

AN AFFAIR WITH ECONOMICS



1993 - 2018

*Celebrating 25 years of Economics
@
Sacred Heart College, Chalakudy*

Edited by

**Dr. Chacko Jose P
Dr. Shirley Jose K
Mr. Nijil Jacobi**



An Affair with Economics

*Celebrating 25 Years of Economics @ Sacred Heart College,
Chalaky, Kerala*

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FOREWORD



Economics @ Sacred Heart College has hit quarter century. 'An Affair with Economics' is to mark this occasion.

The Department of Economics, Sacred Heart College, Chalakudy attained the status of an independent department in 1993 when the Government of Kerala sanctioned the B.A. Economics course. In 2012 the department was elevated to the status of a post graduate department with the starting of the M.A. Economics course.

At its heart the Department of Economics strives to live by the mission of the Sacred Heart College. The mission of the Department of Economics is

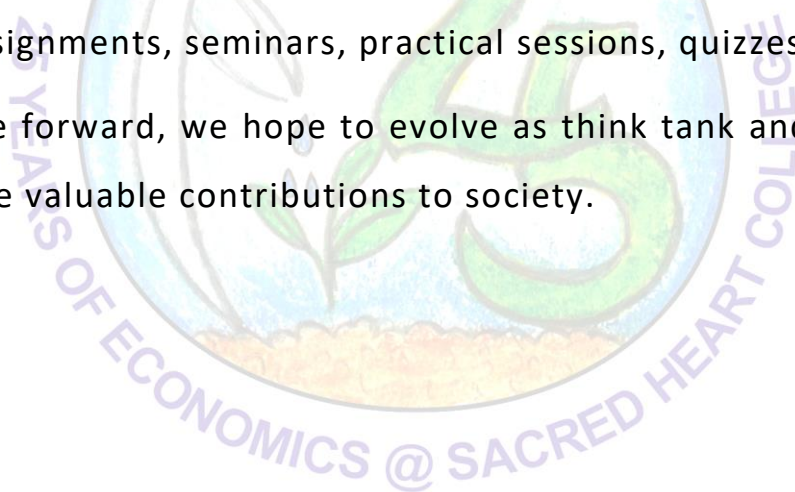
- to provide a high quality, relevant, interesting and even exciting education in economics
- to achieve excellence in scholarship, teaching, learning, service to the community
- to contribute to the scholarly, intellectual, cultural, social and economic development of the society and to interact closely with and being accessible to the people, institutions, organisations and businesses
- to enable staff and students to develop their potential as individuals, scholars, professionals and people

With this end in mind, the department provide a supportive and stimulating learning environment for its students.

OUR LOGO	OUR MOTTO
 	<p data-bbox="917 470 1268 504">'CHOOSE RATIONALLY'</p>

The approach of the Department is 'normative'. The relationship between the students and the faculty is open and friendly. Tutorial and pastoral care are given a high priority. The Department is equally keen to encourage all-round individual development. The department provides ideal environment for hard work and academic achievement. Apart from regular lectures, the teaching plan of the department includes assignments, seminars, practical sessions, quizzes etc.

As we move forward, we hope to evolve as think tank and a research hub to make valuable contributions to society.



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Sacred Heart College, Chalakudy

**GENDER, EDUCATION AND WORK: DETERMINANTS OF WOMEN'S
EMPLOYMENT IN KERALA**

Alice Sebastian

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Abstract

The study situates women's education and employment in the specific case of Kerala. In the context of female work participation, it has been generally hypothesized that economic growth and education increases female work force participation rates. In Kerala, where economic growth is higher than all India and where women are relatively more educated, experience the lowest female work participation and highest unemployment among the major States in India, especially among the educated. In the light of this contradiction, the study attempts to identify the factors that cause unemployment among the educated women in the State. The study tries to investigate how unemployment is related to educational achievements of women, conditioning on individual, household and demographic characteristics. Analysis of macro level data on employment and unemployment shows that wide divergence exists between male and female participation in economic activities. In Kerala, while the male work participation rates improved in the last two decades, female work participation rates declined and form only half of male work participation rate. This is contrary to the general trend observed in other Indian States. Changes in the sectoral distribution of female work force in Kerala clearly shows that structural transformation of women's economic activity have indeed taken place in the State with primary sector loosing its importance and tertiary sector taking up its place. Using the CDS Employment/unemployment survey 2003 data, the study finds that 74 percent of educated women are unemployed in the sample. Women are found to be more educated than men across all educational categories except diploma and secondary education. But this is not translated into gainful employment opportunities for them.

The study uses multivariate logistic regression analysis to determine the factors that influence female work participation. The study uses both individual characteristics – level of education, age, marital status, religion, place of residence – and household characteristics – economic status, husband's education and employment – to examine the likelihood of women being in

the work force. The results show that education, age, marital status, place of residence, economic status and husband's employment turned out to be significant in determining women's entry into the work force. Within education, diploma and professional education shows maximum odds ratio where women with diploma and professional education have six and eighteen times more probability respectively to be employed compared to women with higher secondary or secondary education. It shows importance of skill-oriented education rather than general education in improving the employability of women.

Age and marital status turned out to be the major factors determining the employment status of educated women. It has been found that work participation is higher for women in higher age groups. Odds ratio of marital status shows that single women have two times more probability to work than married women. The relationship between economic status and work participation shows that, women from low economic status are more likely to work than those from high economic status. Further, it has been found that women whose husbands are employed at medium or low status of work are less likely to enter into the labour market. Also there is considerable spatial variation in women's employment. The study shows that individual and household characteristics can go a long way in explaining women's entry into labour market. Education alone does not enable women to acquire gender equity in economic participation. Women's education has not played the transformative role so generally expected of it. Low levels of female employment and persistence of a gendered work structure have limited women's claims to independent sources income.

Keywords: *Education, Gender, Unemployment, work*

Introduction

The process of transformation of underdeveloped economies characterised by a production structure that used to be for subsistence involves several key changes that includes, among other things, substantial changes in the participation of women in the economic activities. In this context it is generally hypothesized that the rate of economic growth and level of education have a significant positive impact on female labour force participation rates (Durand 1965, Psacharopoulos & Tzannatos 1991). It has been suggested that over a longer period, the pattern of labour force participation among women shows a U-shaped curve, first decreasing with urbanisation (as women stop working on family farms and on other household production activities) and then rising again once the demographic transition is completed (Sadie 1965, Shultz 1991, Goldin 1995, Horton 1996).

Participation of women in the labour force has increased worldwide during the past few decades. In developed countries it increased from around 38 percent in 1970's to around 45 percent in 1990's and in developing countries it increased from around 20 percent to around 30 percent (World Employment Report 1998-99). Since the pioneering works of Mincer (1962) and Cain (1966) the analysis of female labour force participation has been the subject of intensive research in recent years. Since most women are actually employed in some kind of productive/reproductive work, whether or not this is recognised and quantified by statistics, the issues relating to female employment are qualitatively different from those of male employment. This makes the study of work participation by women a more complex matter than is often recognised. Participation of women in economic activities outside home has an important influence on gender relations within the household. Dwyer and Bruce (1988) and Blumberg (1991) points out that the main factor that affects intra-household gender relations is relative incomes of males and females. Women's economic power derived from income or property, or other means of production is considered to be the most important dependent variable affecting gender relations at the household level.

The social influences of women's work are also quite extensive. Work opportunities outside home reduce the economic dependence of women on men and in turn, increase her economic command within the family. Women's work outside the household would alter the concept of male bread winner and would reduce considerably the societal biases regarding the roles of women that are primarily responsible for underestimation of women's work. Women's earning give them access to and control over an independent income, which would make their economic contribution to the household visible and high (Basu 1996). This in turn improves their access to and control over household resources and would offer them a better bargaining power (Dixon 1978). This bargaining power can strengthen their participation in and the ability to influence household decision-making, which are crucial to women's autonomy in the household.

Situating Kerala

The study situates women's education and employment in the specific case of Kerala. In the context of female labour force participation, it has been generally hypothesized that economic growth and education increases female labour force participation. In Kerala, where economic growth is higher than all India and where women are relatively more educated, experience the lowest female work participation and highest unemployment among the major States in India, especially among the educated. This is contradictory for a State, which ranks first in Human

Development Index and Gender Empowerment Index among all Indian States. In the light of this contradiction, the study attempts to identify the factors that cause unemployment among the educated women in the State. The study tries to investigate how unemployment is related to educational achievements of women, conditioning on individual, household and demographic characteristics.

Falling Female Work Participation in Kerala

Work participation among women in Kerala is 22.9 percent (NSS 99-00), which is one of the lowest in India. This low labour force participation is accompanied by high rates of unemployment. The most tragic failure of development in the State is the acute unemployment of both men and women. Reckoned in terms of all the three measures of unemployment – usual status, current weekly status, and current daily status - used by NSS, Kerala has the highest incidence of unemployment both for males and females and in rural as well as urban areas. The overall unemployment rate in Kerala is 11.4, with a wide gender gap of 21.5 percent for women and 7.4 percent for men. According to NSSO data the percentage of women in paid jobs in the state is slightly less than 23 percent. This is much less than the work participation rate of women in other Indian states with far lower levels of literacy. For example States like Madhya Pradesh, Gujarat, Karnataka and Maharashtra with around 50 percent of female literacy rate, report double the female work participation rate of Kerala. Figures from NSSO survey (1999-00) show that the proportion of jobless women in Kerala is ten times the national average.

Table 1: Work Participation Rates Kerala and all India (UPSS)

	1987-88	1993-94	1999-00
Total	38.6 (41.1)	38.3 (41.8)	38.7 (39.5)
Male	51.2 (53.1)	54.3 (54.4)	55.4 (52.7)
Female	26.5 (28.1)	22.9 (28.3)	22.9 (25.4)

Source: NSSO Rounds on Employment and Unemployment

Note: figures in brackets refer to all India.

While the male work participation rates improved in the last two decades, female work participation rates declined during the same period. Comparing it with the all India pattern,

while male work participation rate in Kerala is higher than India (1999-00), the trend is reversed in the case of women. This is paradoxical given the fact that, women in Kerala are believed to enjoy a higher status in terms of educational and health achievements compared to their counter parts elsewhere in the country. But this is not reflected in their work participation rates. The study attempts to explain the reasons behind this phenomenon.

Changing Pattern of Female Employment in the State

The most significant aspect of female employment in Kerala is the low proportion of women employed in the primary sector. In 1999-00, primary sector accounted for 46.3 percent of female employment in rural areas in Kerala as against 84.5 percent at the all India level. The proportion of women employed in the secondary sector in Kerala is much higher than the corresponding all-India figures for women.

In 99-00, the tertiary sector accounted for almost 25 and 56 percent of total women employment in rural and urban sectors in Kerala; while at all India level it declined for rural women from 12 percent to 6.7 percent and increased for urban women to 56.2 percent. Thus all India figure shows wide spatial difference in the tertiary sector employment of women compared to Kerala.

Table 2: Sectoral Composition of Work Force in Kerala and India

	1993-94				1999-00			
	RM	RF	UM	UF	RM	RF	UM	UF
Primary sector	54.3 (74.4)	51.4 (85.2)	21.4 (10.0)	21.6 (20.0)	43.4 (71.8)	46.3 (84.5)	7.4 (7.4)	7.9 (15.0)
Secondary sector	17.8 (10.6)	27.5 (8.6)	27.3 (31.8)	33.5 (28.8)	22.9 (12.0)	28.9 (8.9)	33.3 (32.1)	36.0 (28.9)
Tertiary sector	27.9 (14.8)	21.1 (12.1)	51.3 (58.1)	44.9 (51.0)	33.6 (16.1)	24.9 (6.7)	59.3 (60.6)	56.1 (56.2)

Source: NSSO Employment & Unemployment Surveys

Figures in parenthesis refers to all India figures

The above table clearly shows that structural transformation of women's economic activity have indeed taken place in the State with primary sector losing its importance and tertiary sector taking up its place.

Unemployment a Continuing Problem

Industrial backwardness of the State, together with the limited scope for absorption of more workers in agriculture and the considerable dependence on salaried employment has led to large-scale and growing unemployment in Kerala (CDS 1975). The incidence of overall unemployment in Kerala is well over four times the national average for the last twenty-five years or so. The single factor of high unemployment alone takes away much of the sheen that Kerala may legitimately claim in respect of a number of achievements in the area of human and social development.

Table 3: Incidence of Unemployment: Unemployed as a percentage of Labourforce (UPS)

Year	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1977-78	13.6 (2.2)	29.2 (5.5)	19.2 (3.8)	16.2 (6.5)	39.5 (17.8)	23.5 (11.9)	14.0 (3.1)	30.6 (8.0)	19.8 (5.5)
1983	10.6 (2.1)	17.0 (1.4)	12.6 (1.8)	11.9 (5.9)	25.6 (6.9)	15.6 (6.4)	10.8 (3.0)	18.4 (2.7)	13.1 (2.9)
1987-88	12.5 (2.8)	25.0 (3.5)	16.6 (3.1)	14.2 (6.1)	34.0 (8.5)	19.6 (7.2)	12.8 (3.6)	26.3 (4.7)	17.1 (4.2)
1993-94	7.2 (2.0)	15.8 (1.4)	9.4 (1.8)	7.6 (4.5)	24.4 (8.2)	12 (5.2)	7.3 (2.6)	18.2 (2.5)	10.1 (2.6)
1999-00	7.6 (2.1)	19.7 (1.5)	10.9 (1.9)	6.9 (4.8)	26.4 (7.1)	12.5 (5.2)	7.4 (2.8)	21.5 (2.4)	11.4 (2.7)

Source: NSSO Employment & Unemployment Surveys

Note: Figures in parenthesis gives the all India figures

This overall incidence is however not distributed equitably as between men and women. In fact it shows a sharp unequal distribution with women experiencing three to four times higher incidence than men do. While gender bias is more pronounced in the case of Kerala, it is the spatial bias that is more pronounced at the all India level.

Kerala has the highest female unemployment rates in the country according to various rounds of NSSO surveys on employment and unemployment. In 1999-00, female unemployment rate in Kerala was 23 percent. In Kerala, 19.7 percent of women in rural areas and 26.4 percent of

women in urban areas are unemployed, which is far higher than the all India rate of 1.5 percent and 7.1 percent respectively.

Nagaraj (1999) has argued that high unemployment rates for women in states such as Kerala vis-a-vis relatively backward states- UP, MP and Rajasthan- are largely due to constraints in 'skill utilisation': work seekers may not be willing to accept employment at the wages being offered. Over time this can result in discouraging women from entering the labour force preferring to remain primarily as housewives.

Table 4: State-wise Usual Status Unemployment Rate (per 1000) by Sex and Residence in India (1999-2000 & 1993-94)

States	Unemployment Rate					
	Rural			Urban		
	Male	Female	Total	Male	Female	Total
Andhra Pradesh	12 (10)	7 (5)	10 (8)	42 (35)	42 (43)	42 (3)
Assam	47 (62)	119 (143)	57 (73)	91 (62)	223 (289)	113 (97)
Bihar	24 (23)	6 (8)	20 (20)	76 (71)	94 (112)	79 (76)
Gujarat	8 (15)	3 (5)	9 (12)	21 (33)	26 (62)	22 (37)
Karnataka	10 (13)	3 (6)	8 (11)	30 (34)	47 (75)	34 (43)
Kerala	76 (72)	197 (158)	108 (94)	69 (76)	264 (244)	125 (120)
Madhya Pradesh	7 (8)	2 (2)	6 (6)	43 (57)	16 (46)	38 (55)
Maharashtra	24 (17)	11 (7)	18 (12)	61 (46)	78 (58)	64 (49)
Orissa	31 (26)	16 (17)	27 (24)	72 (73)	67 (78)	71 (74)
Punjab	23 (14)	62 (71)	26 (18)	31 (33)	35 (86)	32 (38)
Rajasthan	8 (4)	2 (2)	6 (4)	27 (20)	37 (8)	29 (18)
Tamil Nadu	30 (27)	12 (13)	23 (21)	39 (49)	58 (84)	44 (59)
Uttar Pradesh	13 (12)	6 (4)	12 (11)	45 (36)	46 (16)	45 (34)
West Bengal	34 (28)	38 (46)	35 (30)	77 (77)	111 (196)	82 (96)
India	21 (20)	15 (14)	19 (18)	48 (45)	71 (82)	52 (52)

Source: Employment and Unemployment in India, NSS Report No. 455, 55th Round (July 1999 - June 2000). Figures in the parenthesis give the 1993-94 figures

Educated Unemployment

Kerala stands in marked contrast to the rest of India in respect of a number of features of the unemployed population. One such feature is the high rate of unemployment among the educated labor force. But the contrast itself is the result of the structure of education in Kerala being widely different from that in other parts of the country. Apart from the characteristic performance of the primary school system, Kerala is also distinguished from other states by the difference in the structure of education at the other end of the pyramid, namely, higher education. Enrollment in higher education for girls in Kerala (3.3 per thousand population) is higher than all India level (2.9 per thousand population) while for boys (1.9), it is less than all India average of 4.8 per thousand (Institute of Applied Man Power Research, 2000-01). Also percentage of women enrollment in higher education to total enrollment in higher education in Kerala (55.9%) is far higher than the corresponding all India figure of 37.7 percent (Annual Report 2000-01, UGC).

The rapid expansion of higher education in the State and the consequent steady increase in the supply of graduates swell the reservoir of educated unemployed in the State. There are distinct job preferences as between educated and uneducated person. Preference for salaried employment and aversion to self-employment among educated jobseekers in Kerala were documented in a few recent studies (Mathew 1997, Devi 1996).

A state wise analysis of educated unemployment shows that Kerala ranks second after Assam in rural areas and first in urban areas. Almost half of educated women in rural areas of Kerala are unemployed whereas this is less than 10 percent for majority of the states. Other states which face the same problem of Kerala, but in less intensity, are Orissa, West Bengal, Punjab and Andhra Pradesh, which have unemployment rate above 15 percent.

Another feature of unemployment in Kerala is the very high incidence of unemployment among educated women. When educational levels are factored, women found themselves at a great disadvantage in the early eighties irrespective of their level of education. The situation at the end of the 1990's changed somewhat wherein women with higher qualifications experienced lower unemployment compared to less educated men and women. But still the unemployment rate among educated women in Kerala is almost four times than that of educated men.

Table 5: State-wise Educated Unemployment Rate (per 1000) in India (UPS) in 1999-00

States	Rural			Urban		
	Male	Female	Total	Male	Female	Total
Andhra Pradesh	72	150	84	61	145	72
Assam	185	583	234	121	316	156
Bihar	71	69	71	124	294	134
Gujarat	14	3	13	27	52	30
Karnataka	43	73	46	48	94	56
Kerala	150	491	253	99	419	212
Madhya Pradesh	42	92	46	58	73	59
Maharashtra	70	72	70	68	117	75
Orissa	162	419	183	140	286	156
Punjab	48	215	60	47	64	49
Rajasthan	21	32	22	36	79	40
Tamil Nadu	106	149	113	51	148	70
Uttar Pradesh	37	71	39	71	172	79
West Bengal	110	379	130	98	292	121
India	68	204	82	66	163	79

Source: NSS Report No. 458:

Employment and Unemployment Situation in India, 1999-2000

Educated unemployment has a differential impact on women in rural and urban centres. Educated women in rural areas register substantially high rate of unemployment than their counterparts in urban areas. But the trend is opposite in the case of general unemployment where urban women register a higher unemployment rate than rural women. This shows the difference in the nature of jobs available to and preferred by educated and uneducated women. The fact that educated women have distinct job preferences has been well documented in a few recent studies (Mathew 1997, Devi 2002). This job preference partially explains the high incidence of educated unemployment of women among rural areas. The kind of jobs available in rural areas may not suit the job preference of educated women and they opt to remain unemployed.

The above analysis shows that the problem of unemployment in Kerala is basically one of educated unemployment. As will be evident from the next table, for those below the primary level of education, chronic unemployment is almost negligible, i.e. less than two percent for the last two decades. While it is around five percent among those with middle school education, the rate is not high enough to be characterised as very serious or alarming. In this category, urban women have the highest incidence of unemployment.

The incidence of unemployment tended to rise with educational attainment till it reached a peak for those who had completed just secondary level of education with rates well above 30 percent throughout the last two decades with women registering the highest incidence. This phenomenon is explained in part by the widened scope for vertical mobility and the resulting increase in the number of matriculates. Girls are 50 percent of total students at the secondary level, 60 percent of the total students at the degree level and around 70 percent in the post-graduate level (SPB 2003) leading to a higher supply of educated girls in the job-market.

But what is equally relevant is that employment opportunities for the educated do not seem to have been expanding at a rate fast enough to catch up with the increase in the numbers of educated (CDS 1975). As a consequence, the stock of the educated unemployed as a percentage of the annual flow of the category has increased over time. As educational attainments increase further, the unemployment rate comes down to well over 15 percent until the late nineties. But unemployment was still highest for the educated as a whole. And women experience three times higher incidence of unemployment than this category of educated men. Persistence of large scale chronic unemployment clearly demonstrate the limited role that education can play as a catalyst for promoting social and economic equality, in the absence of adequate growth of employment opportunities all around.

Nature and Pattern of Educated Unemployment

The analysis is mainly drawn from the Centre for Development Studies survey on employment/unemployment conducted in three districts (Thiruvananthapuram, Ernakulam and Kannur) of Kerala. The survey covered only those having educational qualification of SSLC or more, and belongs to the age group of 15-59 years. The study attempts to identify the factors that influence female labour force participation in the three districts of Kerala.

Table 6: Employment Status by Sex

	Male	Female	Total
Employed for Salary/wage	729 (49.5)	342 (22.7)	1071 (36.0)
Self Employed	308 (21.0)	43 (2.9)	351 (11.8)
Unemployed	433 (29.5)	1119 (74.4)	1552 (52.2)
Total	1470	1504	2974

In the sample data collected from three districts in Kerala, the work participation rate among the educated shows wide divergence between males and females. Educated work participation rate among females (25.6 %) is less than half of males' (70.5%).

It was observed in the CDS survey that more than half of the labour force is unemployed and a major chunk of them (74.4%) are women. Such high rate of unemployment among educated women is a cause of concern not only from development point of view but also from gender equity point of view. It reduces their mobility, tends to enhance women's dependence, making them economically vulnerable and hence weaken their bargaining position within the household and outside it.

Level of Education and Nature of female Employment

The data clearly shows the close association between nature of the job and level of education of women in the three districts. Majority of the casual women workers is from the lowest education category, i.e. secondary level. Among the graduates and above, only 4 to 5 percent belongs to casual workers.

Table 7 Type of Female Employment by Level of Education

Educational Qualification	Type of Female Employment				Total
	Casual	Regular	Permanent	Self Employed	
Secondary	15.4	28.2	30.8	25.6	20.3
Higher Secondary	6.5	39.1	39.1	15.2	11.9
Diploma	3.6	34.5	58.2	3.6	14.3
Graduation	5.8	36.0	47.7	1.5	22.3
Post Graduation	-	29.6	59.3	11.1	7.0
Professional	4.3	25.8	67.7	2.2	24.2
Total	6.8	31.7	50.4	11.2	100

Source: CDS Employment & Unemployment Survey, 2003

Those who have education of graduation and above are found more in permanent jobs. While self-employed jobs are dominated by secondary educated women, permanent jobs are dominated by professional degree holders and regular jobs by graduates.

More than half of employed women (50.4%) are in permanent jobs and another one-third in regular jobs. Casual workers consist only 6.8 percent of total women workers. Thus, it can be said that the process of casualisation, which is observed for less educated women, has not affected the educated women work force in these three districts of Kerala.

