economic powerhouse. Their capacity to transcend time is their greatest strength (Aronoff & Ward, 1995).

Conclusion

To the family firms, the importance of being flexible in response to market opportunities is very important to transform in the era of globalization. This familiar advice is often forgotten by managers will face disastrous consequences. Liberalization is now making the structure of many industries much more fluid, and managers exposed to new kinds of competitors and opened new opportunities for adaptation. Many of the most successful companies will remain focused on their local markets, strengthening their main sources of competitive advantage. Others will build on a successful defense of their home base and look for opportunities abroad, but they may never make the final step up to global competition. Managers will need to revisit their assumptions and conclusions as the capabilities of their companies develop. The family firms in India have a bright future if they take visionary policies to establish domination in domestic markets and gradual internationalization.

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Family business is the oldest and most common model of economic organization. Few of the oldest wealth creators and businesses are family owned like Wal-Mart. Family firms account for two thirds of all businesses around the world, generate around 70-90 per cent of annual Global GDP and create 50-80% of the jobs across the globe.

INFLUENCE OF MOLLYWOOD MOVIES IN HILL TOURISM

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Abstract

According to World Tourism Organisation (WTO) tourism is one of the prominent industry that is expected to have growth rate of 24% by the year 2020 and it is considered as the fastest growing industry in India. In addition tourism industry constantly in search of new product and services to satisfy the demand of increasingly fickle, sophisticated, selective and fashion proven tourist through effective promotion. Tourism is one of the earning source of Kerala with an advantage of geographical and cultural specification. Recently hill tourism is more demanded due to big screen. In a modern era, people are more anxious and attractive to the movies is the fundamental reason for increasing the popularity of hill tourism. Domestic tourists were more attracted with hill tourism than foreign tourists due to the influence of big screen. In addition movies can familiarize an area that are not popular earlier. Some of the hill stations like Gavi, Meesappulimala etc become popular due to the influence of movies.

Key words:- Tourism, India, Kerala, Hill Tourism, Motivational Factors, Mollywood.

Tourism is a prominent sector which provides spectacular scenic beauty, preservation of culture and tradition and mind blowing adventure to the people. Tourism in India is important for the country's economy. According to the report of WTTC [World Travel and

Tourism Council] 9.4% of India's GDP is contributed from tourism sector in 2017, which is almost equal to 15.24 lakh crore. Beside the direct economic benefits, tourism sector also generate 41.622 million job opportunities, which constitutes 8% of the total employment generated in the country. The tourism industry is predicted

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to grow at an annual rate of 6.9%, considered as the one of the fastest growing industry in India. According to the report of travel and tourism competitiveness, India is ranked 40th out of 136 countries in overall. Both domestic and foreign tourists contributes to the tourism sector. Nearly 10.04 million foreign tourists have visited India during 2017. This sector have also contributed 1.78 lakh crore as foreign exchange earnings at an annual growth rate of 15.4%.

TOURISM IN KERALA

Kerala is considered as the paradise of tourism, hence is labelled as “Gods Own Country”. According to the report of WTTC, Kerala holds 7th position out of 28 states on the basis of number of foreign tourist visitors in 2017. Kerala is the first state in India to declare tourism as an industry. Tourism contribution and growth rate of Kerala is much better than the national average Kerala tourism contribute 10% of Kerala State GDP and contribute around 23.5% of the total employment. Kerala tourism sector gained its popularity through Hill tourism, Beach tourism, Backwater tourism, Farm tourism, Adventure tourism, Pilgrimage tourism, Health tourism, Agri tourism, Indigenous tourism, Eco tourism, Cultural Heritage tourism etc.

HILL TOURISM

Hill tourism means a tourist spot or a town located at a higher elevation than the nearby plain or valley and sea level. Kerala consist of land encroached up on by the Western Ghats. The region thus includes Peak Mountains, gorges and deep

cut valleys, The Kerala State is also blessed with dense forests consisting of rich in flora and fauna and other biodiversity. While other regions includes tea and coffee plantation (established mainly in the 19th and 20th centuries during British colonialism) or other forms of cultivations.