Thus the overall picture that emerges from the data is that education is an important factor that determines the nature of job of women; any policy for improving the quality of life of women through economic capacity creation must, therefore, start with improvement in their educational attainments.

Gender Segregation of Jobs

Gender segregation of jobs and its perpetuation over time to the disadvantage of women workers has been a widely discussed issue in women's studies. Social, cultural, historical and economic factors all play a role in determining the pattern of occupational segregation.

In a recent study covering over 40 countries, sex dominated occupations have been defined as those where workers of one sex constitute more than 80 percent of the work force (Anker 1998). It is also found that women workers are employed in a narrower range of occupations while men are differentiated into a wider range of occupations, which lowers the scope for upward mobility of women.

A similar pattern of sex segregation of occupations is found in the three districts of Kerala. Among the seven occupational groups identified for salaried/wage-employed women, more than half of women are found in professional, technical and related category. Another 31 percent are in clerical and related jobs. Together they account for 82 percent of salaried/wage-employed women in these three districts. This shows that women are employed in a narrower range of occupations.

On the other hand, men have diversified into a wide range of jobs; top three categories of male dominated occupations, namely, production & related, transport equipment operators, labourers and clerical & related and professional, technical & related, consists of 28%, 21.5% and 20.7% of men respectively. Thus men are not found crowded in any category of occupation.

In terms of sex domination of occupations, men form more than 80 percent of work force in administrative, executive & managerial jobs, in service sector, and production related,

transport equipment operators & labourers. Only in one occupation females outnumber males in work force i.e. professional, technical & related area.

Table 8: Occupational Group of Salaried/Wage Employed by Sex

Occupational Group	Male	Female	Total
Professional, Technical & Related	46.6 (20.7)	53.4 (50.6)	100 (30.3)
Administrative, Executive & Managerial	80.7 (6.3)	19.3 (3.2)	100 (5.3)
Clerical & Related	59.7 (21.5)	40.3 (31.0)	100 (24.6)
Sales	76.3 (8.0)	23.7 (5.3)	100 (7.1)
Service	88.0 (10.0)	12.0 (2.9)	100 (7.7)
Farmers, Fishermen, Hunters, Loggers & Related	88.6 (5.3)	11.4 (1.5)	100 (4.1)
Production & related, Transport Equipment Operators & Laborers	91.5 (28.1)	8.5 (5.6)	100 (20.9)
Total	68.1 (100)	31.9 (100)	100

Source: CDS Employment & Unemployment Survey, 2003

Total work force also tends to concentrate in three main occupations viz., professional, technical & related (30.3 %) and clerical & related (24.6) and production & related, transport

equipment operators & labourers (20.9). These three categories constitute 75 percent of total work force.

Job Preference of the Educated Unemployed

Job preference plays an important role in determining the extent of unemployment among the educated. Type of work and place of work influence the individual preferences for jobs and this preference can be different for men and women. On account of their commitment to domestic duties and responsibilities, women may prefer to work at convenient place.

The gender aspects of the relationship between preference and unemployment have been given in table 4.5. It shows that 94.2 percent of women prefer to work at a convenient place and the corresponding figure for males is 69 percent. It suggests that men have greater mobility in terms of job search while women's choices are restricted to household premises. Frank and Chasin (1996) observed that preference for jobs near home (in other words, the lack of mobility of women in Kerala) is one of the major reasons for female unemployment in the State. This makes it difficult for women to find an appropriate job commensurate with their qualification and force them to remain unemployed. When women seek employment only in a limited geographical location, their chances of getting a job of their preference reduces. This acts as a disincentive for women to enter labour market.

Table 9: Preference for Job Location by Sex

Preference	Female	Male	Total
At Convenient Place	94.2	69.0	86.1
Outside India	5.2	19.3	9.7
Others	0.6	11.8	4.2
Total	67.6	32.4	100

People of Kerala have an inclination to migrate to other countries in search of jobs. Kerala has the highest proportion of population working outside the country (Zachariah, 2002). Survey data also reflects this pattern of job search among the educated unemployed in the three districts. Almost 10 percent of the unemployed expressed their desire to work outside India. But there is considerable gender difference in this pattern of preference. While nearly 25 percent of males expressed their willingness to migrate for jobs only 5.2 percent of females are ready to migrate outside India for jobs. Women's inability to migrate puts them

in a disadvantageous position in the labour market. It denies them access to the increased number of jobs available abroad and hence limits their employment opportunities.

Job preference of unemployed women shows that higher educational qualifications are associated with stronger job preference. Accordingly, 63 percent of professional women expressed their preference for a job commensurate with their qualification, while the figure was only 20 percent for women who are Higher Secondary and below. The pattern of job preference also reveals that those who have skill-oriented education have more preference for jobs. Thus, half of diploma holders report their preference for jobs as per their qualifications while 32 percent of postgraduates have no preference at all.

Table 10: Pattern of Job Preference of Unemployed Women

Educational Level	Job Preference		
	No Preference	Any Permanent/ Temporary job	Job as per Qualification
Secondary and higher Secondary	35.9	43.9	20.2
Diploma	25.6	23.1	51.3
Graduate	25.5	35.9	38.5
Post Graduate	31.8	25.0	43.2
Professional	14.3	22.9	62.9
Total	31.9	39.2	28.9

Source: CDS Employment/Unemployment Survey, 2003

Thus it becomes clear that lack of enough suitable employment opportunities along with aspiration for job of specific characteristics, has been fuelling the problem of unemployment among educated women in Kerala.

Voluntary Unemployment among the Educated Women

Among the unemployed, 10.7 percent are not actively seeking for job due to several reasons. Women form a considerable proportion of this voluntary unemployed people. They form 67.6 percent of total people who reported as 'not actively seeking employment'

Table 11: Reasons for Not Seeking Job by Sex

	Female	Male	Total
Sick	0.4	14.7	1.9
Difficulty to get a Job	92.6	64.7	89.6
Not Interested	3.2	5.9	3.5
Others	3.9	14.7	5.0
Total	89.3	10.7	100

Source: CDS Employment/Unemployment Survey, 2003

‘Difficulty to get a job’ has been cited by 89 percent of unemployed, as the most important reason for not seeking a job. Data shows that women find it more difficult to get a job than men. Out of total women who reported as ‘not actively seeking job’, 92.6 percent of them cited ‘difficulty to get a job’ as the reason for not seeking employment while 64.7 percent of men cited the same reason. It shows that acute unemployment situation in the State discourages people from looking for a job. Lack of employment opportunities thus emerges as the main factor that causes voluntary unemployment among the educated labour force.

But it needs to be stressed here that strong job preference of the educated in terms of location and type of job might make it difficult for them to find a job. One third of the educated unemployed look for jobs commensurate with their educational qualification and 86 percent of them want a job at a convenient place. These conditions make it difficult to find a job. In the case of women, these job preferences become much more restrictive because of their commitment to domestic responsibilities. Thus it emerges that, what is difficult is not to find a job, but to find a job of one’s preference. Several studies on educated unemployed have reported the existence of strong job preference among the educated as the main factor that causes educated unemployment (Mathew 1997, Mukherjee 1994). Findings of this study also lead us to the same conclusion.

In the next section we will focus on the factors that influence the labour market entry of women. Both individual level and household level characteristics are taken into consideration for explaining the observed difference in work participation of women.

Determinants of Female Labour Force Participation

An attempt is made in this section to determine the factors that affect female labour force participation using a multivariate logistic regression analysis. Educational level, family background and economic status of the household provide the context within which decisions are made regarding female employment. Both individual characteristics and household characteristics influence women's participation in paid work. The extent of influence of these variables is examined here using multivariate logistic regression analysis.

Two models are estimated, first model excludes two independent variables, husband's education and employment and second model excludes marital status. First model includes all observations and second model includes 499 married women whose information about husband's education and employment are available.

The regression results show that, of the six variables included in the model, five turned out to be significant in determining women's work participation. They are education, age, marital status, place of residence and economic status.

A variable, which is found to have a strong influence on female labour force participation, is women's educational level. All the four categories of education turned out to be quite significant. The odds ratio shows that compared to women with higher secondary and below education, women with diploma and professional education have six and eighteen times more probability respectively, to be employed. It is to be noted that graduate and postgraduate are less likely to be employed compared to diploma holders. This shows the importance of skill oriented education in improving the employability of women.

Table 12: Results of Logistic Regression Model

Variables	Model 1		Model 2	
	Odd Ratios	S.E.	Odd Ratios	S.E.
<i>Level of Education</i>				
H. S. & Below®	1.00	-	1.00	-
Diploma	6.15	0.25 **	4.54	0.43 **
Graduate	2.54	0.18 **	2.13	0.31 *
Post Graduate	3.83	0.29 **	4.67	0.47 **

Professional	18.63	0.24**	19.53	0.42**
<i>Age Group</i>				
Age 15-24®	1.00	-	1.00	-
Age 25-39	3.54	0.22**	1.24	0.42
Age 40-59	12.97	0.25**	6.35	0.44**
<i>Marital Status</i>				
Married®	1.00	-	-	-
Single	2.79	0.20**	-	-
<i>Religion</i>				
Muslim®	1.00	-	1.00	-
Hindu	1.32	0.28	0.80	0.53
Christian	1.49	0.297	1.17	0.56
<i>Place of Residence</i>				
Kannur®	1.00	-	1.00	-
Ernakulam	1.91	0.21**	1.40	0.41
Thiruvananthapuram	0.96	0.21	1.13	0.40
<i>Economic Status</i>				
High®	1.00	-	1.00	-
Medium	0.98	0.16	0.81	0.26
Low	1.86	0.25*	5.96	0.53**
<i>Husband's Education</i>				
Low®	-	-	1.00	-
Medium	-	-	1.13	0.29
High	-	-	0.70	0.44

<i>Husband's Employment</i>				
High®	-	-	1.00	-
Medium	-	-	0.53	0.29*
Low	-	-	0.40	0.36**
Constant	0.02	0.40**	0.11	0.79**
Number of Observations	1494		499	
-2 Log Likelihood	1316.58		462.63	
Model Chi Square	379.95		155.73	

® - Reference category ** $p < 0.01$, * $p < 0.05$

Age turned out to be an important factor determining the employment status of educated women. As the age increases, women's work participation also increases. Women in the age group of 40 – 59 have thirteen times more probability to work than women in the age group of 15 – 24. This is an interesting result, which shows the important role life cycle plays in the employment decision of women.

Another factor found significant in the regression analysis is marital status. It shows that, single women have two times more probability than married women to have employment while controlling other characteristics. Religion does not exert any influence on women's employment as the coefficient of religion turned out to be insignificant.

Place of residence seems to exert an influence on women's employment. Women in Ernakulam district are two times more likely to be in the work force than women belonging to Kannur district. It shows that employment opportunity in the place matter for women's employment. Ernakulam is an industrially and commercially more developed district in Kerala. This is reflected in the overall work participation rate also. Ernakulam records the highest work participation for both males and females (76 % and 32.6 % respectively) among the three districts.

The coefficient of economic status shows the nature of relationship between economic status and women's employment. It is found to be significant for women belonging to low economic status households. It shows that women from poor family are more likely to work than women from rich family. This is because women are forced to take up employment to

supplement family income. The positive relationship between women's work participation and low economic status was due to the influence of education.

The second logistic regression model was attempted to explain the work participation of married women as they form 73 percent of the total women. This model incorporates husband's education and employment as independent variables for explaining married women's work participation.

Out of 1105 married women, information about husband's education and employment are available only for 499 women. A logistic regression is run using seven independent variables for these 499 women. Results of the model change with regard to some variables.

Husband's employment turned out to be a significant variable in determining women's work participation. Level of husband's employment seems to have an impact upon women's employment prospects. An odds ratio less than one shows that, women whose husbands are employed at medium or low nature of work are less likely to enter into work force compared to the high employment status of the husband. Odds ratio decreases with corresponding fall in the level of husband's employment. Thus it can be concluded that women's employment has a significant and positive association with nature of husband's work.

Unlike husband's work, husband's education level is not significant in influencing women's employment, while controlling other characteristics.

It is interesting to note that in the case of married women, economic status plays a crucial role in determining their employment status. Married women from poor family are six times more likely to work. It shows that family obligations forces married women to opt for market work.

Conclusion

The study is mainly concerned with the problems of educated unemployment among women in Kerala. Our analysis shows that individual and household characteristics can go a long way in explaining women's entry into labour market. The results show that education, age, marital status, place of residence, economic status and husband's employment turned out to be significant in determining women's entry into the work force.

The study opens up potential for further research in many aspects of women's employment. The study raises more questions than answers about the causes of educated unemployment among women in Kerala. The conventional factors that influence labour supply like wage rate, demand for labourers and education level seems to be inadequate in explaining women's

labour supply. When 70.5 percent of men are able to find employment, 74.4 percent of women remain unemployed. This shows that lack of employment opportunities cannot explain such wide gender differences in employment level. This prompts us to look into other likely factors that affect women's decision to work.

Educational achievements also fail to give any satisfactory explanation for low female employment rate. It is quite surprising to find that women are more educated than men across all educational categories except diploma and secondary education. In higher education also, women are more represented than men. But unfortunately women's edge over men in educational achievements is not translated into gainful employment opportunities. Though women are more educated than men, they suffer from almost three times the unemployment rate of men. Thus it can be said that women's education has not played the transformative role so generally expected of it. Low levels of female employment and persistence of a gendered work structure have limited women's claims to independent sources of income.

The types of education women receive also contribute to their unemployment. Women are found to be over represented in general education without any skill orientation and professional qualification (SPB 2003). This was particularly evident in the case of diploma education where 16 percent of men and 7 percent of women opting for it. It suggests the role of socio-cultural institutions such as families, which mediates micro level decisions regarding education and employment of women with the perceived requirements of marriage. Emerging norms of femininity dictate that women use their education in the interests of marriage to be accomplished wives and better mothers (Osella & Osella, 2000).

The relationship that exists between marital status, age and employment strengthens this argument. Our study finds that single women and older women are more likely to be employed. It suggests that persistence of gender differentiated family roles, with primary responsibility of domestic chores falling on women, constrain their options in other areas like employment. Given the very low employment level of women, high educational achievements attained by them does not seem to change the gender role assumptions in the society.

It therefore arises from our study that rather than labour market conditions, the likely explanation for such high levels of unemployment among educated women, lies in people's deep-seated beliefs about women's gender role in society. Any policy measure to improve

women's employment situation in Kerala has to look beyond creating additional employment opportunities to changing gender roles within the household.

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ECONOMICS EDUCATION IN A GLOBALISING WORLD – PROSPECTS AND CHALLENGES

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Abstract

Economics as an academic discipline has emerged more vital in a globalising world. This is because of the opening up of the economy due to massive disinvestment drives by governments worldwide. For students of economics, many avenues are opened up due to the emerging business scenario. However, lack of adequate skills acts as an impediment in between. Another area of concern in the seemingly positive picture is the transformation of economics from social science to business science, which dampens the soul of the subject.

Keywords: economics, social science, disinvestment, economics jobs

Introduction

The goal of teaching economics as an academic discipline is to develop responsible citizens and decision-makers. Since the turn of the century, the number of local, national, and worldwide organisations dedicated to economic education has grown considerably, and the emphasis of those organisations have evolved to include financial literacy and economic education. As a social science discipline, economics is concerned with making decisions and identifying alternatives (Butters & Asarta, 2011). At its foundation, economics is the study of assessing options and making better decisions. It fosters critical thinking and problem-solving abilities in order to make sound judgments.

The significance of economic education extends well beyond the purpose of enhancing comprehension of the workings of the economy. This is because economics is a social science that analyses how society allocates finite resources with many uses to produce goods and services for now and future consumption (Becker & Bartlett, 1991). The economic theory employs scientific approaches to study how scarce resources are traded within society. Economists research on ideas and approaches that are important for formulating government policies since they have a thorough grasp of how to generate efficiency in today's society.

However, recently, economics as an academic discipline has been disregarded in many parts of India.

Economics has a pivotal role in public decision making. The basic framework for public policy study is economics (Asarta et al., 2013). The economics course informs students about the underlying policy concerns that influence the market and societal results. An economist comprehends the immediate concerns of tradeoffs, benefits against costs, market failure, and public financing and the broader questions of generational repercussions, welfare implications, and inequality. Students of economics are prepared to participate in public policy discussions and enhance economic and social progress.

Economics provides students with the skills to analyse facts in order to make sound judgments. These abilities are sought for in both the public and commercial sectors. Studying economics allows individuals to better understand people, firms, markets, and governments, allowing them to adapt to the challenges and possibilities that arise as things change (Siegfried et al., 1991). The breadth and flexibility of an economics degree prepare students to adjust to unexpected changes and take advantage of unexpected opportunities. Students of Economics can find opportunities in a globalising world because they have problem-solving and analytical skills to succeed in various career paths. These include careers in law, risk management, actuarial, finance, foreign affairs, public administration, politics, policy analysis, health administration, entrepreneurship, market analysis, journalism, and potential future careers (Butters & Asarta, 2011).

The study of economics allows a student to understand the world order better. The study of economics develops multiple skills required of a modern economy. They are employed in Government and private sectors. The multiple roles include providing businesses and governments with data analysis and interpretation to make rational choices. Similarly, economics, as a broad discipline, gives solutions to a variety of challenges such as taxation, inflation, interest rates determination, inequality, environmental degradation, and political challenges are all examples (Asarta, 2016). Understanding how consumers react is critical for policy framing, and economists use economic theories and models to forecast consume behaviour, for instance, by analysing big data.

The Knowledge Economy

According to the World Development Report 1999, “for countries at the forefront of the global economy, the balance between knowledge and resources has shifted so far towards the

former that knowledge has become perhaps the most important factor determining the standard of living – more than land, tools, or labour (Yusuf & World Bank, 2000).” The most technologically sophisticated countries today are essentially knowledge-based. The knowledge economy is a consumer and production system built on intellectual capital. It specifically refers to the capacity to profit from scientific discoveries as well as fundamental and applied research. This has grown to account for a substantial portion of total economic activity in the majority of industrialised countries.

The knowledge economy remains constrained, but is no longer limited to a single sector of production. In contrast to services or agriculture, it does not even have a favoured link with industry, as mechanised manufacturing and industrial mass production did. It can be found in every business, including knowledge-intensive services and precision, scientific research, and high-tech manufacturing (Powell & Snellman, 2004). Nonetheless, it appears as a periphery in each sector, from which the great bulk of the work force is excluded. Knowledge-based growth entails not only the establishment of new industries, but also the internal change of existing sectors, focusing solely on the high-technology sector or so-called knowledge-intensive businesses because they are thought to be where new ideas and technology are discovered misses reality.

Labour and capital were identified as the two components that contributed to the creation of commodities and services in classical economic theory. Paul Romer recommended that technology, as well as the knowledge that underpins it, be seen as an integral aspect of the economic system (Vitasek, 2018). Romer, widely known for his theories on growth dynamics, considers knowledge to be the hidden hero of the growth game (Jones, 2019). According to him, knowledge has become the third element of production in leading countries.

Knowledge is the most basic type of capital; the acquisition of knowledge drives economic progress. Technological advances generate technical platforms for new ideas, and this technical platform effect is the primary engine of economic growth (Romer & Kurtzman, 2004). They believed in decreasing returns on investments, which led to unsustainable expansion. Most emerging countries, even those with plenty of money and labor, are unable to continue their economic progress. Investments in technology, on the other hand, with their technological platform impact, increased returns on investment and sustained growth.

Simply because modern economies are more information intensive does not imply that only certain industries participate in the knowledge economy (Hanushek, 1991). Unlike in the

past, when the economy was based mostly on unskilled labour employment and the production of tangible commodities, the current economy is based on services sectors and professions that demand thinking and data analysis. The existence of a greater percentage of highly qualified people whose occupations demand particular knowledge or abilities characterises the knowledge economy.

Conclusion

Globalisation has resulted in the rise of the knowledge economy, which develops, disseminates, and uses knowledge to boost growth and development. Education at all levels is pertinent more than ever in a globalised society. The integration of economies via the flow of products, capital, ideas, and labor is called globalisation. It presently takes place mainly through the first three of these routes. International commerce and investment have prospered, and economies have become more intertwined, as governments have eliminated barriers to imports and exports, permitted more capital mobility, and opened up to foreign ownership of local companies. Meanwhile, the greater cultural and social interconnectedness has resulted from the faster movement of knowledge and ideas resulting from communications advancements.

In the Indian universities, as in many other countries (Ahlstrom & Asarta, 2019), there is gender skewness with regard to the students opting for economics. The failure of economics as a discipline to gain attractive job openings, has resulted in the traditional gender pattern where male students prefer courses which help them gain more productive jobs.

Economics may be taught through producing new information and exposing students to real-world learning contexts and experiences. Students acquire views of their economic reality from a young age, which evolve into attitudes and ideas about economics as they advance through the educational process. Teachers, whether intentionally or unintentionally, impact the direction of attitude development. Teachers are helping to improve students' attitudes about economics by discovering new ways to sensitize them more about the topic. Teachers and lecturers are not indoctrinating students by teaching basic economic concepts and applying them to classroom discussions of economic issues and institutions; instead, they provide a foundation for more informed student opinions and decision making on critical economic issues. Economics and its tenets become more tangible when students are provided with the ideal platform to assimilate concepts and theories in a pragmatic way.

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THE DYNAMICS OF CASTE INDUCED DEPRIVATION IN INDIA

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Abstract

Caste as a system of social stratification has been evolved through ages with its strict ties to myths, traditions, practices and customs. It ensured and nourished the existence of hierarchies and even led to the formation of new strata within the stratification called sub castes. The complexity of the caste system lies in the fact that it divides the society in such a way where the possibility of development is hindered for the lower levels of stratification as pointed out by many scholars. So, the study of caste and its impact upon the agents of economy is crucial and in Indian society it needs extra attention when the theories of development are applied to practical means. Caste system is defined as a harmful institution, in as much as it involves the subordination of man's natural powers and inclinations to the exigencies of social rules which is characterised with not only division of labour but also with division of labourers; where division of labour is not spontaneous, i.e. it is not based on natural aptitudes; where there exist hindrances in search for jobs and switching between jobs according to the dynamics of industry; where the division of labour is not a division based on choices but based on the dogma of predestination; where classes have become castes through imitations and excommunication and every caste is an enclosed class¹.

Keywords: Caste, class, HDI, human, welfare

Introduction

In light of given definition of caste system by Dr. B. R. Ambedkar, in this article we are trying to analyse the impact of castes and its complex system of division upon the economic performance of individual agents in the economy by analysing the effect of caste induced discrimination on the entitlements and capabilities of individuals. The definitions of

¹Ambedkar, B. R. (2015). *Annihilation of Caste: The Annotated Critical Edition* (1st ed.). (S. Anand, Ed.) New Delhi: Navayana Publishing Pvt Ltd.

entitlements and capabilities are given in the following paragraph as iterated by famous economist Amartya Sen.

Given the prevailing, legal, political, and economic arrangements, a person can establish command over a set of alternative bundles of commodities will be referred to as this person's entitlements. These entitlements include trade based, production based and own labour entitlements. A person's capability is a set of functioning bundles, representing the various alternative beings and doings that a person can achieve with his or her economic, social, and personal characteristics².

Given these definitions we would try to analyse the impact of a caste society on the economy and the whole development experience of India. Even though the study is based on selected samples and secondary data, the analysis would be helpful in understanding the dynamics of caste system and the economy. As a highly populated developing economy, the importance of human capital formation and the human capital based development is crucial in the future of Indian economy. Seeing human capital formation and its enhancement as a way to development, we should consider the sociological and social factors which undermine the full capacity of an individual in contributing to holistic development as well as welfare. There arises the importance of considering caste system and castes as a social factor contributing to fluctuations and instability in the economy, instead of considering the caste system merely as a sociological institution subject to scrutiny of sociologists or historians only.

Development Indices Measuring Potential of Welfare

As the definitions of concepts are given in the introduction, question arises is that how can we measure the impact of caste system on the economic agents. The solution to this problem can be obtained by analysing the caste wise human development index comprising of five components which includes both entitlements and capabilities of individuals. Components measuring entitlements are education and living conditions of individuals belonging to different castes and on the other hand components measuring capabilities of individuals belonging to different castes are their social networking capacity, income earning capacity and the life expectancy capacity. The data under consideration are given as a human development index with five components³ as are being discussed.

²Dreze, J., & Sen, A. (1999). Hunger and Public Action. In J. Dreze, & A. Sen, *the Amartya Sen & Jean Dreze Omnibus*. New Delhi: Oxford University Press.

³ The data is secondary, which was collected through sample survey and used by S. Thorat et. al. in his study published in 2013.

The Human Development Index (HDI)⁴ of different social groups incorporates five component indices viz; Highest Education Index (HEI)⁵, Living Conditions Index (LCI)⁶, Income Quintile Index (IQI)⁷, Life Expectancy Index (LEI)⁸ and JaanPehchaan (Social Networks) Index (JPI)⁹. Among these five components, the former two indices can be considered as indicators of entitlements and the latter three can be considered as indicators of capabilities of an individual. These indices are calculated for sample households from different social categories as shown in Table 1. All indices and the combined human development index measure the potential of each social category to achieve respective entitlements or capabilities, measured as a value in between 0 and 100 and is interpreted as percentage potential of households belonging to different social categories to achieve development and welfare.

Table 1 Human Development Index and Component Indices by Social Category: India

	All Households	Brahmins & High Caste Hindus	Scheduled Castes	Scheduled Tribes	OBC Hindus	Muslims
HEI	49.7	67.5	39.5	34.8	49.9	41.6
LCI	51.5	67.1	39.2	32.9	48	66
IQI	61.4	73.4	55.8	52	58.7	62
LEI	51.8	57.1	49.8	45.3	52.7	48.4
JPI	28.7	39.7	23.5	21.6	27.8	23.8
HDI	48.6	60.8	41.5	37.3	47.4	48.4

⁴HDI is calculated as the equally weighted index all the five component indices.

⁵HEI is calculated from the data regarding the highest education level of a households' adult and the minimum possible level of education of a households' adult.

⁶The LCI is based on the living conditions of the households with respect to the following indicators; the proportion of households who defecated in the open, the proportion of households who did not have piped water and the proportion of households who did not have a vent in the cooking place.

⁷The IQI is based on the classification of households to different income quintiles according to their income. The income quintiles of household income are fixed as 0 for negative income, 1 for the poorest, 2nd and 3rd for middle income and 4th and 5th quintile for the affluent. The IQI indicates the ability of households to realise its income potential, which is the households' achievement rate with respect to income.

⁸For each household the LEI is calculated by incorporating age at death, minimum age of death and the maximum age at death which is taken as 100 years.

⁹The JPI is based on the social networks of each household with respect to a number of indicators designed to measure the range, quality, and the closeness of social contacts viz: whether the household knew someone connected with medicine or education or government, if so, was the person a doctor/teacher/officer? And if the person knew a person connected with the above areas, was the person concerned from the same or a different jati to the household.

Table 1 shows the different potentials of households belonging to different social groups. We can observe from the table that in all the component indices and in HDI, households belonging to higher caste realised more of their potential for development when compared to households belonging to scheduled castes and scheduled tribes. An intensive analysis of both the entitlement indicating components and capability indicating components would give a clear picture of the effect that caste based discrimination has on the development realising potential of households belonging to different social groups.

Caste System and Entitlement Deprivation

In order to analyse the impact of caste system on entitlements of an individual in this article we are considering two indicators viz; education and living conditions. It is done knowingly that there are many other indicators of entitlement deprivation which are not considered in this analysis for the sake of simplicity only. Even though there are only two indicators, from this itself the discriminating dynamics of caste system is clear.

From table 1 we can infer that in case of education, castes in the lower strata of the caste system are far behind in realising their potential for acquiring education. We can observe distinctly that in between upper caste Hindus and scheduled tribes or scheduled castes there exist a large gap in the potential for acquiring education. Even though the OBC Hindus and Muslims are better than that of SCs and STs, their condition is still worse when compared to higher caste Hindus and Brahmins. A similar trend can be observed in the case of Living conditions also. The potential for obtaining better living conditions is realised by upper caste households in a rigorous manner and is obviously higher than that of other lower caste Hindus as well as Muslims.

Constructing a development index with only the components indicating entitlements will further ease the understanding of the effect of caste system on entitlements. The formula to find the two component HDI can be given as:

$$HDI_{Entitlements} = \frac{1}{2} * HEI + \frac{1}{2} * LCI$$

By using the given equation in Table 2, two component HDI with respect to each social groups is calculated. We can see that in realising the potential to acquire entitlement bundles, the higher caste households have an upper hand than the lower caste households. 67.3 percent of the Brahmin and upper caste households realised their potential to acquire the two

entitlements while the realised potential of SCs and STs are 39.35 percent and 33.85 percent respectively and are clearly lower than that of higher caste Hindus.

Table 2 HDI with respect to components indicating Entitlements

	All Households	Brahmins & High Caste Hindus	Scheduled Castes	Scheduled Tribes	OBC Hindus	Muslims
HEI	49.7	67.5	39.5	34.8	49.9	41.6
LCI	51.5	67.1	39.2	32.9	48	66
HDI	50.6	67.3	39.35	33.85	48.95	53.8

The gap in the potential to acquire the entitlements in between social groups or castes is evident and the caste system in its full capacity discriminates amongst its members by making the higher strata better off simultaneously worsening the condition of the lower strata by hindering them in fulfilling their potential to achieve entitlements and thus well-being.

Caste System and Capability Deprivation

Among the components of HDI, the latter three components viz; IQI, LEI and JPI represent capability acquirement of households or individuals. These components can be considered to be various beings and doings which enhance the ability to work and provide for an incentive to work for an individual.

Table 3 HDI with respect to components indicating Capabilities

	All Households	Brahmins & High Caste Hindus	Scheduled Castes	Scheduled Tribes	OBC Hindus	Muslims
IQI	61.4	73.4	55.8	52	58.7	62
LEI	51.8	57.1	49.8	45.3	52.7	48.4
JPI	28.7	39.7	23.5	21.6	27.8	23.8
HDI	47.3	56.7	43.0	39.6	46.4	44.7

In table 1, we can observe a trend, in the potential to acquire these capabilities, which is favourable to the higher caste households and hindering or slowing down the potential of

lower caste individuals. Constructing a three component HDI from the data given in Table 1 will let us understand the gap more properly. The three component HDI can be obtained by using the following formula:

$$HDI_{Capabilities} = \frac{1}{3} * IQI + \frac{1}{3} * LEI + \frac{1}{3} * JPI$$

In Table 3, the gap between upper castes and lower castes is crystal clear as upper caste and Brahmin households have realised more than 50 percent of their potential for acquiring capabilities, which is far higher when compared to the lower caste households whose realised potential is less than 50 percent and the gap in the potential fulfilment is more than 10 percent for all the social groups belonging to the lower strata of caste system when compared to the fulfilled potential of upper caste households.

This gap in the potential for capability fulfillment as we can see is induced by the caste system and the complex system of stratification it imposes upon the households as well as the individual economic agents of the economy.

Caste Induced Cyclical Nature of Deprivation

Given the explicit influence of caste system on the achievement of welfare, as is shown in the data analysis, we have to consider the nature of deprivation induced by the social institution: caste. As entitlements and capabilities are mutually contributing, hindrance in the acquirement of either entitlements or capabilities, or both simultaneously will contribute to the deprivation of the other factor or contribute to mutual deprivation and thus leading to a worsened condition of well-being.

For instance, increase in income (here it is considered as a capability) induces the betterment in living conditions (here entitlement) and vice versa. So there is an implicit cyclical nature for caste induced inequality which further increases the gap between the strata of the hierarchical system of social order, which is caste. This implicit evil will come to an end only when there are means breaking the enclosed nature or mobility restrictions of each strata (caste) within the caste system. Further studies in this regard and analysis of caste system by using the tools of economic analysis will help solve the issue properly and thus augmenting the development and welfare of the nation in the interest of its citizens irrespective of differences.

Conclusion

This study specifically aimed at analysing the impact of caste system upon the achievement of entitlements and capabilities and the caste induced deprivation of both entitlements and capabilities. It is observed that the caste system, in its capacity as a social institution which divides and discriminate its members, diminishes the potential of individuals to acquire entitlements, capabilities and thus well-being if they belong to the lower strata of the particular hierarchy of castes. It is also found that there is gap in the fulfilment of development potential in between the higher castes and the lower castes among which the former category fulfilled their development potential more efficiently than that of the latter category. Further analysis points out the fact that there exists a cyclical nature for caste induced deprivation which in the process worsens the welfare condition of households belonging to lower castes. The study of welfare implications of caste system needs more attention and moving forward with application of the economic theories of western origin in India, without considering the effects of caste would be fallacious, may lead to undesirable economic outcomes and it may increase the inequality.

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ECONOMIC ASPECT OF URBANISATION IN INDIA

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"Well-managed urbanisation promises higher growth, better quality of life. However, more than one-third of global city dwellers live in slums"- International Monetary Fund (IMF)

Introduction

Urbanisation has been described as one of the most complex and vital socio-economic phenomenon of the 21st Century. Since 1990, the world has seen an increased gathering of its population in urban areas. This trend is not new, but relentless and has been marked by a remarkable increase in the absolute numbers of urban Inhabitants from a yearly average of 57 million between 1990-2000 to 77 million between 2010-2015. In 1990, 43 per cent (2.3 billion) of the world's population lived in urban areas; by 2015, this had grown to 54 per cent (4 billion). The increase in urban population has not been evenly spread throughout the world. Different regions have seen their urban populations grow more quickly, or less quickly, although virtually no region of the world can report a decrease in urbanization. (World Cities Report 2016)

India, one of the most populous countries of the world had a population of 1.21 billion in 2011 census period. The proportion of urban population increased from 18 percent in 1951 to 26 per cent in 1991 census and in 2011 census records that 31.16per cent living in urban areas. Population and economic growth have raised urbanization in India and the number of urban towns and cities have considerably increased. This growth is projected to continue in the years to come and India must step up its game in order to catch up with this gentle of change. There are some factors that have led to the urbanization in India. Population growth, migration and the expansion of towns and cities are major factors. As of these factors, the government has decided to seize the opportunities and projects to extra thrust the country into urbanization, several smart cities to be put up in various locations, and other initiatives.

In the present study, an attempt is made to analyse economic effects of urbanisation in the Indian economy using census data from 1991 to 2011. Being a developing country, India has its own urbanisation experience. Social, economic and environmental problems are related to

it. Hence the present study tries to analyse the urbanisation experience of major states with the following specific objectives.

- To study the level of urbanisation of major states of India
- To examine the effect of urbanisation on economic variables of major states of India

To achieve the objectives, secondary data for the variables like percentage of urban population, growth rate of State Domestic Produce, growth rate of Per capita state domestic product, work participation rate, unemployment rate, share of urban workers of various industrial sectors, etc. has been taken for 10 most urbanised states (2011 census) of India from various secondary data sources from 1991 to 2011. The main data sources are Census data for the periods of 1991, 2001 and 2011, CSO reports, NSSO reports etc.

Urbanisation in India

Urbanisation encourages socio economic changes and socio-economic development which further leads to urbanisation. India is a developing country with a reliably growing economy. Globalization, privatization and liberalisation have added to the growth potential of rural-centric agricultural economy (Ashis Sarkar 2011). Indian society is in a stage of urban shift and rural-urban migration has been found to be modest in the country. Among three major components of urban growth (natural increase, net migration and areal reclassification), the largest contributor is the natural growth which contribute about 41.7% during 1971-81 and about 59% during 1981-91 (Bhagat, 1992). This increase complements a corresponding decrease in the percentage share of net migration and reclassification of rural-urban areas. Net migration contributed about 39.4% during 1971-81 which has reduced to about 22.62% during 1981-91. Reclassification of urban area contributed 18.85% during 1971-81 which has reduced to about 17.4% during 1981-91. So, the urbanization in India is not only a migration led phenomena, but demographic factor also played an important role in urban progression (Pathak and Mehta, 1995).

Table 1 specifies the level of urbanisation in India from 1951 onwards. The urban population is growing faster than the total population. The number of total populations was nearly increased in three times from 1951 to 2011. While, the urban population was increased in six times from 1951 to 2011. The proportion of population lived in urban areas increased from 17 percent to 31 percent (during 1951-2011). The urban growth index has been calculated by taking 1951 as the base year. In 1961, it was only 126,208 in 1971, 258 in 1981, 316 in 1991, 384 in 2001 and it increased to 476 in 2011. The major reason for fast growth of urban

population are besides natural growth, reclassification of towns and migration from rural to urban areas.

Table1: Growth of urban population in India from1951to 2011

Census year	total population (in million)	Average annual exponential growth rate of population (%)	No.of towns	Urban population (in million)	%of urban population	Urban growth index (1951 as base year)
1951	361.09	1.25	2843	62.44	17%	100
1961	439.23	1.96	2363	78.94	18%	126
1971	598.16	2.2	2590	109.11	18%	208
1981	683.33	2.22	3378	159.46	23%	258
1991	844.32	2.16	3768	217.18	26%	316
2001	1027.02	1.97	5161	285.35	28%	384
2011	1210.57	1.64	7935	377.11	31%	476

Source: Calculated from Census data of India (1951-2011). The 1981 census was not conducted in Assam and in 1991 was not conducted in Jammu and Kashmir.

Urbanisation of Major States in India

There are substantial interstate differences in the share of urban population. The analysis of urban population by means of measures such as index of urban growth and percentage of urban population helps in understanding India's pattern of urbanisation in different states over a period. Table 2 illustrates state - wise share of urban population to total population during 1961-2011, for the ten major states (which had share of urban population more than the national average in 2011 census).

The analysis reveals that level of urbanisation is increasing in the country and these major states. In1961, the share of urban population was very low which is less than the national average(18.3%) in the states Mizoram(5.35%),Goa (14.8%),Kerala (15.11%) and Haryana(17.2%).However the state like Maharashtra with Bombay as its capital city had the

highest level of urbanization (28.2%). In 1971 census showed Goa was an increasing trend of share of urban population from 14.8 percent to 25.56 percent which is above the national average (20.2) and other states such as Mizoram, Kerala and Haryana had urbanisation level below the national average. During the 1981 census period Mizoram improved its position with 24.67 percent of urban population which is above the national average (23.7%). In 1991 census, Mizoram got first position among states with 46.1 percent of urban population, percent and the share of urban population of Kerala increased to 26.39 percent which is above the national average (25.73%).

Table 2. Level of urbanisation in different states of India during 1961-2011

Percentage of urban population to total population India and state 1961-2011						
STATES	1961	1971	1981	1991	2001	2011
All India	18.3	19.3	23.7	25.73	27.82	31.14
Goa	14.8	25.56	32.03	41.01	49.76	62.17
Gujarat	25.8	28.1	31.1	34.49	37.36	42.60
Haryana	17.2	17.7	22	24.63	28.92	34.88
Karnataka	22.3	24.3	28.9	30.92	33.99	38.67
Kerala	15.11	16.24	18.74	26.39	25.96	47.70
Maharashtra	28.2	31.2	35	38.69	42.43	45.22
Mizoram	5.35	11.35	24.67	46.1	49.63	52.11
Punjab	23.1	23.7	27.7	29.53	33.92	37.48
Tamil Nadu	26.7	30.3	33	34.15	44.04	48.40
West Bengal	24.5	24.7	26.5	27.48	27.97	31.87

Source: Census data of India 1961- 2011. Figures are calculated by ratio of urban population to total population.

In 2001 census, all states except Kerala increased their proportion of urban population over and above the national average. Kerala witnessed a slightly decrease in the share of urban population from 26.39 percent in 1991 to 25.96 percent in 2001, mainly due to some of the towns are degraded to villages. The table clears that the course of urbanization in India was slow over the decades from 1961-2011. In the case of Kerala, the share of urban population was either less or nearly the same compared to the national average till 2001 and a rapid

increase in the share of urban population has occurred in Kerala between 2001 and 2011. In 2011 census, among the states, Goa got first position (62.17 %) followed by Mizoram (52.11 %), Tamil Nadu (48.4 %), Kerala (47.7 %), Maharashtra (45.22 %) and Gujarat (42.6%) witnessed more urbanisation compared to national level. The trend of urbanisation of states like Haryana and West Bengal nearly to national average. The fast growth of urbanisation in Indian states was due to formation of new urban centres rather than to the increase in the concentration of population in the remaining cities and towns. We can see more regional development which is spread to rural areas and modified as towns and enjoys urban facilities.

Urbanisation and Economic Development Indicators

After examining trend and process of urbanisation in various states of India, we see different economic variables like state domestic product, Per capita state domestic product, worker participation rate, unemployment rate, and industrial classification of urban workers.

Performance of Net State Domestic Product

Firstly, we can examine the performance of NSDP (Net State Domestic Product) of major states with more urbanisation compared to national average.

Table 3: Growth of Net State Domestic Product at Current Prices (Percentage Change over Previous Year)

STATES	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Goa	13.5	15.3	18.4	29.9	13.9	16.5	29.5
Gujarat	19.8	16.6	17	11.7	18	22.5	14
Haryana	13.5	18.6	17.6	20.5	23.8	16.3	15.2
Karnataka	17.6	16.5	19.2	14.6	8	22.5	10.4
Kerala	14.8	12.3	14	17	14.4	13.2	16.7
Maharashtra	18.1	20.5	17.6	9.3	13.7	23.3	12
Mizoram	11	10.5	15.9	21.8	13.6	22.4	7.9
Punjab	11.4	17.8	20.1	14.1	13.8	14.7	12.6
Tamil Nadu	18.2	20.9	13.4	14.5	19.7	22.8	14.2
West Bengal	10.4	13.8	14.6	13.5	16.7	16.2	14
All India	14.2	16.8	15.9	15.6	15	19.1	15.8

Source: Economic Survey, 2014-15

Table 3 shows that growth of NSDP of various states showing an increasing trend. However, some of the states with better level of urbanisation had low level of growth rate of NSDP (Mizoram 7.9% in 2011-12) Similarly, Table 4 reveals that the growth of Percapita net state domestic product which also shows an increasing trend over the years. Among these states Goa, Kerala, Haryana and Tamil Nadu had better performance than remaining states. The state Mizoram witnessed a decreasing trend of growth rate Percapita NSDP to 5.2% in 2011-12 which was below the national growth rate during that period.

Table 4: Growth of Percapita Net State Domestic Product at Current Prices (Percentage Change Over Previous Year)

States	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Goa	10.1	12	14.6	25.1	9.7	12.6	25.9
Gujarat	18	14.9	15.3	10.1	16.4	20.9	12.5
Haryana	11.4	16.4	15.5	18.4	21.7	14.4	13.3
Karnataka	16.2	15.2	17.9	13.4	6.8	21.2	9.3
Kerala	13.8	11.4	13.1	16.1	13.5	12.3	15.9
Maharashtra	16.3	18.7	15.9	7.7	12.1	21.6	10.5
Mizoram	8.3	7.7	12.9	18.8	10.7	19.3	5.2
Punjab	9.4	15.7	17.9	12	11.7	12.6	10.5
Tamil Nadu	17.2	20	12.6	13.7	18.8	22	13.5
West Bengal	9.1	12.6	13.5	12.4	15.6	15.1	13
All India	12.4	15	14.8	13.8	13.4	16.8	14.5

Source: Economic Survey, 2014-15

Employment status of urban India

Among 2000 and 2005, employment in urban India raised at a faster rate per year with 3.22% than in rural India 1.97% (Chandrasekhar and Ghosh 2007). Table 5 shows work force participation rate of various states is increasing from 1999-2000 to 2011-12. However, these states have near to national average.

Table 5: Work Force Participation Rate of Urban Persons, 1999-2000 and 2011-2012 (in percent)

States	Principal Status		Principal & Subsidiary Status		current Weekly Status		current Daily Status	
	1999-2000	2011-2012	1999-2000	2011-2012	1999-2000	2011-2012	1999-2000	2011-2012
Goa	30.3	33.6	30.9	33.7	28.8	33.6	27.3	33.3
Gujarat	33.3	37.5	34.5	38.4	33.6	38.2	31.4	37.2
Haryana	29.6	31.1	31.4	31.8	31.3	31.6	29.3	31.3
Karnataka	35.9	37.2	36.6	37.6	35.8	37.2	34	36.3
Kerala	33.7	34.1	37.3	36.3	33.3	33.8	29.1	30.8
Maharashtra	33.6	35.3	34.6	36.5	33.8	35.7	32.3	34.8
Mizoram	35.1	36.6	36.3	36.7	37.5	36.3	33.2	35.3
Punjab	32.5	34.8	35.3	36.8	33.8	36.3	32.4	35.1
Tamil Nadu	38.2	38.5	39.3	39.2	38.1	38.4	35.2	36.4
West	34	36.9	35	40	34.4	39	32.6	36.7
India	32.4	34.2	33.7	35.5	32.7	34.7	30.9	33.5

Source: National Sample Survey Organization, Employment and Unemployment, Report No.458 (1999-2000; 55th Round) and Report No. 554(2011-2012; 68th Round).

Unemployment status of urban India

The unemployment rate of urban persons of various states understood from the table 6 during the periods of 1999-2000 and 2011-2012. We can see, almost all states (except Haryana and Mizoram) unemployment rate was decreasing under all status during that period. The states like Haryana and Mizoram, unemployment rate of urban persons shows increasing. Among these states Kerala got the top position and Gujarat holds the last position in the case of unemployment rate.

Table 6: Unemployment Rate of Urban Persons, 1999-2000 and 2011-2012 (in percent)

States	Usual Status		usual status (adjusted)		current Weekly Status		current Daily Status	
	1999-2000	2011-2012	1999-2000	2011-2012	1999-2000	2011-2012	1999-2000	2011-2012
Goa	19.1	4.6	18.5	4.6	23.8	4.6	26.1	4.7
Gujarat	2.2	0.9	2	0.8	2.8	0.9	4.2	1.6
Haryana	2.9	4.2	2.7	4.2	3.8	4.3	4.5	4.4

Karnataka	3.4	3.4	3.3	2.9	4	3.4	5.4	4.1
Kerala	12.5	7.8	10.2	6.1	13.8	8.5	19.1	12.3
Maharashtra	6.4	2.4	5.8	2.3	6.8	3	8.1	3.7
Mizoram	3.8	5	3	5	2.7	5	3.6	5.2
Punjab	3.2	3.1	2.7	2.8	3.9	3.5	4.9	4.3
Tamil Nadu	4.4	3	4	2.7	5.2	4.1	8.9	6.8
West Bengal	8.2	5.9	7.6	4.8	8.7	5.6	10.6	6.8
India	5.2	3.8	4.7	3.4	5.9	4.4	7.7	5.5

Source: National Sample Survey Organization, Employment and Unemployment, Report No.458 (1999-2000; 55th Round) and Report No. 554(2011-2012; 68th Round).