In Kerala some of the popular hill stations are, Munnar, Wayanad, Vagamon, Gavi, Paithalmala, Nelliampathi, Elapeedika, Peermade, Thekkady, Ponnudi, Meesappulimala, Banasura hills, Agastya hills, etc.

PROMOTIONAL TECHNIQUES IN KERALA

Kerala Government and Tourism department have taken initiative steps for the widespread of tourism through advertisement in Television, newspaper, posters, internet and social media. However these promotional activities are not much popular at certain levels and are comparatively less attractive. Recently tourism is promoted through Big Screen such as movies. Mollywood movies (Malayalam movies or Cinema of Kerala) like Ordinary, Charli, Idukki Gold, Elsamma enna aankutti, Neelakasham, Pachakkadal, Chuvanna bhoomi, Pullipulikalum attinkuttiyum, Oru kuttanadan blog, Maheshinte Prathikaram, Karbon, Bhramaram, Kattappanayile Hrithik Roshan, Sound Thoma etc. are some of the movies which have tremendously lighten the knowledge on tourist spots and also scenic beauty, movie location, or even through dialogues. We are living in an era where even a single dialogue can make big impact and hence people are attracted by these movies.

OBJECTIVES OF THE STUDY

Major objectives of the study are

1. To study the influence of movies among tourist of hill tourism.
2. To study the satisfaction level of Hill Tourists.

STATEMENT OF THE PROBLEM

The psychology proves that movie has a self-hypnotism element which causes the emotional dilemma in the human mind whether happiness, sad, love or whatever it may be. The emotions, reaction, characters and scenes are very much influenced the audience. There are lots of movies having an element of exploring tourist spots in Kerala which creates an inner conscience on visiting the place, so majority of the travels are intended to visit these places. On the hand the movie has an important role on promotion of tourism. So now the time to analyze the impact of the mass media on tourist arrival and their satisfaction, hence the study is carried out.

METHODOLOGY

a. Method of study: The method of study is analytical as well as descriptive

b. Data Source: The study uses both secondary and primary data

a. Secondary data: The data were collected from newspaper reports, Central government publications, and articles published on various national international journals etc.

b. Primary Data: primary data collected from the domestic and foreign tourists

Sample design.

Total of 60 samples were collected from Meesapulimala and Gavi

Hill tourism spots			
Meesapulimala		Gavi	
Domestic	Foreign	Domestic	Foreign
15	15	15	15

Source: Primary data

Tools used for collection of Data:

Primary Data was collected by using an Interview Schedule specifically developed for the purpose

DATA ANALYSIS AND INTERPRETATION

Table 1

PERSONAL VARIABLES

	NO OF RESPONDENTS	PERCENTAGE
<i>1. GENDER WISE CLASSIFICATION</i>		
MALE	44	73
FEMALE	16	27
<i>2. NATIONALITY</i>		
INDIAN	30	50
FOREIGN	30	50
<i>3. OCCUPATION</i>		
BUSINESS	18	30
PROFESSION	23	38
EMPLOYMENT	19	32
<i>4. EDUCATION</i>		
METRICULATION	6	10
PLUSTWO	7	12
GRADUATE	24	40
PG/ PROFESSIONALS	19	32
ILLITERATE	4	6

Source: Primary data

60 samples were taken for the study including 30 from Domestic and 30 from foreign tourist consist of 44 male and 16 female visitors. Majority of the respondents have profession as occupation that is 38% followed by employment consist of 32%. Majority of the respondents are graduate occupying 40% of the total tourists, followed by PG & Professional Diploma that is 32%.

Table 2
MAJOR SOURCE OF AWARENESS

SOURCE	NO OF RESPONDENTS	PERCENTAGE
Cinema	22	37
Advertisements	15	25
Friends	17	28
Tourism Map	4	7
Others	2	3
Total	60	100

Source: Primary data

From the 60 respondents majority of them depends movies as a source of awareness around 37% of the total tourist arrived with the help of movies followed by suggestion from friends occupying 28%.

Table 3
MOTIVATORS FOR VISIT

Motivator	No of Respondents	Percentage
Adventure	18	30
Leisure	14	23
Climate	20	33
Stress relief	7	12
Others	1	2
Total	60	100

Source: Primary data

From the data of Table-3 majority of the tourist visits hill stations for enjoying the tremendous climate. People who are coming with an aim of adventure placed as 2nd rank which consist of 30%.

Table 4
LEVEL OF SATISFACTION OF TOURIST

Factor	Mean	SD
Hospitality	61.34	21.74
Accessibility	60.34	19.52
Tourist guide	65	20.34
Information delivery	64.34	19.38
Recreation	63.34	21.81
Sanitation related aspects	68	17.61
Other facilities	64.67	17.89

Source: Primary data

The tourists having highest satisfaction on Sanitation related aspects having a mean score of 68 ± 17.61 followed by Tourist guide aspects (65 ± 20.34), other facilities (64.67 ± 17.89), Information delivery (64.34 ± 19.38), Recreation (63.34 ± 21.81), Hospitality (61.34 ± 21.74), and accessibility (60.34 ± 19.52).

The mean score of the domestic tourists on satisfaction on Hospitality was 54.67 ± 25.01 whereas it is 68 ± 18.46 in the case of foreign. Difference of the level of satisfaction on Hospitality is statistically significant at 5% level with a Z value of 2.35, which implies that, there is significant difference on the satisfaction level related to Hospitality and Domicile. The mean score of the domestic tourists on satisfaction on Accessibility was 54.67 ± 22.09 whereas it is 66 ± 16.94 in the case of foreign. Difference of the level of satisfaction on Accessibility is statistically significant at 5% level with a Z value of 2.23, which implies that, there is significant difference on the satisfaction level related to Accessibility and domicile. The mean score of the domestic tourists on satisfaction on Tourist guide was 61.33 ± 23.3 whereas it is 68.67 ± 17.37 in the case of foreign. Difference of the level of satisfaction on Tourist guide is statistically not significant at 5% level with a Z value of 1.38, which implies that, there is no significant difference on the satisfaction level related to Tourist guide and domicile. The mean score of the domestic tourists on satisfaction on Information delivery was 56 ± 22.38 whereas it is 72.67 ± 16.38 in the case of foreign. Difference of the level of satisfaction on Information delivery is statistically not significant at 5% level with a Z value of 3.29, which implies

Table 5
Z test

Factor	Domestic		Foreign		Z Value	significance
	Mean Score	Standard Deviation	Mean Score	Standard Deviation		
Hospitality	54.67	25.01	68	18.46	2.35	Sig
Accessibility	54.67	22.09	66	16.94	2.23	Sig.
Tourist guide	61.33	23.3	68.67	17.37	1.38	Not Sig.
Information delivery	56	22.38	72.67	16.38	3.29	Sig
Recreation	62	22.65	64.67	20.97	0.47	Not Sig
Sanitation related aspects	61.33	22.7	74.67	12.52	2.82	Sig
Other facilities	60	17.22	69.33	18.55	2.02	Sig

Source: Primary data

that, there is significant difference on the satisfaction level related to Information delivery and domicile. The mean score of the domestic tourists on satisfaction on Recreation was 62 ± 22.65 whereas it is 64.67 ± 20.97 in the case of foreign. Difference of the level of satisfaction on Recreation is statistically not significant at 5% level with a Z value of 0.47, which implies that, there is no significant difference on the satisfaction level related to Recreation and domicile. The mean score of the domestic tourists on satisfaction on Sanitation related aspects was 61.33 ± 22.7 whereas it is 74.67 ± 12.52 in the case of foreign. Difference of the level of satisfaction on Sanitation related aspects is statistically not significant

at 5% level with a Z value of 2.82, which implies that, there is significant difference on the satisfaction level related to Sanitation related aspects and domicile. The mean score of the domestic tourists on satisfaction on other facilities was 60 ± 17.22 whereas it is 69.33 ± 18.55 in the case of foreign. Difference of the level of satisfaction on other facilities is statistically not significant at 5% level with a Z value of 2.02, which implies that, there is significant difference on the satisfaction level related to other facilities and domicile.