Industrial classification of urban workers

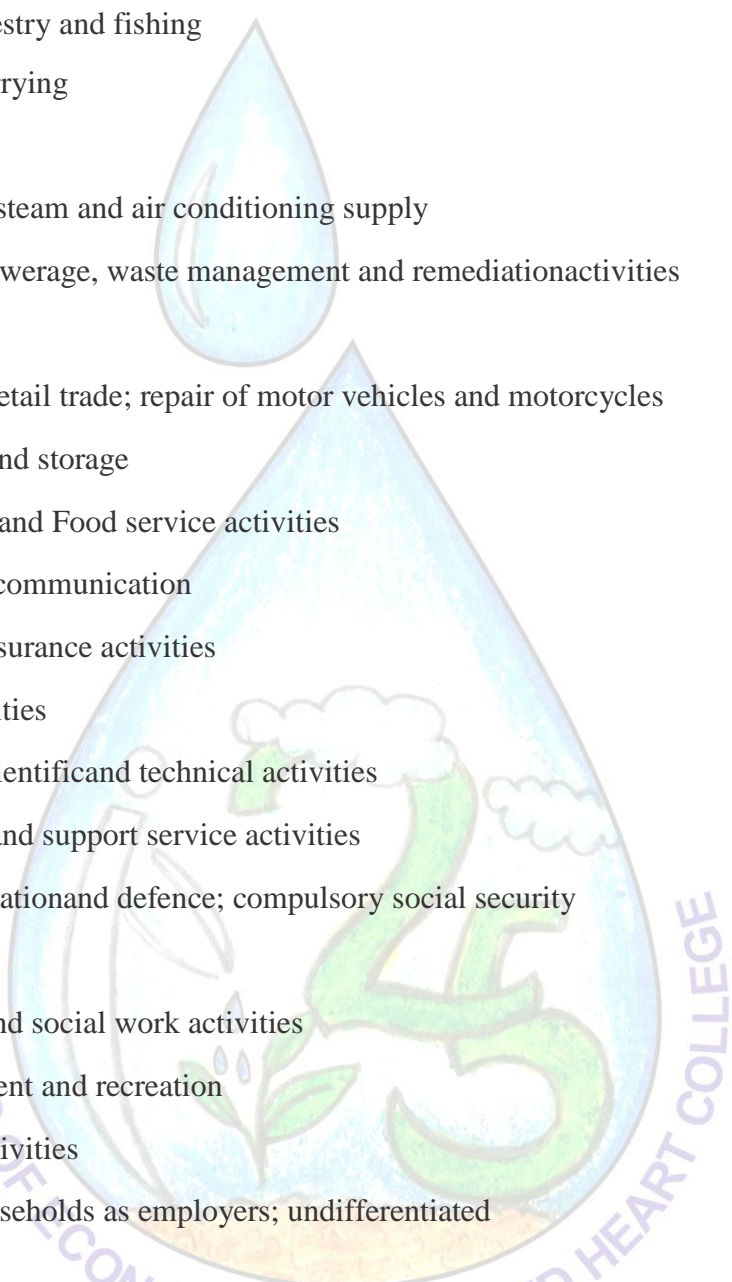
From the Table 7, we can understand the urban workers engaged in different sectors and industries of various states in the country during the period of 2011-12. Category A indicates agriculture, forestry and fishing (i.e. agriculture sector). Among these states, 26.8 percent of urban workers of Mizoram engaged in agricultural activities. Almost all states have less share in urban workers engaged in agricultural activities compared to national level. In the case of category B (i.e. mining and quarrying) 5.7 percent urban workers of Goa engaged such activities.

Table 7: National Industrial Classification of Urban Workers (principal and subsidiary), 2011-2012 (in percent)

States	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
Goa	3.	5	8.	2	2	6.	2	5	1	1	5	0	2	3	6.	6.	3	1	2	1
Gujara	4.	0	3	0	3	5.	1	5	4.	1	1	0	1	1	3.	2.	2	0	2	1
Harya	6.	0	2	1	0	1	1	6	1.	5	2	1	2	0	5.	8	3	0	2	0
Karnat	7.	0	1	0	0	9.	1	6	6.	7	2	0	2	2	2.	6.	2	0	1	2
Kerala	8.	0	1	0	0	1	1	8	4.	2	3	0	1	1	3.	5.	3	1	3	2
Mahar	4.	0	2	0	0	8.	1	9	3.	3	4	0	1	2	3.	5.	2	0	4	4
Mizor	2	0	2.	0	0	7.	2	4	0.	0	0	0	0	0	2	1	1	0	0	0
Punjab	5.	0	2	1	1	7.	1	7	2.	1	2	1	1	0	3.	7.	3	0	6	0
Tamil	1	0	2	0	0	8.	1	6	4.	3	2	0	0	1	1.	4	1	0	3	2
West Bengal	2.	0	3	0	0	6.	1	7	3.	1	2	0	1	2	2.	6.	2	0	2	5
India	6.	0	2	0	0	9.	1	7	3.	2	2	0	1	1	4.	5.	2	0	3	2

Note: National Industrial Classification of workers is based on NIC 2008.

Source: National Sample Survey Organization, Employment and Unemployment, Report No. 554 (2011-2012; 68th Round)

- 
- A: Agriculture, forestry and fishing
 - B: Mining and quarrying
 - C: Manufacturing
 - D: Electricity, gas, steam and air conditioning supply
 - E: Water supply; sewerage, waste management and remediation activities
 - F: Construction
 - G: Wholesale and retail trade; repair of motor vehicles and motorcycles
 - H: Transportation and storage
 - I: Accommodation and Food service activities
 - J: Information and communication
 - K: Financial and insurance activities
 - L: Real estate activities
 - M: Professional, scientific and technical activities
 - N: Administrative and support service activities
 - O: Public administration and defence; compulsory social security
 - P: Education
 - Q: Human health and social work activities
 - R: Arts, entertainment and recreation
 - S: Other service activities
 - T: Activities of households as employers; undifferentiated

Under the manufacturing sector 39.4 percent of urban workers of Gujarat employed. In category D and E (electricity, gas, water supply etc), the state Goa shared most among the mentioned states. The urban workers are engaged in category F (construction), more share coming from Kerala (14%). In the case of category G (Wholesale and retail trade) all states shared near 20% to these activities. Under category H (Transportation and storage), Maharashtra shared most among the other states. In category I (Accommodation and Food service activities), Goa was the top most and in category J (Information and communication) 7.5% of urban workers of Karnataka engaged such activities. Under category K (Financial and insurance activities), 5.7% of Goa engaged. Real estate activities (category L) are less in

urban areas. Professional, scientific and technical activities (category M) and administrative and support service activities (category N) are more in Goa. Under category O (Public administration and defence; compulsory social security) and in category P (education) are more urban workers of Mizoram (21.4% & 10.2%) engaged such activities. In category Q (Human health and social work activities), Kerala was the topmost. Category R (Arts, entertainment and recreation), category S (other service) activities are less in urban areas. In category T (Activities of households as employers; undifferentiated) West Bengal shared the most among other states.

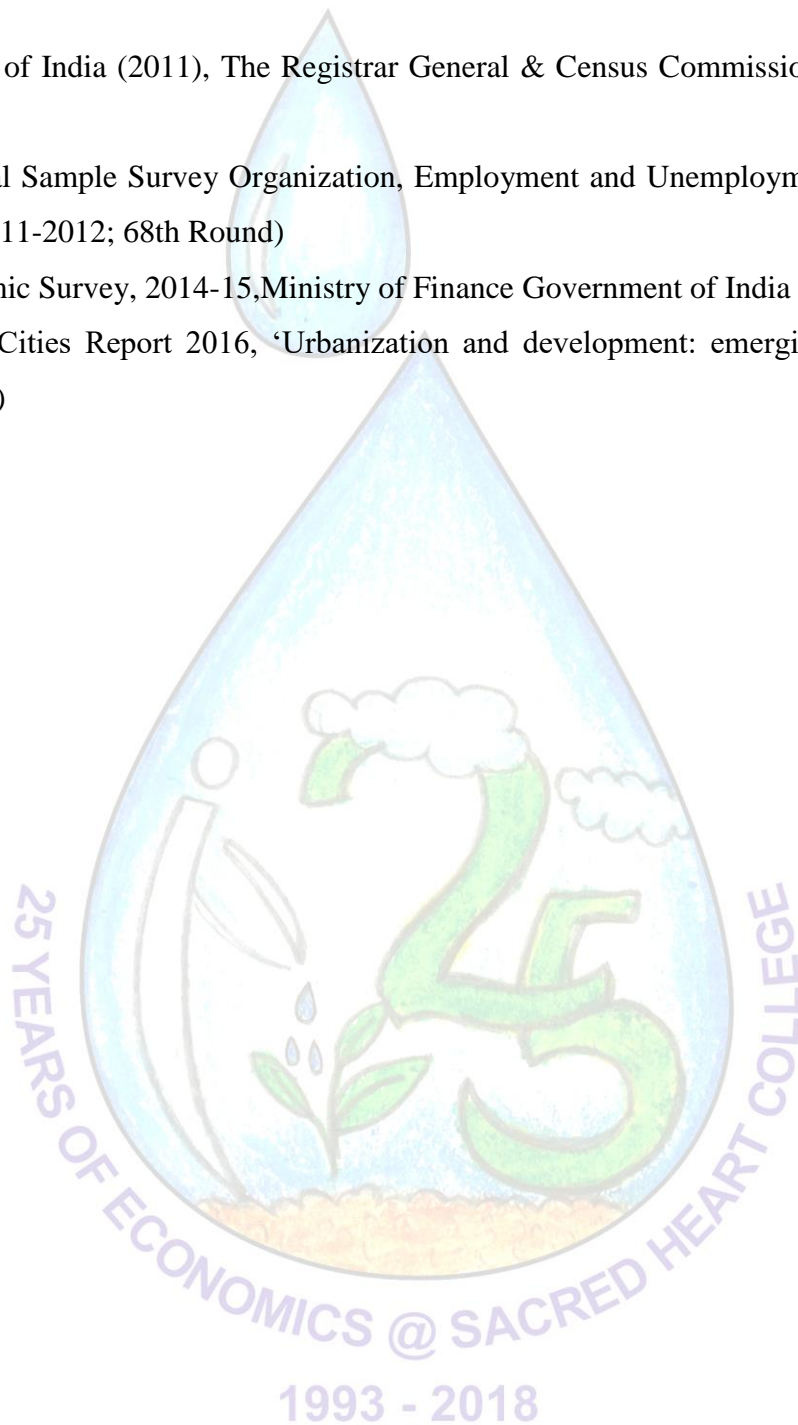
Conclusion

Urbanisation is practically continuously an outcome of economic growth and when properly achieved, can fuel extra growth, innovation and enterprise. The economic development of India involves economic growth. Economic growth and employment status of the country was not satisfactory to achieve a balanced urbanisation. Cities are considered as engines of growth because there is a bi-directional connection between urbanization and growth. Great evolution has been made in developing the framework for reform linked investment in urban infrastructure. Given the very difficult employment condition in India, industrial location linked incentives prerequisite to boost labour use. It may be desirable to plan new programmes and schemes to subsidize employment effectively through training of labour, provision of good facilities etc. India's future urban approach should identify these modifications and plan accordingly. It should be made to improve the quality of life of urban population with environment friendly schemes and programmes.

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MICRO FINANCE AND THE NEW MODI GOVERNMENT

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Abstract

Micro Finance is often defined as the financial services for poor and low income clients offered by different types of service providers. These service providers are often known as Micro Finance Institutions. Microfinance is a way to promote economic development and financial inclusion in the country. As per NSSO Survey of 2013, there are about 5.77crore small business units in India. Today MFIs are unregulated and without financial support or cover from the organized financial banking system. On 8th April 2015, the new government announces Micro Units Development and Refinance Agency (MUDRA) Bank to regulate and refinance all microfinance institutions. MUDRA Bank will provide credit of up to Rs 10lakh to small entrepreneurs. Big industrial houses provide jobs to only 1.25crore people, while small entrepreneurs employ 12 crore people. MUDRA Bank aims to fund the unfunded small entrepreneurs; need to strengthen the saving habits in the country.

Introduction

Micro Finance is often defined as the financial services for poor and low income clients offered by different types of service providers. These service providers are often known as Micro Finance Institutions. These institutions deliver very small loans to unsalaried borrowers, taking little or no collateral. Services offered by the MFIs include credit facility, saving accounts, money transfers, remittances, insurance and even investment. Access to financial services is a constraint for the poor. With the help of MFIs the poor can save and use a wide range of financial services. Through the activities of MFIs poor people are also capable for generate income, manage assets and improve their lives.

For most of us microfinance means providing very poor families with very small loans (micro-credit) to help them in engage in productive activities. Micro finance is a source of financial services for entrepreneurs and small business lacking access to banking and related services. There are two main mechanisms for the delivery of financial services to such clients:(1) Relationship based banking for individual entrepreneurs and small business, (2)

Group based models where several entrepreneurs come together to apply for loans and other services as a group.

To some of them, microfinance is used to describe the supply of financial services to low income employees, which is similar to the retail finance model prevalent in mainstream banking. For others, microfinance is a movement whose object is “a world in which as many poor and near poor households as possible have permanent access to an appropriate range of high quality financial services, including not just credit but also savings, insurance and fund transfers. Many of those who promote microfinance generally believe that such access will help poor people out of poverty. Microfinance is a way to promote economic development, employment and growth through the support of micro-entrepreneurs and small business. Microfinance institutions enhance financial inclusion.

The history of micro financing can be traced back as far as the middle of the 1800s, when Lysander Spooner was writing about the benefits of small credits to entrepreneurs and farmers as a way of getting the people out of poverty. Independently of Spooner, Friedrich Wilhelm Raiffeisen founded the first cooperative lending banks to support farmers in rural Germany. The modern use of Micro financing has roots in the 1970s when organizations such as Grameen Bank of Bangladesh with the microfinance pioneer Muhammad Yunus were starting and shaping the modern industry of micro financing. Another pioneer in this sector is Akhtar Hameed Khan.

The National Bank for Agriculture and Rural Development (NABARD) started the concept of microfinance in India. Under this mechanism, there exists a link between Self Help Groups (SHGs), NGOs and Banks. SHGs are formed and nurtured by NGOs and only after accomplishing a certain level of maturity in terms of their internal thrift and credit operations are they entitled to seek credit from the banks. There is an involvement from the concerned NGO before and after the SHG-Bank Linkage. From 1992 onwards this SHG-Bank linkage programme exist in India and it involves commercial banks, regional rural banks and cooperative banks in its operations.

Key features of the microfinance are loans to those people who live below the poverty line, loan given without any security, prefer saving over borrowing, smaller short term loans, cost covering interest rates, group appraisal and guarantee, prefer women customers over men, members of SHGs may benefit from microfinance.

Micro finance development at the global level

Since 1976, the Grameen Bank has grown to include more than 5.5 million members with more than \$5.2 billion in disbursed loans. Microfinance has spread to cover five continents and numerous countries. Microfinance institutions have also begun to seek out public and international financing, increasing their working capital and expanding the scope of their operations. Microfinance institutions have become more efficient, increased their client base and expanding their services through different products such as micro-savings, flexible loan repayment and insurance. On an overall perspective microfinance has immense potentiality with 3 billion people.

Microfinance and the Indian economy

Microfinance has started in India in early 1980's with an effort to forming informal Small Help Group (SHG) to provide access of financial services to the needy. NABARD and SIDBI are devoting their financial resources and time towards the development of microfinance. The strength of microfinance sector lies in the diversity of models, it has adopted including home grown models like microfinance institutions and SHG to other learnt models from various countries like Bangladesh, Thailand and Bulgaria.

UN Secretary General Kofi Annan states that microfinance recognizes that poor people are remarkable reservoirs of energy and knowledge. And while the lack of financial services is not just a sign of poverty, today, it is looked as an untapped opportunity to create markets, bring people in from the margins and give them the tools to help themselves. Laureate Milton Friedman states that the poor stay poor not because they are lazy, but because they have no access to capital.

Banks and lending institutions do not lend money to the low income individuals because of the high transaction cost of processing, lack of collateral, gap in the communication or lack of confidence in the banks about the repayment capacity and lack of access to financial infrastructure and services in remote areas. Microfinance provides a solution for all these problems.

Microfinance institutions emerged in need of meeting special goals to empower underprivileged class of society. The principles of microfinance are founded on the philosophy of cooperation and its central values of equality, equity and mutual self help. Microfinance institutions set up with a social mission of listen to the needs and constraints of the excluded and offer them adapted financial tools to empower themselves.

Present scenario in India

According to the report of World Bank, India falls under the low income class. It is the second populated country in the world and around 70% of its population lives in rural area. 60% of the population depend on agriculture, as a result there is chronic underemployment and low per capita income. This leads to poverty, low rate of education, low sex ratio exploitation and so on. According to the estimates of RBI, 51% of the low income household's possess only 10% of the total assets in India. This resulted in low production capacity both in agriculture and in manufacturing sector. Rural people have very low access to institutionalized credit from the commercial bank.

About 87% of the poorest households do not have access to credit. The demand for microcredit has been estimated at up to \$30 billion, but the supply is less than \$2.2 billion combined by all involved in this sector. From 1970's onwards microfinance has been in India in one form or the other and now it is widely accepted as an effective poverty alleviation strategy. Indian microfinance sector has been rated as one of the fastest growing sectors in the world. The major reason for this is that the participation of commercial banks.

In India microfinance is sought by small and marginal farmers, rural artisans and economically weaker sections. Women constitute a vast majority of users of micro credit and micro saving facilities. With the help of MFIs, women can create social and economic empowerment for themselves, their families and for their communities.

Need for Microfinance

According to the latest World Bank report, India is the home to almost one third of the world's poor. Even though, there are a lot of central and state government poverty alleviation programs are currently active in India, microfinance plays a major contributor to financial inclusion. Reports show that people who have taken microfinance have been able to increase their income and hence the standard of living. About half of the Indian population still doesn't have a saving bank account and they are deprived of all banking services. Microfinance institutions serve as a supplement to banks.

In India Microfinance operates through two channels: SHG-Bank Linkage Programme (SBLP) and Microfinance institutions (MFIs).

SHG-Bank Linkage Programme

This microfinance channel was initiated by NABARD in 1992. Under The SHG model the members are encouraged to form groups of around 10-15. The members contribute their

savings in the group periodically and from these savings small loans are provided to the members. In the later period these SHGs are provided with bank loans generally for income generation purpose, Recovery of loans are made from the members and new loans are disbursed.

Micro-finance institutions (MFIs)

A number of organizations with varied size and legal forms offer microfinance service. These institutions lend through the concept of Joint Liability Group(JLG).A JLG is an informal group comprising of 5 to 10 individual members who come together for the purpose of availing bank loans either individually or through the group mechanism against a mutual guarantee.

Problems faced by the MFIs

Financial illiteracy of the people, inability of MFIs to raise sufficient fund, inability of the microfinance institutions to increase the equity to get fresh loans from the banks are some of the important concerns in microfinance .Majority of the microfinance loans are disbursed on group lending concept and past record of the group plays an important role in getting new loans either through SHG-Bank Linkage or through MFIs. The two major problems with the group concepts are dropouts and migration. In absence of a decent past record, members are deprived of getting bigger loan amounts and additional services. Over indebtedness of the borrower is another problem with the MFIs.MFIs charges high interest rates to the poorest clients, which contradicts with the social aspect of microfinance. Ambiguity in the pricing by MFIs is inviting regulatory bodies to implement strict measures like interest rate caps. Interest rate cap may encourage MFIs to look for clients with larger loan requirements. This may deprive the clients with smaller loan requirements who are supposed to be the actual beneficiary of microfinance.

Microfinance and the New Modi Government

Narendra Modi ministry took charge on office on 26th May 2014. His cabinet is based on the principle of minimum government and maximum governance. Modi's ministry constitute the 16th Loksabha.Since the time he has taken office, different programmes are announced for the development of the country. Some of the programmes are: Digital India, Pradhan Mantri Jan Dhan Yojana, Swachh Bharat Abhiyan, Make in India, Saansad Adarsh Gram Yojana, Atal Pension Yojana, Pradhan Mantri Awas Yojana, MUDRA Bank Yojana

Managing Director, Jayashree Vyas of SEWA Bank pointed out that there are five issues that needed to be addressed by the new Modi government in the microfinance sector for financial inclusion:

1. Improve the availability of resources from banks for medium and small micro finance organizations.
2. Thrust to small banks for women and to women cooperative banks.
3. Pass the microfinance bill.
4. Need better coordination among regulators on matters relating to micro-pension, micro-investments, and micro-savings and addressing other lifecycle needs of the poor.
5. Create a separate National Institute for Financial Education.

MUDRA Bank Yojana

As per NSSO Survey of 2013, there are about 5.77crore small business units in India. The potential to nurture this micro business is vast and the government recognizes this. Today MFIs are unregulated and without financial support or cover from the organized financial banking system. On 8th April 2015, the new government announces Micro Units Development and Refinance Agency (MUDRA) Bank to regulate and refinance all microfinance institutions. The bank would partner with state level or regional level coordinators to provide finance to Last Mile Financer of small /micro business enterprises.

Narendra Modi launched MUDRA Bank under Pradhan Mantri Jan Dhan Yojana. This will provide credit of up to Rs 10lakh to small entrepreneurs. Big industrial houses provide jobs to only 1.25crore people, while small entrepreneurs employ 12 crore people. MUDRA Bank aims to fund the unfunded small entrepreneurs; need to strengthen the saving habits in the country.

Objectives of MUDRA Bank

The principal objective of the MUDRA Bank is:

1. Regulate the lender and the borrower of microfinance and bring stability to the microfinance system through regulation and inclusive participation.
2. Extend finance and credit support to microfinance institutions and agencies that lend money to small business, retailers, self-help groups and individuals.
3. Register all MFIs and introduce a system of performance rating and accreditation for the first time. This will help last- mile borrowers of finance to evaluate and approach

the MFI that meets their requirement best and whose past record is most satisfactory. This will also introduce an element of competitiveness among the MFIs. The ultimate beneficiary will be the borrower.

4. Provide structured guidelines for the borrowers to follow to avoid failure of business or take corrective steps in time. MUDRA will help in laying down guidelines or acceptable procedures to be followed by the lenders to recover money in cases of default.
5. Develop the standardized covenants that will form the backbone of the last-mile business in future.
6. Offer A Credit Guarantee Scheme for providing guarantees to loans being offered to micro business.
7. Introduce appropriate technologies to assist in the process of efficient lending, borrowing and monitoring of distributed capital.
8. Build a suitable framework under the Pradhan Mantri Mudra Yojana for developing an efficient last-mile credit delivery system to small and micro business.

Product offerings of MUDRA Bank

Finance minister, Arun Jaitley of the new Modi government had proposed MUDRA Bank with a corpus of Rs.20,000 crore, and credit guarantee corpus of Rs.3000 crore. MUDRA has rightly classified the borrowers into three segments: The starters, the mid-stage finance seekers and the next level growth seekers. MUDRA Bank schemes under this umbrella have been named 'Shishu' 'Kishore' and 'Tarun' to signify the stages of growth/development and funding needs of the beneficiary micro unit/entrepreneur. Shishu would cover loans up to Rs.50,000, while Kishore above Rs.50,000 and up to Rs.5 lakh. Tarun category will cover loans of above Rs.5 lakh and up to Rs.10 lakh.

Initially, sector specific schemes will be confined to land, transport, community social and personal services, and food product and textile product sectors. Over a period of time, new schemes will be launched to encompass more sectors. Some of the offerings planned for the future were MUDRA card, Portfolio Credit Guarantee and Credit Enhancement.

Conclusion

To conclude, in order to raise the Indian economy to a developed one, financial inclusion is must. The new Modi government introduces a variety of programmes for financial inclusion and to the upliftment of the Indian economy to a developed one. Majority of Indians are poor

and live in rural and interior parts of India. Most of them are excluded from getting facilities that would be termed very basic, even by the Indian standards.

Most people do not have access to farmland and in the absence of jobs, are left to their own creativity to feed themselves and survive. It is to be noted that most of the micro enterprises are controlled by women, with no exposure to education, formal training or access to any form of banking support. If India could offer some guidance, support, training and financial assistance to them, there is a potential to get an immediate increase in GDP.

If MUDRA can continue to retain focus on the underprivileged and extend its reach to the interiors, it can emerge as a bigger success story than the Grameen Bank of Bangladesh.

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*Celebrating 25 years of Economics
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ENVIRONMENTAL RACISM IN NORTH CAROLINA – SEES GREEN LIGHT ON**Latha N.K**

Freelance researcher

I would use the word “*Oppression/Environmental Racism against the “black”; “prejudice with political power”; “they are privileged by birth or acquisition, they exploit and reap the unfair advantage of us, they set the ‘norms’, they exercise power”* – an outburst of anger, discomfort and unease were shown clearly in the face of Adam Turner, an African-American who i met recently during a seminar in a European country.

Adam Turner is a victim of Environmental Racism in North Carolina. Though he found to be hesitant first, but he gradually felt comfortable with to talk to me (one with the same ‘black colour’, but with a different origin).

I have never heard of the term ‘Environmental Racism’ until then. My curiosity insisted him to talk more about it. During the short span of time which i had with him, i tried to understand what he and the people of minorities have been facing in their native country.

Many questions flashed into my mind at the time..... Is it a kind of oppression?..... Is it called discrimination?..... Is it an environmental injustice?..... Is it due to the lack of social/ political or economic concern?..... Or a combination of these factors?

People, in this ever changing world, always associate the environment with issues such as air and water pollution, industrial waste and climate change. But there are more insidious causes of environmental damage that affects the human beings in all facets of life.

When we think of Adam Turner’s country, the United States, “Race” has been a major line of its society since the colonial era, where the people of colour were excluded from the decision-making role in the political system throughout United States government. The African-American history of segregation also gives us a clear view of how most racial minorities have been treated throughout the history. 1993 - 2018

Prior to our analysis on the Environmental racism, we need to think of the unequal treatment given to the people of colour and low income who are forced to locate at the south of the America, as well as the inequitable distribution of hazards in these locations. These racial minorities include African-American, Chinese-American, Indian-American and Native American. These segregated communities have low access to schools, employment and good housing.

Similarly, environmental hazards are inequitably distributed in the United States, with poor people and people of colour bearing a greater share of pollution than richer and white people. Cases of environmental racism has been documented around the world, with one of the first high-profile cases occurring in the 1980s in Warren County, North Carolina, when a hazardous waste landfill was constructed in the small, predominately African-American community. In many situations, inexpensive land combined with a community's perceived lack of power to resist, leads industry to build environmental hazards in such communities.

In 1987, the United Church of Christ's Commission for Racial Justice released the first National Report which comprehensively documented the presence of hazardous waste in racial and ethnic communities throughout the United States. It underlines that the hazardous waste facilities were disproportionately located in minority communities and called this unequal vulnerability "a form of racism".

The phenomenon of environmental racism gained unprecedented recognition when President Clinton signed an Executive Order on Environmental Justice in 1994. It resulted in a remarkable rise in grassroots activism communities across the country, fighting for their health, quality of life and for environmental justice. But, the activists were actually not able to protest against it due to the political power exercised by the dominant group of the country. Thus, environmental racism is a phenomenon that racial minorities live in closer proximity to certain contaminations at which substances occur at concentrations above background levels and pose or are likely to pose an immediate or long term hazard to human health or the environment, or exceeding levels specified in policies and regulations.

The environmental racist issues emerges when a site/area where poorer residents are inhabited becomes the site of many of the city's industrial facilities, dumping of garbage and hazardous waste, soil contamination, housing etc. The dominant groups/ White Americans/ those who are exercising power find these sites/areas as with little or of no economic benefit. Hence, the host communities has to bear different kinds of environmental burdens such as human or ecological health risks, pollution spills and, explosion associated with facilities like landfills and incinerators.

Over the past years, a number of research studies also outlined the problem of racism that hinders the people of certain counties and emphasis the need to make a remarkable change in the legislative policies and programmes.

Adam Turner, sympathetically, told that the government refused to take action at the beginning in his Duplin County. He and his community felt that the government conveniently neglected them as the community was poorer, but would have taken measures if occurred in a wealthier neighbourhood. The industries were allowed to degrade our environment and our lives.

In Duplin County, the communities suffered as a result of their proximity to animal feeding operations and that is only being aggravated by the fallout of Hurricane Florence in September 2018. Duplin County is the same county that happens to be the center of litigation involving hundreds of African-Americans and the hundreds more hog farms located in their vicinity. Murphy-Brown, the hog production division of Smithfield Farms were sued by the Civil Rights Attorneys in 2015 for their failure to properly regulate and control the toxic odorous emissions coming from the farms and hog-feces lagoons.

A recent study found that communities in south-eastern North Carolina, where Duplin County is located in close proximity to hog Concentrated Animal Feeding Operations (CAFOs) are characterised by poor indicators of health such as high infant mortality rate, mortality due to anemia, kidney disease, tuberculosis, septicaemia along with the lowest life expectancy levels in the State. The black families, here, have caught blast of the actual pig manure from farmers spraying it on their fields as fertilisers.

The average number of hogs per farm in North Carolina is much higher than in the area with hog CAFOs in two other US leading in hog industry – the states of Iowa and Minnesota. As the population density in southeasters North Carolina is substantially higher than the other 2 states, the population of these communities adjacent to hog CAFOs is much greater. Hog Farms, here, produce 10 billion gallons of untreated toxic waste each year – and much of this ends up in the state’s waterways and neighbouring fields.

These residents may also be at risk as they are chronically exposed to contaminants from land-applied wastes and their overland flows, leaking lagoons and pit-buried hog-bodies, as well as, airborne emissions resulting is higher risks of above-mentioned diseases. Besides, the communities reported significant health risks including higher risks of bacterial infections, higher frequencies of symptoms of respiratory and neurological disorders and depression.

There are a number of legal proceedings (26 by the second quarter of 2018) that have been filed by the residents against the pig farms, but courts have decided only 3 of them. From the beginning, the appeals have been nothing more than a money grab by a big litigation

machine. The pork and farm industries were successful in lobbying the state legislators to pass legislation that not only limits the punitive damages from these appeals, but also limited when appeals can be filed at all against the agricultural industry in the future. These industrial operations have evaded through inspection for decades. Moreover, black Duplin community members say that they've had to defend from harassment and threats from the farmers and the pork companies who support these farmers.

Hurricane Florence of September 2018 made a widespread devastation to North Carolina – at least 21 of the open-air pig-feces lagoons were overtopped and spilled over to the communities. Duplin is one of the areas throughout the Carolinas where people of colour, and African-Americans in particular, have wrestled for many decades with questions of: why they are deprived of clean air and water; why they need to demand the government to invest in those infrastructure that can protect them from disasters; why the relief measures are slow or disregard our rights to benefit; and why the government officials won't acknowledge the racism found in environmental policies.

The disaster-prone communities were not necessarily the places where people wanted to live, but where they were forced to settle because of racism. Later, these areas turned to be a marshy, low-lying lands that were more vulnerable to flooding, or terrains that became vulnerable by placing pollution-spreading facilities around them. Hence, discussions, laws and regulations should be focused not based on “place”, but rather “where these racist communities were placed”.

According to a Title VI Civil Rights Act complaint filed in 2014 shows that the proportion of African-American alone are 1.5 times more likely to live within 3 miles of a Swine farm than the White North Carolinians are.

The argument is this that the residents in the Duplin County of North Carolina had owned and settled the land well before the first hog farm got there. Their ancestors didn't have a choice about the place to be located to, due to the then prevailed laws, but the hog farms had other options to establish their farms. And the farmers chose to locate near black communities, with the state's permission (similar to the “Flint Water Crisis”). One may arise a question: What responsibility do government agencies have to environmental justice communities? It is critical to ask this in the climate change era, where natural calamities like hurricanes and floods are seemed to occur more frequently and furiously.

Even though efforts had been made to answer this question through legislation, Devon Hall (Programme Manager for the Rural Empowerment Association for Community Help) expressed his disappointment and concern saying that he doesn't believe that those appeals will be enough to change the behaviour of the hog industry, coal-ash ponds and industry logging that concentrated in the same communities, nor the climate change-denying North Carolina state legislature. He is hoping that the federal Title VI Civil Rights complaint will serve as a better enforcer. So when we see the impacts of climate change, like Hurricane Florence, these communities are much lower to recover because of the extraction industries that already exist. Massive increase in clear cutting of wetlands (by the biomass industries), which are the natural flood protections for these communities, make it even more difficult to rebound and be more resilient.

These communities have constantly been under threat of natural calamities – Hurricane Matthew in October 2016 and Hurricane Florence in September 2018 – apart from other environmental hazards. Most of these places had barely recovered from Hurricane Matthew. The underlying reason for the slow recovery, in Muhammad's (North Carolina Environmental Justice Network leader) words, is this that the state's recovery/relief efforts for Hurricane Matthew were very "disrespectful" towards the black families living in the most heavily affected areas. She added that the relief agencies just dumped the goods brought in piles that made the people sift through it. Muhammad added that "they set up distribution centers to sort out the materials out and grouped it in categories so that people could easily access what they needed without feeling like scavengers".

The North Carolina environmental Justice Agencies banded together in evacuation processes ahead of Hurricane Florence in 2018 and recovery/relief efforts afterwards. They ensured that the federal and philanthropic funding don't get channelled directly to the non-governmental organisations that have let the vulnerable populations down in the past. They are making significant efforts in fighting to sustain the communities across North Carolina by ensuring that they aren't permanently taken off the country map.

The story of North Carolina illustrates how Adam Turner and the black communities have been living with environmental hazards over the past years.

At last, discussions with the government agencies, environmental authorities and many other efforts seemed to show the green light of hope to these communities. Hopefully the recent

developments may help the upliftment of these black racial communities in different aspects, especially by ensuring a safe place to live in.

December 2018 turned out to be a great month for the North Carolinians as it marked 2 concrete things which assured the black communities a safer place to live in. Firstly, the black communities who had been bearing the adverse impacts of hog farms won their fourth appeal this year against Murphy-Brown, the subsidiary of the world's largest pork producer located in North Carolina. The company has been forced to compensate half a billion dollars in damage to these affected residents. Besides, the environmental groups are demanding stringent regulations in allowing industrial permits, for the closure of illegal contractors, stronger enforcement of laws to make operations are complying and for the appointment of more inspectors to carry out frequent and stricter inspections of the industrial operations.

Secondly, in a signing ceremony at the White House, the national President Donald Trump called the Council a “very big thing” and said that the council will help utilise government resources to rebuild “impoverished neighbourhood, that have been ignored by Washington in years past.”

52 million Americans live in economically distressed communities. Despite the growing national economy, these communities are plagued by high poverty levels, failing schools, scarcity of jobs and high health and life risks. A senior White House official said that the council will be tasked with helping to engage with members of government at all levels about how to use funds to boost low-income communities nation-wide.

Let's hope that the new Executive Order signed in December 2018, signed by the US President Donald Trump aiming at revitalising economically distressed communities will help the most impacted communities – people of low-income and that of colour - to gain access to schools, to obtain employment, to breath clean air, drink clean water and not to get sick when they step outside, thus mitigating and gradually eradicating the high health and life risks.

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1993 - 2018

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**WOMEN WORKERS IN INFORMAL SECTOR; WITH SPECIAL REFERENCE TO
TEXTILE SHOPS IN KERALA**

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Introduction

Unorganised or informal sector constitutes a pivotal part of the Indian economy. Informal employment is generally a larger source of employment for women than for men in the developing world. Other than in North Africa where 43 per cent of women workers are in informal employment, 60 per cent or more of women workers in the developing world are in informal employment(outside agriculture). In sub-Saharan Africa 84 per cent of women non-agricultural workers; in Latin America 58 per cent for women in comparison to 48 percent for men. In Asia, the proportion of women and men non-agricultural workers in informal employment is roughly equivalent to Women and Men in the Informal Economy.

Many studies have contributed to the general thought that the informal economy is not a homogeneous phenomenon, but a very diversified one. The informal sector was characterized by marginality and poverty. In addition, this sector with residual characteristics was considered to be a source of unproductive labour. Over the years, informal sector contributed significantly and expanded rapidly in the Indian economy. In case of India, out of the total workforce, 86.36 percent of the workers in 1999- 00 and 86.32 percent of the workers in (2004-05) were absorbed in informal sector. In addition, informal sector is contributory for national output in primary, secondary and tertiary sectors, and exports. Generally the workers in the informal sector are not keen to take up membership of trade unions due to casual and seasonal nature of employment and scattered location of enterprises. Low income, irregular employment, and lack of social security provision are the characteristics of this sector.

State of the women in the textile sales sector is very underprivileged in Kerala. Exploitation is very acute in this field. The labour is unstable and irregular. Even existing laws are being always violated. A cardinal feature of the labour laws is that all the enactments pertaining to social security, welfare, safety and working conditions and the like, is based on the presumption of an employer-employee relationship. In a situation where unemployment is

high and alternative job opportunities are few, any attempts to bargain for better conditions leads to the replacement of the still existing job. The fear of having no work and no income restrain the workers from asserting their legal rights. In this context it is very important to study the condition of women in the textile sale sector of Kerala.

Objectives of the study

- To bring out the working condition of women in the informal or unorganized sector in Kerala.
- To find out the depth of gender discrimination and exploitation in the textile sales sector.

Importance of the study

The present study has got great relevance since it analyses the working condition of women in informal or unorganized sector in Kerala. And it helps to find out the gender discrimination and exploitation against women especially in the textile sales sector. Exploitation is very acute in this field. The labour is unstable and irregular. Even existing laws are being always violated. Therefore, this study is very relevant based on the above mentioned facts.

Working conditions

Women are not provided with adequate space for taking food and rest. They are not provided with toilets. Either they have to depend the nearby places or they have to postpone it to the time after reaching home. Women working in the shopping complexes are a bit lucky in this regard. The shopping complexes are provided with toilet facility in each floor. Women in this field are not getting service benefits as and when they quit the field. The women in this field are getting a nominal increment as per the whims and fancies of the owner. The facility of provident fund and insurance is limited to two percent. Bachelor male employees are provided with the residential facilities while women are deprived of this. Men in the field are getting lunch breaks and other breaks while women are not getting this advantage. 97% of the women are taking the lunch from whatever limited space they have in the shop and also that too in the working hours. Some of them have the work schedule extending from 8 o'clock in the morning to 8'o clock in the evening, including the time for their journey. Many of them have to work even in the holidays including Sundays. Moreover they are not bold enough to respond to an outsider on their personal and service related matters since they are of the fear that this may lead to the deprivation of the still existing small job.

Gender Discrimination and Exploitation in the field

Wages: As per the Minimum Wages Act, the employees are eligible to get certain minimum wage . As per the existing law increment is not a must. The Minimum Wages Act is silent about the yearly increment. The employers are not ready to give even the provisions in the law. The lacuna of the law will be a blessing for them. So the women are not sure about getting increment as the year passes. The working hours as per the act is 8 hours per day but all of the employees are working more than this. The Minimum Wages eligible for them in 2000 as per the Minimum Wages Act is Rs 2166.

Future in the field: Very few are getting any other job after quitting this job. There is no surety of getting a better job or even any job as per their experience. These work force are seldom considered as a work force. The income they get are to give support to their family or otherwise their family cannot survive without their income. Their future is related to the status they have in the society. Society is silent about their contribution and also about the family. At the same time they are doing very hard work for their family as well as for the society. The variable, age is a controlling factor here. Even though experience is a qualifying factor for the job, age is a disqualification. This is a paradox .How can we attain experience without spending some time? The time constitutes years and then age. In the case of male it is different. In this case experience enhances the quality and it is directly proportional to the wages. The gender difference of the society looks for under aged girls for their work. But the experienced male get the preferences of experience. None of the employees are getting any kind of appointment order or contract order get signed as a sign of employment. They are not in a position to raise voice against their denial of job or termination of any kind. In no way they are having any kind of legal status for their employment. Labour department is also silently supporting this illegal system of operation. They are not keeping their register annually. There is no continuity in it. No identity marks or bio data is needed for verification by the Labour Department. It seems only an eye wash to the system. Owners of the shops are expert violators of the existing system. The existing system has a lot of limitation even then it is not properly followed.

Gender issues: A lot of gender issues are rampant in this field. The name of the job itself is expressing it very strongly. The male counterpart called as salesman but not sales boy. That denotes the gender discrimination .The job is only for the girls, that the job is restricted to a certain age. While in the case of male it is not restricted only to the adolescent age. In the case of male, experience is an additional qualification while for female it is a disqualification.

The female gender in this field is projected as an attraction, but not a qualification. Always they are lower paid. Working time of women extends from 8 to 11 hours while for men it does not vary so much and it is 8 hours. Men are taking small leisure time for taking tea, smoking and chitchat. But women are not entitled for any such leisure. Even when women request for it they will not get it. Women going out for taking tea are considered as a bad woman. No shopkeeper wants to keep a bad woman in his shop. Women are not allowed to sit in the shop during working hours since it is not a good sign, while men can sit whenever he wants without disturbing the working atmosphere. But sales women sitting in shop is symbol of arrogance that will not be acceptable to customers. If any customer harasses or misbehaves to a sales woman she cannot even resist because that also will affect the business. She has to suffer it silently. It is part of the business. Marriage is a disqualification for women. But for men it is not so. That is a personal choice. Man is thus considered as an individual working in the field, whereas woman is not considered so. The closed circuit T.V. installed inside the shop is intended to watch the sales women also. Always they are watched by many higher men. It may be a boss or a colleague, but definitely a man!

Insecurity: Many women working in this field expressed their insecurity not only during their work but also in their life as a whole. They are exploited by the fellow male workers, owners, as well as by the customers. The women are not ready to complain with any of the formal bodies since they may lose their job due to this complaint. They feel that any of their colleagues or their friends and family members will not support them in such a critical situation. So they will not lodge a complaint in any of the available forums. It is reported that some of them left the job due to the exploitative behavior of the shop owner and joined another shop with much lower wage. They are not in a position to express what is happening to them not only during the working hours but also during way, to and back to the workplace. Some of local scoundrels will wait in some turnings to pester them in the late evenings. They come on motorbikes. Most of their families know this. But none of them are ready to interfere. We can see the pale, scared faces of women working in the textile sales sector in the late evenings in the city bus stand. They feel that they are the most powerless people and they can be attacked from anywhere. They are not confident to get any support from anywhere. This powerlessness and insecurity grabs their life as a whole. They assume themselves as most unwanted beings in the world. They have nothing to enjoy any outings such as viewing films as that will affect their career. It will raise the eyebrows of the owner if it seen by him or known to him. The family members such as brothers and fathers knew that

these girls are getting harassed in various manners . Even then they cannot protect them since they are not in a position to support them on their own. Almost all the women in the textile sale sector are residing in the periphery of the city. They have to depend the heavy rushed vehicle for their journey. Their homes are far away from the bus stops. So they have to walk at least 2 kilometers every day. In some cases it even goes up to 5 kilometers. They will not get houses for cheap rent in these areas. They have to stay in the city to do the job. This also increases their vulnerability. If some customers had gone without buying anything from the shop that blame will also fall upon the woman in charge. If the business is going very well no credit is given to her. She is never considered as a potential worker.

Insensitivity of trade unions: Trade unions are inactive and insensitive in this sector. No trade unions are interested to form trade unions in this sector. When some problems arise regarding the rights of the workers trade unions came as a mediator from the side of the employer. This is because of the gender of the section. They all belong to women of the lower class and also they are all otherwise vote banks, but not by profession. More over women in this sector are not getting chance to get organized or even to communicate their problems to anyone. Whenever a problem arises the owner himself is the only decision maker. He himself will decide the future of the woman. In almost all cases the decision will be the removal of the working woman from the job. No other incident is reported. The woman also finds it difficult to survive with a difference of opinion. In no way women working in this sector are conscious of their rights. This also is because of their unorganized nature. They are all having the opinion that organization in any form will result to the lose of their job. They also think that it is not needed. If it is put in another form they think that it is not possible to them to get organized. This is because of their lack of confidence. They have internalized the perception of their employer and in the other hand they have the fear of losing the existing job by getting organized. They have not any experience in interference of any social institutions or any organization on their behalf. So they are the prisoners of this mindset. For example they are not well aware of the Women's Commission. Many of them think that it is a forum for the solution of marital problems. They have not attended any women's right meeting or heard of that type of meetings. And also they have not read about it. They think they have nothing to do with that. Or it is not meant for people like them. They are placing them in a no rights situation. They are not having any social space at all, whether it is in the family or anywhere in the society. They are just working and getting the wages and giving to the family for their survival. Even then their role is not identified as that of a bread

winner even though they are doing it. Their status is also pathetic. No one is ready to recognize their contribution to the society. The family members are sharing the society's perception that because of their fault only they are getting tortured by others. The present value system does not allow the girls to travel in the late evenings even when she has to go for bread even in the late evenings. If the workforce is an organized one, the clash between the system and the workforce will be minimized. The social stigma can also be changed if this workforce is organized. The women who got many years service are not getting any advantage such as yearly increment and other service benefits enjoyed by the organized sector and the law permits. Now laws related to this sector are not being enforced well.

Knowledge about institutions: Only few of women have the knowledge about Kerala Women's Commission. They presume that it is meant to handle the cases of dowry killing and a kind of women police. All of them know that Smt. Sugatha Kumari is the chair person of the commission.

Health Issues:

Most of the women in the field complained about pain in the legs and also back pain. They seem to be very pale and unhealthy. They are not taking food properly. They are not getting enough time to take food. They are not provided with any space for taking food. They have to manage it on their own. Most of the women in this field are not provided with toilet facilities. Hence many of the women complained about urinary troubles. None of the women had approached Doctor for back pain and back pain but few percent of women approached Doctor for urinary complaints.

Schemes Implemented by the Government to protect the workers in this field

'Kerala Shops & Commercial Establishment Workers Welfare Fund Act - 2006'

The Government of Kerala promulgated the 'Kerala Shops & Commercial Establishment Workers Welfare Fund Act - 2006' to provide for the constitution of a "Fund" to promote the welfare and to pay pension to workers coming under the purview of the Kerala Shops & Commercial Establishments Act, 1960 and self employed persons. It came into force on 15th March 2007. The 'Kerala Shops & Commercial Establishments Workers Welfare Fund Scheme' framed under the above Act came into force on 15/3/2007 vide GO (Ms) No 29/2007/LBR dated 15/3/2007. The 'Kerala Shops & Commercial Establishments Workers Welfare Fund Board' has been constituted with Sri. C.K.Viswanathan, Secretary, Labour & Rehabilitation Department as Chairman of the Board and the scheme is being implemented

through this Board. The Hon'ble Minister for Labour & Excise, Sri P.K.Gurudasan, held the state level inauguration of the Scheme on 11/4/2007. The Act 2006 has been amended by the Kerala Shops and Commercial Welfare Fund (Amendment) Act 2008 (Act 5 of 2009) and published the same as Extra Ordinary Gazette No.37 dated 5th January 2009. As per the Amendment Act it is compulsory for all the establishments coming under shops and commercial establishments coming under the Shops and Commercial Establishments Act 1960, to enroll all their workers in the scheme. There is also provision incorporated in the Amendment Act for refund of contribution remitted by employees. As per the Amendment a worker who is a member of the Kerala Labour Welfare Fund Board and coming under the purview of the Kerala Shops and Commercial Establishment Act 1960 shall be a worker coming under the purview of this Act and shall cease to be a member of the Labour Welfare Fund Board and contribution to such workers need not be remitted to Labour Welfare Fund Board.