The above said all variables clears that there is no association on the domicile and the impact of movie. The domestic tourist

Z test

Factor	Domestic		Foreign		Z Value	Significance
	Mean Score	Standard Deviation	Mean Score	Standard Deviation		
Movies are the motivational factor for selecting this tourist spot.	57	16	44	15	3.25	Sig.
Expectation derived out of movies and reality are identical.	53	13	43	12	3.10	Sig.
Big screen is the successful tourism promotional tool	55	10	39	11	5.90	Sig.
Movies give more information than guide	61	10	46	16	4.35	Sig.
Movies can popularize an underrated tourist spot.	65	9	47	14	5.92	Sig.

are affected by movies but foreign tourists are not influenced by the movies.

FINDINGS

- Majority of the respondents are satisfied with the various amenities on tourist spots the t test result shows that the foreign tourist are more satisfied than the domestic tourist .
- In the case of movie impact the movies are influenced the domestic tourist very much, foreign tourists are aware on these movies but don't too much influenced.
- Major motives of tourist arrival was leisure ,adventure and climate on the places
- The major sources of awareness of these places are cinema, friends and advertisements.
- Movies can popularize an underrated tourist area through character

location, shooting location, or even a dialogue of character actor or actress.

SUGGESTION

- Movies can influence its audience than any other media of promotion. Hence tourism authority should take an initiative steps for depend movies as an effective promotional tool.
- Make sure that tourism map is effective with showing nearby tourism spot and provide proper information to the tourists through guide or any other media.
- Tourism authorities should make a homogeneous tourism packages which expressing similar type of tourism spot with feasible cost.
- Provide hygienic environment through building an effective waste management system.

CONCLUSION

Tourism is one of the prominent sector for contributing nation's GDP. Kerala is rich in providing diversified tourism products to tourist those who are coming from within or outside India due to its geographical and cultural specification, hence it is called "GOD'S OWN COUNTRY". Hill tourism is one of the leading tourism sector by providing spectacular beauty of mountains, valley and tremendous climate. In a contemporary era movies

which describing or expressing some tourism spot is influenced the audience for selecting the tourist destination. Generally shooting location, songs location, character locations and dialogues of the character actor and actress are become popular due to anxious, adventure and imitating character of younger generation. Recently tourism areas like Gavi, Meeshappulimala are become popular and well known through the Malayalam movies 'ordinary' and 'Charli. Hence it is clear that movies can influence tourist for selecting tourism location.

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Glossary of Quality Concepts

Quality Control(QC)

Quality control is a process through which a business seeks to ensure that product quality is maintained or improved with either reduced or zero errors. Quality control requires the business to create an environment in which both management and employees strive for perfection. This is done by training personnel, creating benchmarks for product quality, and testing products to check for statistically significant variations. A major aspect of quality control is the establishment of well-defined controls. These controls help standardize both production and reactions to quality issues. Limiting room for error by specifying which production activities are to be completed by which personnel reduces the chance that employees will be involved in tasks for which they do not have adequate training.

Quality Assurance (QA)

Ensuring the acceptability of the products and services is essential in any business. Managers play a crucial role in business by ensuring that products meet certain thresholds of acceptability. They plan, direct or coordinate quality assurance programs and formulate quality control policies. They also work to improve an organization's efficiency and profitability by reducing waste. Quality assurance is a way of preventing mistakes and defects in manufactured products and avoiding problems when delivering solutions or services to customers; which ISO 9000 defines as "part of quality management

focused on providing confidence that quality requirements will be fulfilled". The terms "quality assurance" and "quality control" are often used interchangeably to refer to ways of ensuring the quality of a service or product

Quality Consciousness (QC)

The term "quality consciousness" was first used in a 1947 keynote by C.R. Sheaffer to the first convention of the American Society for Quality Control (ASQC), the predecessor to ASQ. He notes that a change in quality consciousness is expected by the top management from quality control of the people and organisation. Attitudes must shift from an acceptance of what's good enough to the constant pursuit of making things better. People must be able to take pride in their high-quality work. Consciousness, according to the Random House dictionary, is 1) awareness of one's own thoughts feelings, and surroundings, 2) the full activity and engagement of the senses, and 3) the thoughts and feelings of individuals and groups. Quality consciousness can be summed up by the "3 A's" - Awareness, Alignment, and Attention.

Quality Circles: (QCs)

Conceptually Quality Circles can be described as a small group of employees of the same work area, doing similar work that meets voluntarily and regularly to identify, analyse and resolve work related problems. This small group with every member of the circle participating to the full carries on the activities, utilising

problem solving techniques to achieve control or improvement in the work area and also help self and mutual development in the process. The concept of the Quality Circle is based on "respect for the human individual" as against the traditional assumption based on suspicion and mistrust between management and its employees. Quality circles built mutual trust and create greater understanding between the management and the workers. Cooperation and not confrontation is the key element in its operation. Quality Circles help building people, developing them, arousing genuine interest and dedication to their work. it improves quality, productivity, cost reduction etc.

Total Quality Management - TQM

Total Quality Management (TQM) is the continual process of detecting and reducing or eliminating errors in manufacturing, streamlining supply chain management, improving the customer experience, and ensuring that employees are up to speed with their training. Total quality management aims to hold all parties involved in the production process accountable for the overall quality of the final product or service. TQM was developed by William Deming, a management consultant whose work had great impact on Japanese manufacturing. While TQM shares much in common with the Six Sigma improvement process, it is not the same as Six Sigma. TQM focuses on ensuring that internal guidelines and process standards reduce errors, while Six Sigma looks to reduce defects.

Six Sigma

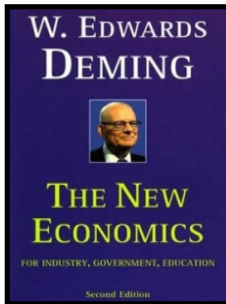
Six Sigma is a quality-control program developed in 1986 by Motorola that

emphasizes cycle-time improvement and the reduction of manufacturing defects to a level of no more than 3.4 per million. As of 2016, Six Sigma has evolved into a more general business-management philosophy focused on meeting customer requirements, improving customer retention, and improving and sustaining business products and services. Six Sigma represents an ideology that focuses on statistical improvements to a business process. Six Sigma advocates qualitative measurements of success over qualitative markers. Therefore, practitioners of Six Sigma are those business people who use statistics, financial analysis and project management to achieve improved business functionality.

Zero Defects (ZD)

Zero Defects (ZD) is a management tool aimed at the reduction of defects through prevention. It is directed at motivating people to prevent mistakes by developing a constant, conscious desire to do their job right the first time." - Zero Defects: A New Dimension in Quality Assurance. ZD was a management-led program to eliminate defects in industrial production that enjoyed brief popularity in American industry from 1964 to the early 1970s. Quality expert Philip Crosby later incorporated it into his "Absolutes of Quality Management" and it enjoyed a renaissance in the American automobile industry-as a performance goal more than as a program-in the 1990s. Although applicable to any type of enterprise, it has been primarily adopted within supply chains wherever large volumes of components are being purchased (common items such as nuts and bolts are good examples).

Book Review



THE NEW ECONOMICS

FOR INDUSTRY, GOVERNMENT, EDUCATION

WILLIAM EDWARDS DEMING

This book, according to Deming, is for the people who are living under the tyranny of the prevailing theories of management. The present style of management puts struggle on the professors and practitioners. This thought provoking work of the quality guru gives the reader immense inputs to understand his system of Profound Knowledge. We need this philosophy in the present day business world to transform, energise and clean the systems and style of management. It also helps us to understand as to how product and service is made competitive to achieve continuous growth, innovation and improved market position. In modern international business we need to concentrate on product, process and prosperity. This management book of 'the nineties' assists readers to explore the reasons to abolish performance reviews on the job and grades in schools, as explained by Edwards Deming. The book reveals that the dire need of the present day is to encourage cooperation and not confrontation and competition. It is very vital for the business success.