All the shops and commercial establishment should be completely registered under this act and rules. The registration application has to be made within 60 days from the date of commencement of the shops and commercial establishment. No employer in an establishment is not required to work for more than 8 hours in a day and 48 hours in a week. The period of work in an establishment each day shall be so fixed that no period shall exceed four hours and that no such person shall work for more than 4 hours before he has had an interval of rest of at least one hour. Every employee in an establishment shall be entitled after 12 months continuous service in that establishment.

Welfare Schemes and Benefits

- *Pension
- *Family Pension
- *Maternity Benefit
- *Financial Assistance for marriage
- *Payment of funeral Assistance
- *Medical Benefits
- *Educational Benefits
- *Payment of Death Benefit
- *Refund of Employees Contribution

Services offered

- * Providing day to day consultancy service pertaining to Shops and Commercial

Establishment Act.

- * Obtaining registration certificate and renewal of registration certificate.
- * Preparation and service of notice of change in name, business, office, and nature of business establishment.
- * Prepare and maintain all the above mentioned statutory registers.
- * Prepare and exhibit a notice in Form E specifying the day or days of the week on which the employ employed be given a holiday.
- * Maintenance of register of wages in the prescribed form.
- * Prepare and submission of returns in form H for the month of March, June, September, December before the labour officer.
- * Replying to the show cause notice issued by the labour officers.
- * Representing the establishment before the labour officer and appellate authorities

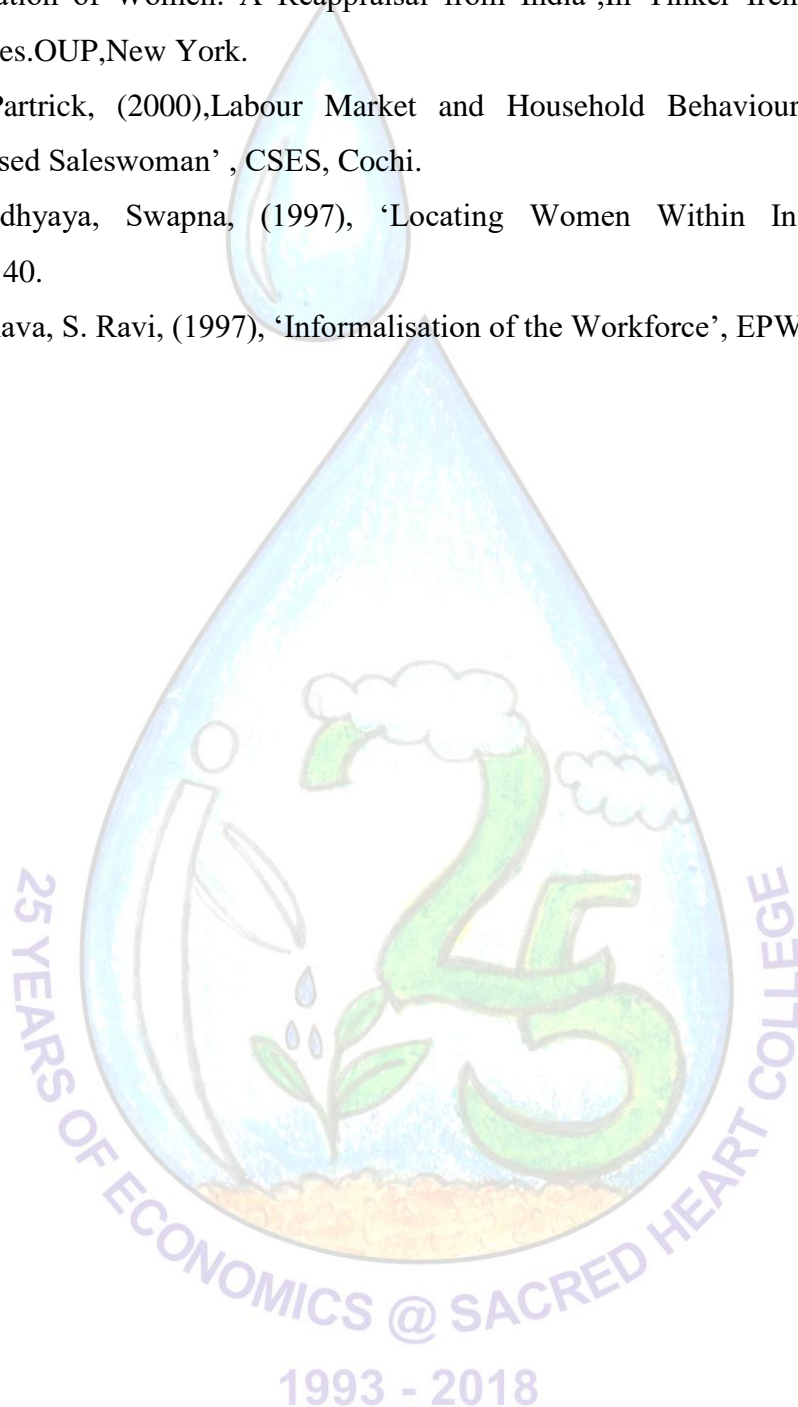
Conclusion

Women in the textile sales sector are working with very low wages. They are not getting any service benefits such as increment, leave, pension P.F, insurance. They are being exploited in many ways. They are all coming from the lower class family of the city suburbs. They are very much unorganized. No trade union is working in this field. Women in the textile sale sector are very insecure and they are being exploited very much. Society imposing its rigid value system upon them which naturally becomes a burden to them. It has to be changed. So we have to ensure them better service and living conditions. For that organizing them is a vital necessity.

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**A STUDY ON THE IMPACT OF RBI POLICY RATES ON INFLATION UNDER DR.
RAGHURAM G RAJAN'S TENURE**

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Abstract

One of the major thrust of the monetary policy is to reduce the annual inflation rate. Since the year 2009 the inflation in India has crossed historical records and reached to unprecedented levels and lying in the range of 9-14 %. The monetary authorities are striving hard to curb the inflation by adopting several monetary policy measures, the important amongst which are changes in CRR, repo and reverse repo rate, which directly influence the money supply in the market with immediate effect without creating any severe distortions in the economy. That is the reason, they are perceived to be the most appropriate by the monetary authorities to curb the existing inflation, and hence changed 16 times during the year 2009 to 2011. Over a period of time the repo and reverse repo rates set by the RBI have become a sort of signaling rates along with the bank rate and these rates provide a corridor for the call money market. Repo and reverse repo rates are also used as a part of Liquidity Adjustment pressure on marginal liquidity in the system. These rates constitute the interest rate corridor under Liquidity Adjustment Facility (LAF) and, hence, any variation in these rates is perceived by the market as short-term interest rate signal arising from change in the stance of the RBI when the bank rate has remained unchanged. Hence are taken as a part of the study.

Keywords: *Economy, Liquidity, Monetary Policy, Rates, RBI*

Introduction

Reserve Bank of India, the central bank, formulates, implements, and monitors the monetary policy of India. Established to maintain reserves with a view to securing monetary stability, RBI stood at the centre of India's Financial System. RBI acts as a banker and debt manager to central government and state governments and also plays the crucial role of banker to the banks. In addition to its traditional central banking functions, the Reserve Bank performs certain non-monetary functions of the nature of supervision of banks and promotion of sound banking in India. Infusion and absorption of liquidity on a daily basis is maintained by RBI

through Repo and Reverse Repo rates. Reverse repo rate is the rate at which the central bank of a country borrows money from commercial banks within the country. It is a monetary policy instrument which can be used to control the money supply in the country. Banks are always happy to lend money to Reserve Bank of India since their money is in the safe hands with good interest. Banks find it more attractive to have their money with the RBI when the reverse repo rate is increasing and hence money is drawn out of the system. Repo rate is the rate at which the central bank of a country lends money to commercial banks in the event of any shortfall of funds. Repo rate is used by monetary authorities to control inflation. Reduction in Repo rates helps the commercial banks to get money at a cheaper rate and increase in the Repo rate discourages the commercial banks to get money as the rate increases and becomes expensive.

Objective of the study

- ✓ To analyse the variations in repo and reverse repo rates on curbing the inflation in India under Dr. Rajan's period as RBI governor.
- ✓ To examine the major economic achievements of Dr. Rajan as an RBI governor.

Role of repo and reverse repo in an economy

To understand the impact of a cut in Repo and Reverse Repo Rates on banks, it is important to understand the role they play in banking. Repo and Reverse Repo are basically instruments used by the RBI to influence the total monetary base of banks.

To get a grip on this, it is important to understand how banks work and what the term *monetary base* means. Banks engage in a practice called Fractional Reserve Banking (FRB). Under FRB, a bank lends many multiples of the actual cash in hand. This cash they have is the monetary base. Clearly, any addition to the monetary base adds to the bank's ability to make loans by creating money from nothing.

In India, banks' monetary base takes two forms – CRR (Cash Reserve Ratio) and SLR (Statutory Liquidity Ratio). CRR is the amount of actual cash that banks need to hold with the RBI. SLR refers to the amount (by value) of approved securities (government bonds, gold and approved, privately issued financial instruments) that banks are mandated to hold. Together, they constitute the monetary base of the Indian banking system. However, what CRR and SLR do not cover is the extent to which the RBI can lend to banks. That is covered under the Repo and Reverse Repo.

In a *Repo* a *repurchase agreement*, the Repo seller (the bank) sells an approved security to the RBI with the understanding that at a certain date in the future, the bank will buy the security back from the RBI. The bank gets cash and the RBI the security. Very interestingly, during the term of the Repo, the bank is allowed to count the security thus sold to the RBI as part of its investments to fulfill the SLR requirement. So, the net effect of a Repo transaction is an addition to the bank's cash reserves without falling behind on SLR requirements. With this, the bank can now engage in much more lending. At the end of the term of a Repo, the bank buys the security back from the RBI at a price higher than the original sale price. The difference expressed as a percentage of the original sale price is the Repo Rate. Thus, Repo Rate is used to calculate the price at which the security is bought back by the bank. It is the equivalent of an interest paid by the bank to RBI.

It might seem that at the time the bank buys the security back, its cash reserve falls. However, the bank can then enter into a fresh Repo transaction and sell the security back to the RBI, bringing the cash reserve back to the higher level. In this manner, Repo becomes a means for the RBI to maintain a steady level of lending to banks. But all this additional lending would mean more purchases of securities to meet SLR requirements. This would mean the need to deploy cash for the same. That cash would go outside the system of lending and reduce the system's lending potential. This problem is solved by what is called the Reverse Repo.

In a Reverse Repo, the RBI sells an approved security to the bank with the understanding that it will buy it back at a future date at a higher price. The difference between the two prices expressed as a percentage of the original selling price (per annum) is called the Reverse Repo Rate. The Reverse Repo Rate thus becomes the interest rate received by the bank for lending cash to the RBI. The important point for us to note is that a bank may show securities bought from the RBI through the Reverse Repo window as part of its SLR commitments. Further, as in the case of the Repo, at the end of the term of the Reverse Repo, the bank can enter into a fresh Reverse Repo with the RBI.

State of the Indian economy when Dr. Rajan took his charge as the RBI Governor

On 4th August 2013 it was announced that Dr. Raghuram G Rajan would take over as the Reserve Bank of India Governor for a term of 3 years, succeeding Duvvuri Subbarao. On 5th September 2013 he took charge as the 23rd Governor of the Reserve Bank of India. As the governor of RBI, Rajan made curbing inflation his primary focus. When Dr. Rajan took office as RBI Governor India's retail inflation hovering at an eye-watering 10.70 per cent

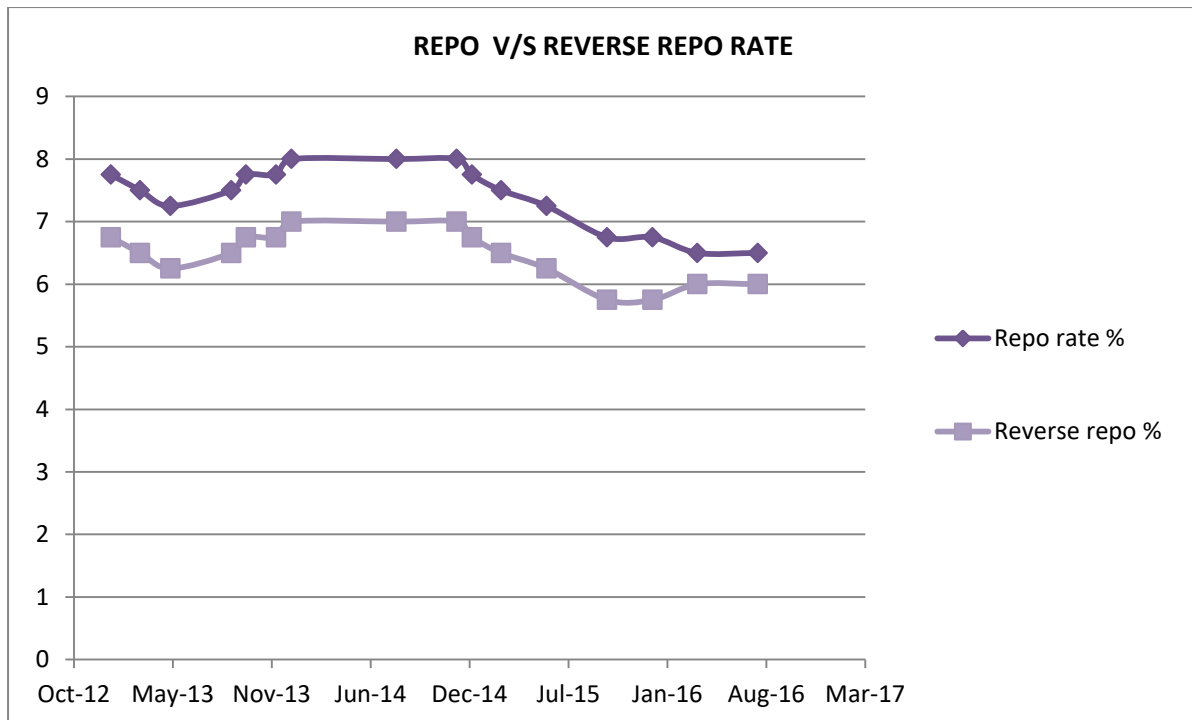
level. Two months before Rajan took office, the domestic currency had depreciated by a staggering 10.4 per cent as India faced its worst currency crisis in recent memory. Thus the rupee was in bad shape. When Dr. Rajan took over as the RBI chief in September 2013, the rupee was trading near a record low of 68.85 per dollar. Moreover India was battling double-digit inflation in 2013, which forced the central bank to keep interest rates high. Lending rate, or the rate of interest banks charge from borrowers, stood at 10.3 in September of 2013. By all means the growth of the Indian economy was anemic.

Repo rates and reverse repo rates under Dr. Raghuram Rajan

Following table shows the various repo and reverse repo rates from January 2013 to August 2016.

Repo rate %	Reverse repo %	Effective from
7.75	6.75	January 2013
7.50	6.50	March 2013
7.25	6.25	May 2013
7.50	6.50	September 2013
7.75	6.75	October 2013
7.75	6.75	December 2013
8.00	7.00	January 2014
8.00	7.00	August 2014
8.00	7.00	December 2014
7.75	6.75	January 2015
7.50	6.50	March 2015
7.25	6.25	June 2015
6.75	5.75	October 2015
6.75	5.75	January 2016
6.50	6.00	April 2016
6.50	6.00	August 2016

Source: www.inflation.eu



Source: www.inflation.eu

During the period 2013-2016 the rate of repo and reverse repo created a significant impact in the Indian economy. As an initial step Dr. Rajan increased the repo and reverse repo in October 2013 from 7.5 to 7.75 and 6.5 to 6.75 respectively. As inflationary pressure in the economy pushed the rates upward in the beginning of 2014, both repo and reverse repo had been increased by 0.25%. Moreover repo rate stood at 8% and reverse repo stood at 7% for the entire year 2014. Since July 2014, inflationary pressures (measured by changes in the consumer price index) have been easing. The path of inflation, while below the expected trajectory, has been consistent with the assessment of the balance of risks in the Reserve Bank's bi-monthly monetary policy statements. To some extent, lower than expected inflation has been enabled by the sharper than expected decline in prices of vegetables and fruits since September, ebbing price pressures in respect of cereals and the large fall in international commodity prices, particularly crude oil. Crude prices, barring geo-political shocks, are expected to remain low over the year. Weak demand conditions have also moderated inflation excluding food and fuel, especially in the reading for December. Finally, the government has reiterated its commitment to adhering to its fiscal deficit target. Thus smooth condition from January 2015 onwards the RBI Governor was ready to decrease the rates. Dr. Rajan presented his final monetary policy in August 2016 and kept policy rate unchanged at 6.50%.

Effects of various rates on inflation during Dr. Rajan's tenure

Inflation rate refers to a general rise in prices measured against a standard level of purchasing power. The most well-known measures of Inflation are the CPI which measures consumer prices, and the GDP deflator, which measures inflation in the whole of the domestic economy. From 1969 until 2010, the average inflation rate in India was 7.99 percent reaching an historical high of 34.68 percent in September of 1974 and a record low of -11.31 percent in May of 1976.

Let us see the average inflation rate in India as per the Consumer Price Index (CPI) from 2011 to 2016.

Average inflation India (CPI) by year	
Average Inflation	Inflation
CPI India 2011	8.87 %
CPI India 2012	9.30%
CPI India 2013	10.92 %
CPI India 2014	6.37 %
CPI India 2015	5.88 %
CPI India 2016	5.71 %

Source: www.inflation.eu

The current rise in inflation started from July 2009 (-0.62 per cent) from when it started to accelerate while the economy was still recovering from the significant global slowdown. From July 2009 it continued to show rising trends before reaching its recent peak of 14.86 percent in the month of April 2010. Thereafter, moderating for some time, it again accelerated in the last three months. Inflation for the month ending March 2011 stood at 8.82 percent. There were arguments that as a higher base effect factors in, inflation will moderate from the first quarter of the 2011. In the month of October 2011 again inflation reach to 10.06 percent on that time again RBI revised their rate. As a result of this now the inflation is declining. Thus the average inflation for the year 2011 stood at 8.87 percent. But the situation was again worst in 2013. In September 2013 the inflation rate was unmanageable with an ever threatening rate of 10.7. Higher inflation is not the only factor that is disturbing but it is also its stickiness that is frustrating.

It was a challenge to the new RBI Governor, Dr. Rajan, to curb the inflation and smooth the economy. The immediate action was an increase in the repo and reverse repo by 0.25 percent, i.e., revised repo and reverse repo were 7.75 and 6.75 respectively. As a result there was a sharp decline in the average inflation from 10.92 percent in 2013 to 6.37 percent in 2014. Further reduction in repo rate to 6.75 and reverse repo to 5.75 lead to a favorable inflation rate of 5.88 percent in 2015. Rajan faced a lot of criticism on this RBI measures. But as a strategic move Dr. Rajan again curtailed the repo and reverse repo to 6.5 and 6.00 percent respectively in April 2016 and maintained the same rates until his retirement on 5 September 2016. Then average rate of inflation stood at 5.71 percent in 2016. The current inflationary situation is way above the central bank's comfort zone of 5-6 percent.

Here is the summary how Dr. Rajan fared on seven key parameters during his tenure.

Parameter	September 2013	August 2016
CPI Inflation	10.70%	5.71%
Repo rate	7.50%	6.50%
Rupee	68.85	66.83
Lending Rate	10.3	9.3
Nifty50	5,680	8,711
Current Account Deficit (CAD)	4.10%	.10%
Gross Non Performing Assets (NPAs)	Rs 2.52 lakh crore	Rs 5.94 lakh crore

Source: www.tradingeconomics.com

Conclusion

When Dr. Rajan took over as the RBI chief in September 2013, the rupee was trading near a record low of 68.85 per dollar. But within days of him assuming charge of the RBI, the rupee staged a remarkable comeback. Moreover India was battling double-digit inflation in 2013, which forced the central bank to keep interest rates high. Dr. Rajan also increased rates when he took over to tackle the menace of inflation, but sustained policy focus helped the RBI bring inflation to below 5 per cent. Under Dr. Rajan, a new monetary framework that focused on bringing inflation down was formalized. When Dr. Rajan took over as RBI chief, India was reeling under high fiscal and current account deficits in a slowing economy. India was then clubbed with "Fragile Five" countries, a term used for countries with high inflation,

currency volatility and weak growth. When he was leaving, India became the fastest-growing big economy in the world. Lower inflation and stability in the currency markets has helped Dr. Rajan bring down the key repo rate to a five-year low. After initially raising nominal interest rates by 50 basis points, or 0.50 per cent, to quell inflation, RBI embarked on a journey of rate cutting. When Dr. Rajan took office, repo rate stood at 7.5 per cent, which then rose to 8 per cent in January 2014. Post-January 2015, repo rate has been slashed by 1.5 per cent to 6.5 per cent, which is the lowest level in four-and-a-half years. This has helped the economic growth and consumer spending. Under Dr. Rajan, public sector banks have embarked on an ambitious plan to clean up their balance sheets. The Reserve's Bank's Asset Quality Review (AQR) has forced PSU lenders to recognize non-performing loans, which augurs well for future economic growth. In short it has been a fairly smooth ride for the RBI Governor, except for the political storm that he faced in the final year of his tenure. Dr. Rajan's performance should be measured more in terms of economic parameters than anything else.

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WOMEN EMPLOYEES IN RETAIL TRADE-A SECTOR-SPECIFIC STUDY OF KOCHI CITY

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Abstract

The present paper is a sector specific study pertaining to women employees in trade and commerce in Kochi city. In Kerala, the trade and commerce sector is the only accessible resort for the white-collar job seekers. In Ernakulam district women are mainly engaged as service workers, shop and sales workers. Males are employed in diversified occupations while this is not the case with females. A number of studies conducted in different regions across the globe revealed that there exists both occupational segregation and wage discrimination in this sector. Existing labor laws pertaining to social security, welfare and working conditions are violated. In a situation where unemployment is high and alternative job opportunities are few, any attempt to bargain for better conditions would lead to retrenchment. In this context, it is important to study the conditions of women employees in this sector.

Keywords: *Casual employment, feminization of workforce, Social networks, Unorganized labour, Women*

1. Introduction

Women are ready to work for any wage and this has led to greater demand for them in the urban labor market. In a state like Kerala, the high degree of commercialization of agriculture, strong rural-urban linkages, increase in the proportion of marginal landholdings, the flow of remittances to rural areas and growing level of literacy have contributed to the growth of non-farm employment opportunities. This coupled with aversion to manual work seems to be the reason why the less educated seem to be more concentrated in trade and commerce and social/personal services as sales persons, shop assistants and related workers. Moreover, the temporary women workers are almost three times that of permanent workers.. The quality of jobs among women workers has come down as more laborers have joined the army of casual, seasonal and part-time employees (Patrick, 2012). The supply of labor in this

sector is mostly new entrants in the labor market, migrant or young persons, especially women. The examination of the socio-economic background of the women employees in this sector revealed that a majority come from economically, educationally and occupationally weak backgrounds. Moreover, it is also evident that most of them come from families where income was irregular and discontinuous. A definite shift in the occupational pattern of these women migrants also supports the fact that they prefer jobs in this sector. In the trade and commerce sector, the focus is on retail trade. Retailing consists of the sale of goods from a fixed location, such as a department store, boutique or kiosk, or by post, in small or individual lots for direct consumption by the purchaser. Modern retailing has opened up employment opportunities for women who are considered to be more suitable for certain jobs in this sector. Kochi, being the epicentre of retail trade provides such openings especially for young, unmarried migrant women. It was therefore, considered necessary to enquire into the working conditions of these women employees in the retail shops and business units in different areas of Kochi.