The book also helps the readers to find out the way by which one can attain joy in working and learning. Work becomes an enchanting experience and learning a lifelong process. Through his life and mission, Edwards Deming, led a sweeping quality revolution that continued to boost productivity and competitive position of his country, the United States of America. At a time when the battle for global market is increasingly won by those who makes products better and cheaper, Deming destined to be the prophet of perfect quality. Through his writings

and work styles he created quality consciousness among the people and established quality control in products. In the elite management circle Deming was considered as the quality guru, and a great hope of U.S. Industry which was not by any means a choice by chance but a sure choice by merit in the ranking. He has the capacity to influence others thinking in a variety of ways. What stands out is his capacity to crystallize those ideas connecting the value of team work towards optimization of the system.

In this book Deming highlights the need of abolishing the ranking and merit system and manage the whole company as a homogenic operation. The function of every component and every division under good management contributes towards optimization of the system. Effective communication is the backbone of business management. In order to encourage effective communication, we need to make physical arrangements for informal dialogue between the people in the various components of the company regardless of level of positions

In this book Edwards Deming details the system of transformation that underlines the fourteen points of management presented in his earlier book "Out of the Crisis". The system of "Profound Knowledge, as it is described by Deming, consists of four parts: appreciation for a system, knowledge about the variation, theory of knowledge and psychology. Describing the prevailing management style based on cooperation rather than competition, can help people to foster joy in work and learning, at the same time bringing about long term success in the market.



Creative Thinkers

William Edwards Deming (1900-1993)

William Edwards Deming was born in Sioux City (Iowa), a small town in the Middle West in 1900. He was a brilliant boy born in a poor family. His parent's financial position was not good enough to send him for higher studies. It is his mathematics teacher at high school who encouraged him to go to university. Eventually he received a PhD in 1928 at the Yale University, in the field of Theoretical Physics.

Completing his University education, Deming started to carry out laboratory research in the Department of Agriculture. During this decade of dedicated research Deming found time to give lectures on Statistics to the agricultural engineers at the institute founded by the Department of Agriculture. Besides a researcher, he was a good teacher too. In 1939, Deming joined the Bureau of the Census in Washington. His knowledge of Statistics was helpful in the development of a new kind of survey, based on sampling. The statistical techniques of the Census were adopted worldwide. After retirement in 1946, he became consultant in Statistical Studies and Professor of Statistics at New York University.

During the Second World War the authorities used the knowledge of this eminent statistician for the service of the arms industry. It is during this period he developed the ideas for improving productivity and the quality of military equipment. Even though his conclusions were radically opposed to the Taylor's management principles, it got wide acceptance those days. It was the beginning of making a management guru focusing on quality management.

In 1947, Deming was sent to Tokyo as advisor to Allied Forces Headquarters on the application of his sampling techniques. His stay gave him the opportunity of meeting some Japanese managers who had good relations with the Keidanren, the large employer's union. The Japanese industry adopted the Deming management theories immediately. A decade of experience in Deming Management made the people of Japan quality conscious and their products much better and cheaper. Consequently, Japanese products started to flood into America. The American consumers welcomed the products made in Japan as they found those products competitive and cost effective. It has become a turning point in world trade history.

Dr. Deming contributed directly to Japan's phenomenal export-led growth and its current technological leadership in automobiles, shipbuilding and electronics. The Union of Japanese Science and Engineering (JUSE) saluted its teacher with the institution of the annual Deming Prize for significant achievement in product quality and dependability. The Deming's teaching deals with holistic management rather than the quality aspects alone. Contrary to a generally accepted idea, his goal was not to improve the present style of management by adding a new component, but to transform management practices from top to bottom. His aim was to transform, energize and clean the management system. The Deming Prize has become the highest award that a company can obtain for its excellence in management. He was a centurion short of seven years, who died in Washington in December 1993 at the age of 93.

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