2. Objectives of the study

1. To study the problems faced by women employees in the retail trade sector.
2. To analyse the working conditions and environment

3. Methodology and Design

The study is based on a primary survey of women employees in the retail trade sector. Kochi was selected as the area of study because it is the commercial capital as well as the largest urban agglomeration in Kerala. The major retail ventures in Kochi are in gold, textiles, cosmetics, furniture, home accessories and industrial activities. This created a retail boom which resulted in a demand for workers. It is therefore an attractive destination for workers from nearby villages for trade and employment. Retail trade was selected as the sector for study because the workforce categorization reveals that 22.3% in Kochi corporation area is engaged in trade and commerce (Kochi CDP 2010).

The shopping areas selected were MG Road, Panampilly Nagar, Convent Junction and Pallimmukku after discussions with the concerned officials. A list of registered shops in the four identified areas were obtained from the District Labour Office. 4% of the 6067 shops, that is 243 shops were selected after discussions and deliberations with the officials. The shops were then divided into three strata, namely, Big, Medium and Small based on the Kerala Shops and Establishments Amendment Act, 2014. The numbers of shops in each of

these strata were selected using the non-proportionate random sampling technique. Thus among the 243 shops selected, 12.3 percent, 48.6 percent and 39 percent belong to big medium and small category respectively. Since a separate list of women employees is not available with the District Labour Office, the respondents were selected using the purposive sampling techniques. 303 respondents constitute the sample of the study.

4. Data Collection

The data was collected using a structured interview schedule which was administered to the employees. Both qualitative and quantitative approaches were used to collect data. Direct personal interviews were conducted to ensure greater accuracy.

5. Results and Discussion

5.1 Working conditions

An attempt is made to analyse the working conditions and environment of women migrant employees in retail trade in this section.

Working conditions and environment were analysed by collecting both quantitative data from the employees on salary, years of experience, type of employment, leisure time, additional benefits, punishment/harassment and qualitative responses regarding their opinions on working conditions. Many studies find that despite the fact that human resource is an important part of the retail sector; women are discriminated against in wages and occupation. This has been attributed to the fact that they can be paid a lower wage packet compared to men.

A look at the working conditions will also aid in understanding if enterprises in this sector conform to minimum labour standards.

1. Classification of shops on the basis of sub sectors of retail trade

The division of retail establishments according to the sub sectors selected¹⁰ is presented in Table 1

The table reveals that 59.3 per cent of shops deal in readymade garments. 17.3 per cent are department stores while 13.6 per cent are shops selling perfumes and cosmetics. Jewellery, footwear and medical shops constitute only 2.8 per cent, 4.9 per cent and 2.1 per cent respectively of the shops. During the process of data collection it was found that women dominated as employees in readymade garments, department stores and cosmetic shops. This might be the reason why there is a greater representation of these shops.

¹⁰ Refer section 1.8.3 in page 7 (Chapter 1)

Table 1 Classification of shops on the basis of sub sectors

Type of Retail shop	Percentage
Department Store	17.3
Readymade Garments	59.3
Jewellery & Imitation Jewellery	2.8
Perfumery and Cosmetics	13.6
Footwear	4.9
Medical Shop	2.1
Total	100

Source: Primary Survey

2. Classification of enterprises

For a selection of the sample, big, medium and small shops were included in the sample.

Table 2 Classification of sample according to size of shop

Size of shop	Frequency	Percentage
Big	122	40
Medium	106	35
Small	75	25
Total	303	100

Source: Survey data

Table 2 shows that 40 percent of respondents were from big shops while 35 per cent were employed in medium sized shops. Employees in small shops constituted only 25 percent. This is a natural corollary of the fact that big shops employed more women compared to medium and small shops.

Table 3 Classification according to age group and sized of shop (percent)

Age Group	Size of shop		
	Big	Medium	Small
18-25	31.5	36.1	32.4
26-35	13.5	41.6	44.9
36-45	11.1	59.7	29.2
46 & above	11.7	55.9	32.4

Source: Primary Survey

Table 3 presents the classification of the sample according to age group and size of shop. This will help in shedding light on the preference of women employees with respect to the size of shop.

From the table it is clear that as compared to the older age groups 36 and above, 31.5 percent in the age group 18-25 are employed in big shops. On the other hand, just 11.1 percent and 11.7 percent belonging to the age group 36-45 and 46 and above respectively work in big shops. From in-depth interviews with the respondents, it was understood that women in the 18-25 age group seem to prefer the big shops because of the better salary package. Though, on an average, working hours were longer in these shops, food and accommodation were free which helped them to save enough money to remit home. In many cases, the income of these girls was the mainstay because the other family members did not enjoy a regular, continuous income. Another important observation is that 59.7 percent and 55.9 percent of women in the age group 36-45 and the 46 above are employed in medium sized shops.

3. Salary

Table 4 Classification of retail enterprises according to size of shop and salary (percent)

Size of shop	Salary						
	4000-6000	6000-8000	8000-10000	10000-12000	12000-14000	14000-16000	16000 & above
Big			22.13	48.4	9.8	7.4	12.3
Medium		70.7	8.5	3.8	0.9		16.03
Small		68	22.7	1.3	1.3	4	2.7

Source: Primary Survey

From the table it is clear that 48.4 percent of employees who worked in big shops where the salaries ranged from 10000-12000. There are no big enterprises where salaries range from 4000-8000. However, in medium and small shops salary ranges between 6000-8000. 70.7 percent and 68 percent of sampling units are employed in these shops. It can also be observed that 16.03 percent are earning above 16000 in medium-sized shops. These shops, are, however entirely government owned enterprises like Khadi, Kairali etc. Most of the married respondents with families were employed in medium size shops. In these shops, 90 per cent of the respondents expressed the opinion that though salary was lower in these shops, the working atmosphere was safer, more flexible and relaxed. Employer-employee relationship

was also much closer and the employees say that though other shops promise them higher salary, loyalty to their employer prevented them from taking up those jobs. The 75 respondents who work in small shops also supported the above opinion except for a few who felt that they just could not afford to stay on at such a low salary and are in favour of moving to better jobs. This seems to support the fact that there seems to be a strong preference for a 'job' as opposed to a 'work' even if it implies a lower level of earnings. The accent seems to be on regularity of income, social status and work environment, especially in the older age groups.

Table 5 Classification according to size of shop and average salary (Rs)

Size of shop	Average Salary
Big	10375
Medium	9550
Small	4295

Source: Primary Survey

As per Table 5 the highest average salary is in the big shops (Rs 10375). The lowest average salary is in the small shops (4295 Rs). It can be seen that the difference between average salary in the big and medium shops is only Rs 825. The average salary across shops in this sector is around Rs 8000 pm.

The shops covered include 4 categories of shops viz private, government, mill stores and franchisees. The percentage of women employed in these shops is presented in table 6.6.

Table 6 Percentage of women employees in different categories of shops

Category of shop	Percentage
Private	71.3
Government owned	21.7
Mill stores	4.7
Franchisee shops	2.3

Source: Primary Survey

From table 6 it is clear that 71.3 percent of women work in private shops. Women who work in government owned enterprises constitute 21.7 per cent. In this category salaries range from 4000 for packing staff to 50000 in the case of managers. The salary of permanent sales staff in these enterprises range from 19000 to 32000, whereas the salary of temporary sales women is only 6000. In private shops, however, maximum salary of managerial staff range from

20000 to 35000. Salaries of sales women range from 5000 to 15000. In mill stores which has a representation of just 4.7 per cent range from 6000 to 11500. In franchisee shops the range is from 6500 to 10000.

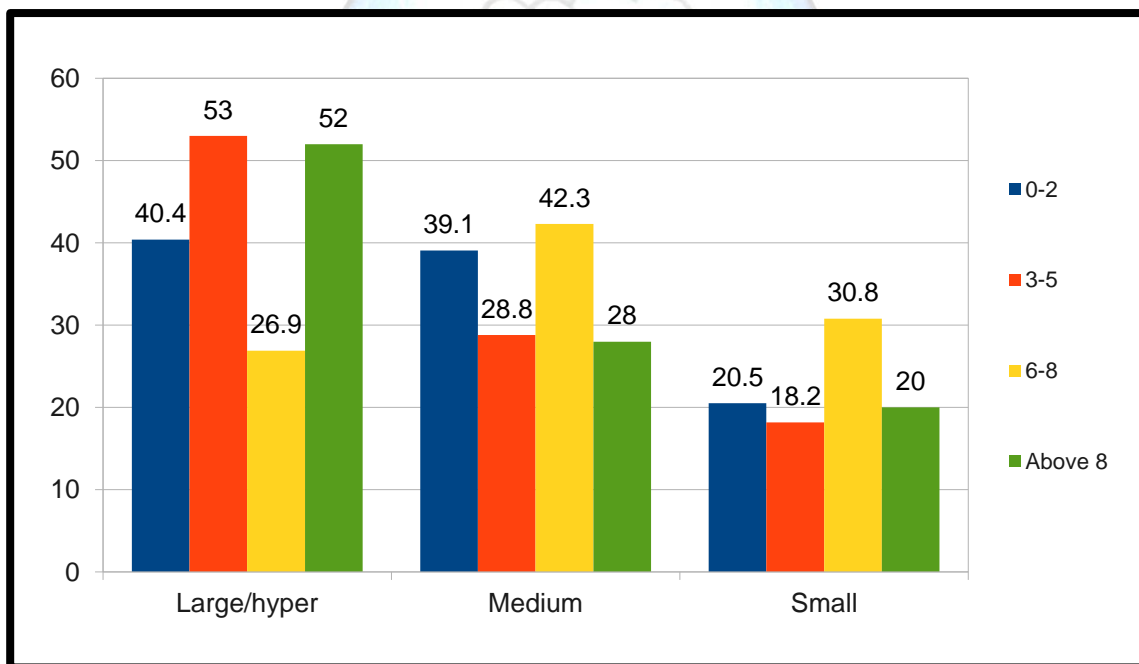
4. Years of experience

Table 7 Distribution of respondents according to size of shop and years of experience (percentage)

Size of shop	Years of Experience				Total
	0-2	3-5	6-8	Above 8	
Big	40.4	53	26.9	52	40
Medium	39.1	28.8	42.3	28	35
Small	20.5	18.2	30.8	20	25

Source: Primary Survey

Figure1. Distribution according to size of shop and years of experience



1993 - 2018
Source: Primary Survey

Among the 122 respondents working in big establishments, 83.4 percent have experience of less than 5 years. 52 percent have an experience of more than 8 years. A good proportion of these employees are either working in the government, quasi-government or mill franchisee shops. A look at the years of experience of the respondents working in medium-sized shops reveal that a majority possess 3 to 8 years of experience in this field. In the small

shops, however, an almost equal percentage (20%), have less than two years and greater than eight years of experience. From this it can be deduced that employees in large establishments do not work for long durations. This could be because these shops are dominated by young, unmarried girls. On the other hand, the medium shops have employees with more years of service because their average age is 34. The older employees prefer to continue because of factors like loyalty, regularity of income and flexibility in work timings. Small-sized shops, however, present a mixed picture. Loyalty and freedom in working environment were cited as reasons why 30.8 per cent of employees in such shops continue to work even after 5 years. Lower salary in the current establishment is not a motivation to seek a new job- especially for the older age group because by nature, women are less mobile than men. In some shops, women with more experience are paid a higher salary but in a few shops, pay does not increase with length of service.

The distribution of respondents on the basis of size of shop and years of experience is presented in table 8.

Table 8 Distribution of respondents according to size of shop and average years of experience

Size of shop	Average years of experience
Big	3-5
Medium	6-8
Small	2-8

Source: Primary Survey

5. Type of employment

All the selected shops are registered under the Shops and Establishments Act, 1967, Kerala¹¹. However, as revealed from the type of employment of the sampling units casual labour accounted for 87.1 percent. These women employees can be categorized as ‘unorganised labour’ if a scientific criterion is adopted for defining the unorganized sector. The term ‘unorganized labour’ signifies those who are active in the labour market but not entitled to get minimum wages and other benefits like provident fund etc. Using this criterion, women employees working in these shops can be said to belong to the category of unorganized labour.

¹¹ The Kerala Shops and Establishments Act, 1967 postulates that

Table 9 presents information on whether employment is permanent, casual or contractual.

Table 9 Percentage distribution of respondents according to type of employment

Type of employment	Percentage
Permanent	7.6
Casual	87.1
Contract	5.3
Total	100

Source: Primary Survey

This reveals the peculiar nature of employment in the trade and commerce sector. Though the retail enterprises come under the organised sector, most of the labour is employed on a casual basis. Just 7.6 per cent are permanent employees and inevitably all these women are working in government owned shops. This corroborates with the evidence that casual employment accounts for 60 per cent of employment in secondary and tertiary activities in Kerala. Absence of unionisation and the sex-based division of labour fostered by economic restructuring and trade liberalization has led to increasing feminization of the workforce. This supports Hugo's argument that employers are more in favour of employing female migrant workers because of the general perception that they are cheaper and more docile than men.

The social and economic constraints as revealed in the background profile make women increasingly vulnerable to poverty and exploitation. The few studies conducted in this sector have reported that high unemployment rate coupled with low employment opportunities forces women labourers to find jobs in this low-paid sector.

6. Working Hours

Table 10 Distribution of shops according to working hours (percentage)

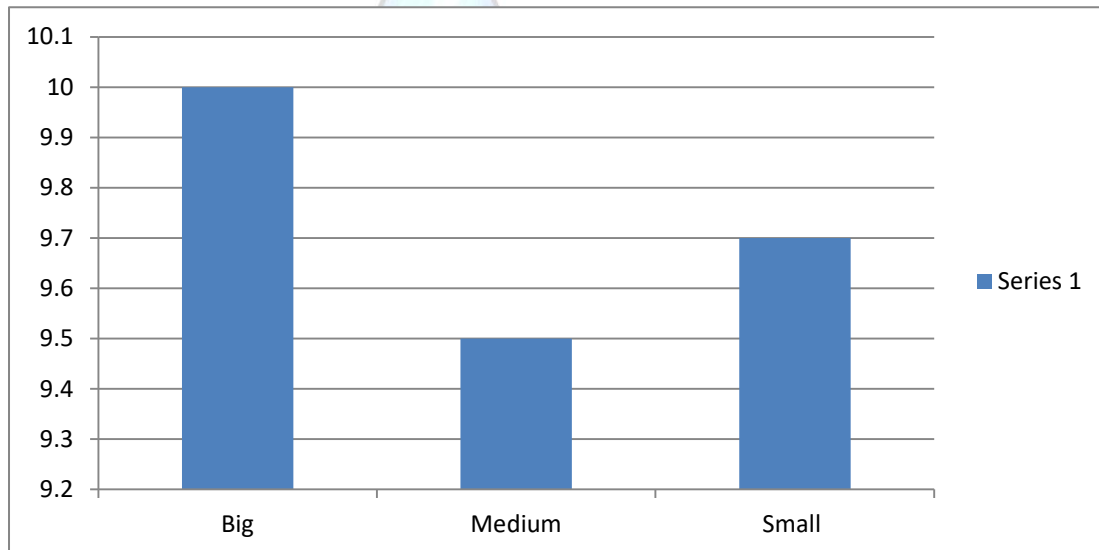
Working hours	Percentage
8	30.4
10	50.2
12	19.5

Source: Primary Survey

It is clear from the above table that working time is 10 hours per day in 50.2 per cent of the shops. 19.5 per cent of respondents reported 12 hours as their working time. This goes against

the provisions of the Shops and Establishments Act and Labour Act. The average hours of work across the different categories of shops is shown in figure 5.2.

Figure 2 Average hours of work across shop



Source: Primary Survey

The average hour of work across shops is 9.7 hours. Though the respondents working in the big shops were not happy with the long working hours they have no other alternative. Some of the respondents are of the opinion that since customers frequent shops in the evenings they have to be open at least till 9 pm. During the festive reason especially Onam, Christmas and Ramzan, working time may extend even up to 14 hours. Many of the respondents working in big establishments reported that the festival season was a nightmare for them. They could not leave the shop (especially those staying in hostels), until they fold back the garments and arrange them back in the shelves. The off-season discount sales in July-August presents an even worse scenario in terms of working hours, leisure time and work burden. Employees working in the small and medium shops, however, generally do not face such problems. These employees have to attend a number of customers at the same time. They hardly get time to have their food or attend to their primary needs. Hence there is a preference for jobs with low but regular income and lesser working hours.

7. Leisure time

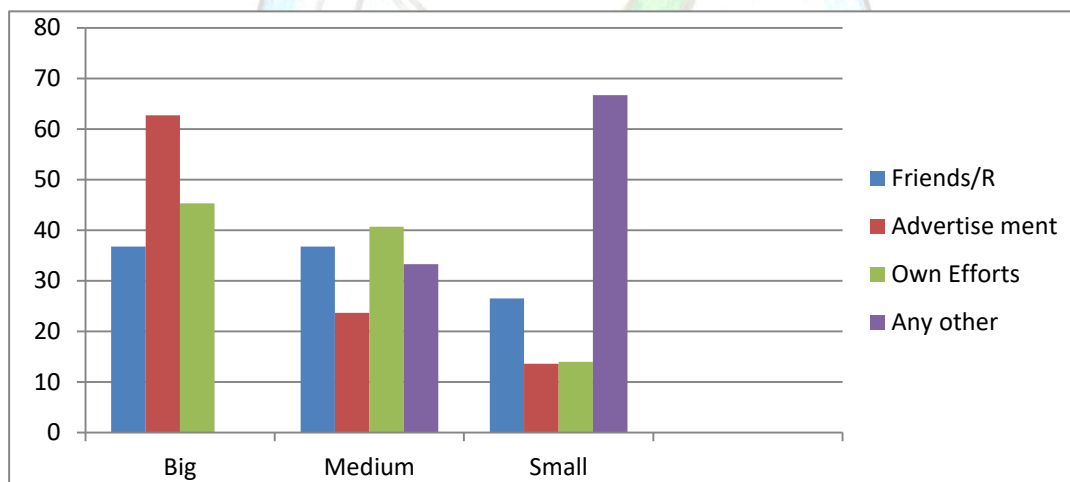
In almost all the establishments though there is provision of 30-45 minutes for lunch break, this time varies according to the rush of customers coming to the shops every day. 84.2 per cent of respondents reported that their break ranged from 30 to 45 minutes. 9.2 per cent reported 45 minutes while 4 per cent reported one hour. This applied mainly to small shops

where this timing was flexible and customers were limited. Only 2.6 per cent of employees reported less than half an hour, especially in some large shops in the high sales seasons. The average leisure time across shops is 45 minutes.

8. Source of information (Social Networks)

Support provided by social networks¹² is found to play a vital role during the process of migration of women and their families and in employment. Migration process is often strategized by the active negotiation of social networks to establish the route of migration, especially of single women. This networking is often based on gender and ethnic identities. Networks are formed among women who are neighbours, relatives etc. at an informal level. Support is extended to the migrant women either by kith and kin or even by people from the same village. Relatives and friends who have already moved to Kochi are the major source of networking among sales women. Thus the researcher collected information on how the respondents knew about their job to understand if friends/relatives/neighbours networking played a role in their movement to Kochi.

Figure 3. Distribution of respondents according to knowledge of present job based on size of shop.



Source: Primary Survey

It is evident from figure 5.3 that 36.8 per cent each of respondents employed in big and medium shops came to know about their job through friends/ relatives/ neighbours. 62.7 per cent, 23.7 per cent and 13.6 per cent of respondents working in big, medium and small shops were informed about their jobs through advertisements. From this it can be inferred that a greater percentage of women working in big shops place lesser reliance on social networks

¹²Migrant social networks are interpersonal ties linking kin, friends and community members in their places of origin and destination

compared to the women employed in the medium and small enterprises. This establishes to a certain extent the fact that social networking is important in the migration of women.

As far as employers in the shops are concerned, they feel that anyone could learn the job and become an expert within a short period of time. Qualities like loyalty, honesty, trustworthiness are considered more important while appointing sales women. Thus sales women are generally employed by taking into account the recommendations of friends, relatives etc. This might also be the reason why women employees who are loyal to the employer, continue to work in these shops, especially the small and medium ones, despite lower wages and lack of any benefits. Social networking is, therefore, important in migration of women for reasons other than marriage.

9. Employment status before coming to Kochi

Information regarding previous employment status was collected by the researcher to find out if it was the promise of better employment in Kochi which prompted women to migrate. 73 percent of respondents have worked as paid employees, while 24.4 percent of them reported that their current job was their first job. The proportion of self-employed constituted only 2.6 percent of the sample.

10. Income before migration

The classification of income before getting a job in Kochi may help in explaining if it is the promise of higher expected income which attracted these women to Kochi. This is depicted in table 11.

Table 11 Employment status before coming to Kochi & classification of income while leaving previous job

Among the 229 respondents who were previously employed, 221 had worked as paid employees while eight were self-employed. Of these 221 respondents, 86 respondents earned an income ranging between 2500 to 5000; 46 women earned an income ranging between 7500-10000. Only 27 and 19 respondents earned a salary below 2500 and above 10000 respectively. This supports the findings of case studies that families migrate in response to female economic opportunity and they are the primary or equal earners, male employment often being irregular and uncertain. The earnings of females may be low but crucial for family survival. In the NSSO surveys only one reason is asked to be stated and therefore, women's employment oriented migration is underestimated in national surveys. Here the fact

that is often forgotten is that females do work at the place of origin and also work at the place of destination. Migration tends to increase labour force participation of women.

Employment status before coming to Kochi	Classification of previous income						Total
	New entrants	Less than 2500	2501-5000	2501-7500	7501-10000	Above 10000	
Paid employee		27 (96.3)	86 (95.6)	44 (97.8)	46 (95.8)	17 (89.5)	221
Self-employed		1 (3.7)	3 (3.3)	1 (2.2)	1 (2.1)	2 (10.5)	8
Any other	73 (97.4)		1 (1.3)		1 (1.3)		74
Total	73	28	90	45	48	19	303

Source: Primary Survey (Figures in brackets indicate percentages)

11. Social Security Measures

Social security measures are facilities like PF, bonus, increment, insurance etc. Along with salary these extra benefits are an important yardstick in measuring the welfare of labour in any organisation. When all these facilities are offered to the employees, they are given 5 points. Those with 3 schemes, 2 schemes, 1 scheme and no scheme are respectively given 4, 3, 2 and 1 point each. The respondents receiving the corresponding package of social security measures are given the respective points. Table 12 presents the scores given to the respondents according to the benefits they receive.

Table 12 Percentage distribution of respondents according to social security measures received

Scale	Percentage
1	7.26
2	26.41
3	43.89
4	7.59
5	14.85

Source: Computed from Primary data

It is obvious from the above table that almost 44 percent of respondents received only two benefits (viz) increment and bonus. This is the case in most small and medium shops. 26.41 percent of respondents, majority of whom worked in small shops just received one benefit (viz) bonus. 14.85 percent who were offered at least four benefit schemes either worked in government establishment or in the big shops.

12. Punishment/Harassment

Casualisation of employment is a prominent feature of the trade and commerce sector in Kerala. Salary is cut for every leave taken irrespective of national holiday or festivals. 44.9 percent of respondents reported that their wages are cut if they avail more leave than the leave allowed to them every month/year. However, 55.1 percent reported that no such action was taken against them. A majority of respondents in this category were those who earned Rs 5000-10000 per month.

13. Health Issues of Employees

The common health problems found among employees in this sector is fatigue, leg and back pain, shoulder pain etc. In big shops, the use of air-conditioning has also led to lung and breathing disorders etc. Among the 303 respondents 58.4 percent reported that they suffered from either of these health disorders, while 41.6 percent who predominantly consisted of the younger age group did not face any such health problems. Only 10 percent of respondents employed in big private shops reported that their management sponsored regular medical checkups for them. In the case of all other employees, medical needs are to be met by self.

14. Working Environment

Since the study pertains to the women employees in Trade and Commerce, it was considered necessary to analyse the working environment. This would also help in identifying the problems faced by women migrants, if any, at their workplace. The satisfaction level of the employees with respect to the working environment has an important bearing on their performance in this sector. An attempt is made to analyze working environment in terms of their qualitative responses regarding working hours, physical comfort, safety, fairness and competitiveness of wages, work burden, attitude of managerial and supervisory staff and co-workers.

The workplace environment was subjectively defined as the degree to which the respondent has made subjective evaluation of her environment. Eight statements relating to working time, physical environment, safety, the fairness and competitiveness of the salary of the

respondent, the work burden, the attitude of managers and co-workers were given. The respondent was asked to tick how much they agree or disagree with a statement. The Likert-type scale which is used to measure attitudes or opinions has been used on a five-point scale (ie) strongly disagree, disagree, neither agree nor disagree, agree, strongly agree. The satisfaction on the part of the respondents w.r.t benefits is also measured using this scale. Measurement was done by asking a single statement with the following multiple responses. (a) Extremely satisfied (b) moderately satisfied (c) Neither satisfied nor dissatisfied (d) Moderately dissatisfied (g) extremely dissatisfied. Scores were given in descending order beginning from five to one.

15. Wages

Wages are the most important variable in working conditions and employment at the enterprise level. It is a cost to the employer but a main source of income for the worker (www.ilo.org) referred on 20-12-2014. Wages are a determinant factor in employer well-being. Considering their important role, employees are asked to indicate their satisfaction levels w.r.t the monthly wages they draw. The results are reported in the following table.

Table 13 Distribution of Respondents by agreement on satisfactory wages drawn based on social group (percentage)

Social group Status	I am paid fairly for the work I do					Total
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
SC		2 (5.1)		9 (4.9)	3 (4.5)	14 (4.6)
ST		1 (2.6)	1(9.1)	5(2.7)	4 (6.1)	11 (3.6)
OBC	2(100)	28 (71.8)	9(81.8)	112(60.5)	38(57.6)	189(62.4)
General		8(20.5)	1(9.1)	59(31.9)	21(31.8)	89(129.4)
Total	2	39	11	185	66	303

Source: Primary Survey (Figures in brackets indicate percentages)

Generally all the employees are satisfied with the wages offered to them. Almost 83 percent have either agreed or strongly disagreed that they are paid fairly for the work they do an examination according to social group status shows that among the OBCS which constituted 62.4 percent of the sample, almost 60 percent are satisfied with the salary they receive. Only 13.5 percent of the respondents in the sample were dissatisfied with the wages. OBC category of employees formed 76.9 percent of this 13.5 percent. Among the general category 20.5

percent expressed dissatisfaction, while 63.9 percent expressed satisfaction. The respondents say they are satisfied with their wages since they feel it is not realistic to expect more with their minimum level of educational qualification. This is to be expected because a majority of respondents are drawing a salary of Rs 6000 and above. The variation in wages depends on the size of the shop. Satisfaction with wages makes them continue in service especially in the case of respondents with more than five years of service.

Table 14 records the qualitative responses of the women migrant employees with regard to the fairness of the wages they receive on the basis of social group.

Table 14 Average scores for different social groups based on agreement regarding fairness of wages earned

Social Group	Scale						
	SD	D	N	A	SA	Total score	Average score
SC	0	4	0	36	15	55	3.9
ST	0	2	3	20	20	45	4.1
OBC	2	56	27	448	190	723	3.8
General	0	16	3	236	105	360	4
Total	2	78	33	740	330	1183	3.9

Source: Computed from primary data

SD = strongly disagree D = Disagree N = Neutral A = Agree SA = strongly agree

It is clear from the table that the average scores for all the social groups are close to the response 'Agree'. Moreover, it can also be seen that the average score across all social groups is 3.9 which means that women employees are generally satisfied with the wages drawn by them.

The distribution of employees by agreement on the competitiveness of the salaries drawn by them on the basis of social categories is given in table 15

Table 15 Percentage distribution of employees by agreement on competitiveness of wages drawn according to social group

Among the ST migrants 81.8 percent disagree, while 9.1 percent disagree. 9.1 percent did not express any opinion. 75.6 percent of OBC respondents expressed agreement while 20.1 percent disagreed, 0.04 percent remained neutral. Among the employees in the general category,

which constituted 29.4 percent of the sample, 80.9 percent agreed that their salary is competitive and 19.1 percent disagreed.

Social Group	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
SC		2(3.6)		11(6)	1(1.9)	14(4.6)
ST		1(1.8)	1(10)	5(2.7)	4(7.5)	11(3.6)
OBC	2 (100)	36(65.5)	8(80)	112(1.2)	31(58.5)	189(62.4)
General		16(29.1)	1(10)	55(30.1)	17(32.1)	89(29.4)
Total	2	55	10	183	53	303

Source: Primary Survey (Figures in brackets indicate percentages)

Table 16 Average scores for different social groups based on agreement regarding competitiveness of wages drawn

Social Group	Scale						Total Score	Average Score
	SD	D	N	A	SA			
SC	0	4	0	44	5	53	3.8	
ST	0	2	3	20	20	45	4.1	
OBC	2	72	24	448	155	701	3.71	
General	0	32	3	220	85	340	3.8	
Total	2	110	30	732	265	1139	3.75	

Source: Primary Survey

The table reveals that there is agreement on the competitiveness on wages drawn across all social groups since the average score is 3.75 which is close to the response 'Agree'.

16. Working time

The working hours of an employee also determines a labourer's efficiency, productivity and welfare. Responses of the respondents were, therefore recorded with regard to their satisfaction in this aspect. The responses are presented in table 17.

Table 17 Percentage distribution of Respondents by agreement that working time is satisfactory according to social group

It is already reported that working hours varied from 8 to 12 hours in the different shops included in the sample.

Social group	My working time is satisfactory					Total
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
SC	1(20)	3(7.7)	1(14.3)	5(3.1)	4(4.5)	14(4.6)
ST		2(5.1)	1(14.3)	3(1.8)	5(5.6)	11(3.6)
OBC	4(80)	21(53.8)	4(57.1)	99(60.7)	61(68.5)	189(62.4)
General		13(33.3)	1(14.3)	56(34.4)	19(21.3)	89(29.4)
Total	5	39	7	163	89	303

Source: Primary Survey (Figures in brackets indicate percentages)

The employees were asked to rate their satisfaction about the working hours. Generally, employees are satisfied with their working time. 83 percent of respondents expressed their satisfaction. All of them, however, agreed that they would be happy if their working hours were reduced. 14.5 percent of employees were not very happy with their hours of work. This was especially in the case of married employees with families. The respondents were of the opinion that the nature of retail trade itself requires that shops remain open up to 9 pm. In five percent of the shops there is a shift system where male employees replace female employees from 6 to 9 pm. Among the OBC category of respondents 84.7 per cent agree that their working time is satisfactory 13.2 percent are dissatisfied with the working hours. In the general category, 84.3 percent are satisfied while 73 percent of ST and 64.3 percent of SC employees were satisfied with the time schedule.

Table 18 Average scores for different social groups based on agreement regarding satisfaction levels (working time)

Social Group	Scale					Total score	Average score
	SD	D	N	A	SA		
SC	1	6	3	20	20	50	3.6
ST	0	4	3	12	25	44	4
OBC	4	42	12	396	305	759	4
General	0	26	3	224	95	348	3.9
Total	5	78	21	652	445	1201	3.96

Source: Computed from primary data

The average scores for all social groups is 3.96 which is close to the value assigned to the response 'Agree' which means that there is general agreement that working time is satisfactory.

The cross-classification according to social group status reveals that among the OBC respondents, 91 percent agree that their work is not burdensome. Among the general category, 90 percent are satisfied with the volume of work. Nine percent alone are dissatisfied with the volume of work.

17. Burden of work

Along with salary and working hours, the 'volume of work' is also taken into account to analyse working conditions. 91.5 percent of employees do not consider their job to be burdensome. This is especially so in small and medium shops. In many of the shops, sales persons are paid extra commission depending on their sales, especially during the festive season. It is during such times that the sales girls have to work over and above their capacity. They get tired by the end of the day. When their pay does not match their efforts they become dissatisfied. In big shops, however, they are required to meet targets which help in earning extra wages.

The average scores for 'burden of work' of the women employees are presented in table 19.

Table 19 Average scores based on agreement about work burden

Work burden	Score		
Responses	Frequency	Total Score	Average Score
Strongly disagree	1	1	4.18
Disagree	20	40	
Neutral	5	15	
Agree	185	740	
Strongly agree	92	460	
Total	303	1267	

Source: Primary Survey

Table 19 makes it clear that the average score is 4.18 which mean that the respondents agree that their work is not burdensome. However from discussions with the employees especially in the big shops, it is evident that this is not the case always. Burden of work is rather high during festival and off-seasons when discount sales are common. Moreover, health problems due to standing throughout, arm and back pain are rather common. Cleaning staff in the big

shops, who predominantly belonged to the age group 36 and above complained of heavy work burden. These women were more open and vociferous in their complaints regarding working conditions, salary, social security measures, provision of basic facilities etc. Women employees in the age group (18-25) did not reveal any matters relating to exploitation possibly because of the fear of being punished or harassed in any manner. However all the respondents agreed that compared to agricultural and other kinds of casual work the present job was definitely less burdensome and did not involve exposure to harsh climatic conditions.

18. Physical Environment

The next factor considered was physical environment of the establishment. Physical conditions in 55 percent of shops included in the sample were very conducive. There is good lighting provision, proper ventilation, air- conditioned environment etc in the big establishments.

Table 20 presents the average scores with respect to the responses (physical environment).

Table 20 Average scores with respect to responses of women employees (Physical Environment)

Physical Environment	Scores		
Responses	Frequency	Total Score	Average Score
Strongly disagree	4	4	4.2
Agree	7	14	
Neutral	2	6	
Agree	198	792	
Strongly Agree	92	460	
Total	303	1276	

Source: Computed from primary data

From the average score in table 20 it can be inferred that women employees generally agree that their workplace is physically comfortable. As reported by the respondents, the major difficulty they face is that they have to keep standing throughout the working hours and no facility is provided to sit even during free time. This creates the problem of fatigue and monotony among the employees. This is, however, not the case in small and medium shops where employees are required to stand only when customers visit the shop. As observed earlier, women employees in the older age group complained that they were not provided even basic facilities like water in some of the big shops.

19. Safety in the workplace

Safety in the workplace is an important factor for women employees. Among the 303 female employees interviewed by the researcher, only 3 respondents reported that their workplace was unsafe. All others reported that one of the main reasons they continued to work was because of the safe working environment.

Table 21 Average score of respondents with regard to the agreement on safety of workplace

Safety of workplace	Scores		
	Responses	Frequency	Total Score
Strongly disagree	0	0	4.3
Disagree	3	6	
Neutral	0	0	
Agree	204	816	
Strongly agree	96	480	
Total	303	1302	

Source: Primary Survey

The inference from table 21 is that the workplace is very safe since the average score is 4.3 which means that women agree to the statement. This, however, does not provide any evidence of absence of sexual harassment or exploitation. Data was collected from these employees according to their convenience. The researcher met with extreme difficulty in contacting salesgirls, especially in the big enterprises. Fear of losing their job might have prevented these respondents from revealing any matters relating to such exploitation.

21. Attitude of manager/supervisor

The attitude of the manager/supervisor and co-workers is an important factor to be considered for analysing the satisfaction level of employees. The employees regard the attitude of the manager as very co-operative. They find the manager's attitude to be very approachable and comfortable irrespective of size of shop.

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Table 22 Average Score of employees with respect to attitude of manager/supervisor

Attitude of manager/supervisor	Scores		
	Responses	Frequency	Total Score
Strongly disagree	2	2	4.4
Disagree	3	6	
Neutral	3	9	
Agree	170	680	
Strongly Agree	125	625	
Total	303	1322	

Source: Primary Survey

As revealed in the table the average score (4.4) also supports this fact.

21. Attitude of co-workers

The attitude of co-workers in an organisation also influences the working environment. The respondents reported a similar response in the case of their co-workers also.

Table 23 Average Scores of employees with respect to attitude of co-workers

Attitude of co-workers	Score		
	Responses	Frequency	Total Score
Strongly disagree	3	3	4.4
Disagree	4	8	
Neutral	5	15	
Agree	150	600	
Strongly agree	141	705	
Total	303	1331	

Source: Primary Survey

The average score is 4.4 which show that women migrant employees agree that the attitude of their co-workers is very cooperative.

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Table 24 Consolidated scores of working environment

Working Environment	Average Scores	Consolidated average score
Fairness of wages	3.9	4.1
Competitiveness of wages	3.75	
Working time	3.96	
Burden of work	4.18	
Physical environment	4.2	
Safety in workplace	4.3	
Attitude of manager	4.4	
Attitude of co-workers	4.4	
Total	33.09	

Source: Computed from primary data

The consolidated average score of working environment is 4.1. From this it can be inferred that women employees generally agree that working environment is satisfactory.

23. Satisfaction level of employees with respect to working conditions

In addition to the responses collected about the eight variables discussed in the previous section, qualitative information regarding the satisfaction level of respondents with respect to employee benefits was also gathered. The procedure is as follows: Respondents were asked if they are satisfied with the employee benefits. The responses have been rated on a five-point scale by collecting responses to whether they are 'extremely satisfied', 'moderately satisfied' and 'extremely dissatisfied'.

Table 25 Satisfaction level of benefits according to social group

Social Group	Scale					Total	Average Score
	1	2	3	4	5		
SC	0	2	0	5	7	59	4.2
ST	0	2	0	5	4	44	4
OBC	3	16	14	94	62	760	4.02
General	1	4	0	47	37	382	4.3
Total	4	24	14	151	110	1248	4.1

Source: Computed from Primary data Total Score: Sum of (number of respondents * scale) Average Score: Total Score / No of responses

Scores are given in descending order starting from five to one. Number of respondents in each category is taken as the weight and multiplied with the respective scale. Social group-wise scores obtained for satisfaction level of benefits is presented in table 25.

The average score of 303 respondents for satisfaction level w.r.t benefits is 4.1 which is close to the choice variable 'moderately satisfied'. It can also be noted that the average scores for each social group status is close to this choice variable. Therefore it can be assumed that in general, employees are satisfied with their employee benefits.

24. Job Security

Job security is another factor considered under working conditions. The respondents were asked if they were secure in their jobs. The responses were rated on a five- point scale by collecting responses to whether they are 'highly secure', 'secure', 'marginally secure', 'marginally insecure' and 'highly insecure'. Scores are given in descending order starting from five to one. Employees in general, do not have any fears with respect to job tenure. Most of them are aware that they have been appointed on a casual basis. Casual employment, in itself does not guarantee job security. Despite this, 87 percent reported that they feel 'secure' in their job.

Table 26 Job security according to social group

Social Group	Scale					Total score	Average Score
	5	4	3	2	1		
SC	25	28	6	0	0	59	4.2
ST	25	16	3	2	0	46	4.2
OBC	275	416	57	14	4	766	4.1
General	145	220	12	2	0	379	4.3
Total	470	680	78	18	4	1250	4.1

Source: Computed from survey data

The average score of the 303 sampling units relating to job security is 4.1 which is close to the choice variable 'secure'. It can also be observed that the average scores for each social group is close to this choice variable. Thus, it can be understood that, in general, the women employees feel secure in their jobs.

25. Discrimination

Gender Discrimination in wages is also considered. Wage discrimination is the situation of different wage packet for the same type of job. A few male employees were informally

interviewed to enquire whether there is any wage or occupational discrimination. Wage discrimination is reported only by 4.9 percent of employees in this sector.

Studies point out that there is more occupational discrimination in this sector. Though there is no formal evidence to support this finding in the present study, interviews with 15 male employees revealed that among these 47 percent are managers, 20 percent are supervisors and 33.3 percent are sales staff. Female employees reported that they do not have much chance for promotion while male employees reported that have higher chances for promotion. Among female employees sampled 78.2 percent were sales staff. 8 per cent of women employees alone were working in managerial/ executive/ supervisory capacities. The rest either worked as designers, cleaning and packing staff etc.

Discrimination is also rated using a 5- point scale by collecting responses to whether respondents are 'Highly discriminated', 'Marginally discriminated', 'No change', 'Marginally in discriminated', 'Highly in discriminated'. The scores for the choice variables are given as 1, 2, 3, 4 and 5 respectively. The responses pertaining to gender discrimination is given in table.27.

Table 27 Average scores of respondents with respect to discrimination

Choice Variables	No. of Respondents	Score
Highly discriminated	4 (1.3)	4
Marginally discriminated	11 (3.6)	22
No change	17(5.6)	51
Marginally indiscriminated	5 (1.7)	20
Highly in discriminated	268(87.8)	1330
	303(100)	1427

Source: Computed from Primary data (Figures in brackets indicate percentages)

Table 27 shows that only 4 percent reported gender discrimination. The average score of 303 respondents is close to the value assigned to the choice variable. 'Highly in discriminated' as it is estimated at 4.71 and hence it can be inferred that there is no discrimination.

Though gender-based discrimination is not evident from the responses of the women employees, in-depth interviews uncovered a different story. The women from the older age groups, especially, the cleaning and packing staff in the big shops reported extreme discrimination in wages and other benefits. Salaries of these women range from Rs 5000 to Rs 6000. Moreover, they did not receive any other benefits. These women complained that

men were given tea, snacks and were allowed to use the escalators while moving between the different floors of the shop. Women were permitted to use only the stairs and were not even provided drinking water. Daily wages paid to packing staff was extremely low though their job was burdensome. Poorly ventilated environment, constant exposure to dust and carrying heavy packages was detrimental to the health and welfare of the women.

26. Conclusion

The foregoing analysis reveals that 31.5 percent of women belonging to the age group 18-25 are employed in big shops as compared to the older age group. Most of the married women were employed in medium-sized shops. These shops have employees with longer service. Younger employees prefer the big shops because of the better salary package. The highest average salary is in the big shops (Rs 10375), while the lowest average salary is Rs 4295. The average salary across shops is Rs 8000. 71.3 per cent of women work in private shops. Employment is largely on a 'casual' basis. The average working time is 9.7 hours whereas the average leisure time is 45 minutes. Social networking is important in the migration of these women. The consolidated average score for working environment is 4.1 which mean that women employees generally agree that working environment is conducive.

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INTEGRATED RICE-FISH FARMING - A VIABLE OPTION FOR SUSTAINABILITY

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1. Introduction

The increasing demand for food due to continuous population growth should be met by the efficient and productive use of farm lands. One of the globally accepted remedy is the integrated farming which ensures farm productivity and profitability. In integrated farming, water or land space is shared by the growing species that could coexist and supply each other's production inputs. It is a system in which land and water resources are used for both aquaculture and agriculture which in turn increase farm efficiency, productivity, and profitability.

Integrated aquaculture is yet another culture practice that gained wider acceptance among farmers on grounds of higher productivity, larger income and sustainability. Integrated farming involves a sequential linkage between two or more farming activities. In Asian countries rice-prawn farming is a sustainable organic farming using less fertilizers. Rearing of fish along with paddy is an old practice in India (Alikunhi 1955). The practice of culturing fish in rice fields is a long tradition in many parts of Asia. It has largely been practised in a traditional way in the Indian coastal states of Kerala and West Bengal. However, it has not been popular, although considerable potential exists, in West Bengal, Assam, Bihar, Orissa and Andhra Pradesh (Ghosh et al. 1985). The reason for this is largely attributed to the change in cultivation practice of paddy from traditional methods to the more advanced methods involving high yielding varieties and progressive use of pesticides. Multiple cropping further improved the returns from agricultural land thus shifting the emphasis from such integrated farming. So rice-fish farming in India is considered particularly suitable for the less productive rain fed areas (Halwart 1994).

2. Rice-fish culture

Within all integrated aquaculture practices, rice-fish farming is probably one of the oldest, demonstrating a kind of co-evolution of agriculture and aquaculture, mostly in Asia, and more recently spread to other regions (Halwart and Gupta, 2004). Rice fields provide the

environment and habitat for fish and other aquatic animals while the fish contribute to nutrient cycling in the process of feeding on invertebrates and other organic particles that are produced in these undated fields. Rice-fish farming often reduces the need to use chemicals for pest control, helping preserve biodiversity; additionally, rice-fish farming facilitates the use of existing native fish species.

A rice-fish system is an integrated rice field or rice field/pond complex, where fish are grown concurrently or alternately with rice. Fish may be deliberately stocked (fish culture), or may enter fields naturally from surrounding water ways when flooding occurs (rice field fisheries), or a bit of both. Rice-fish systems allow for the production of fish and other aquatic animals, as well as rice, from the same rice field area and generally without causing reductions in rice yields. This source of animal protein may be important for household nutrition and farm income.

Rice fields can provide habitat for fish .The coupling of rice culture with fish production (also referred to as a rice–fish system or an RFS) has long been practiced in many rice-growing areas because it provides both rice grain and an aquatic protein source. Because raising fish in rice fields can often reduce the use of pesticides for rice by reducing the incidence of diseases, insect pests, and weeds, and can also reduce the use of chemical fertilizer-nitrogen (N) through the complementary use of feed-N between rice and fish, RFSs have been considered an important way to help sustain local rice farming. Traditional RFSs use only small amounts of fish feed and keep the fish in only a small area that is referred to as a “fish refuge”; as a consequence, fish yields in traditional RFSs are relatively low, and rice yield is not reduced. Intensive RFSs, in contrast, are large-scale operations that use relatively high quantities of commercial “fish” feed and large fish refuges to achieve high fish yields and significant farmer profits.

Fig. 1. Rice-fish integrated system



Source: Pokkali Development Agency, NorthParavur, Kerala

3. Methods of Rice-Fish Farming

In the traditional farming, the rice is planted during April-May by direct seeding and after getting first shower of rain the seeds are germinated. Then the tall seedlings are transplanted after accumulation of rainwater during June-July. The fields connect with neighbouring water courses during the monsoon when they overflow, allowing seeds of various wild fish and prawns into the field. Sometimes farmers dig trap ponds inside the field intentionally to give the animals refuge and facilitate their entry in the field. In addition to direct capture during the wet season, the farmers also rear wild seed until the water level drops down below the level of the fields. During this phase wandering fish accumulate in the trap ponds or natural ditches in and around field contour. These fishes are harvested after dewatering the ditches and canals.

In the scientific method of rice-fish culture, proper fish pond preparation, selective stocking of different species of fish, addition of inputs like feed, fertilizer along with other post stocking managements and harvesting of marketable size of fish after gathering paddy crop are undertaken. As the water level increases with the onset of monsoon during June-July, the farmers release fingerlings at a very high density of about 20,000-25,000/ha. Fish stay in the paddy field up to December and start migrating to the actual fish pond as the water level goes down in the paddy field. Paddy is harvested during November-December followed by harvest of fish in January-February. Farmers use organic fertilizers during paddy field preparation.

4. Rice and fish - Historical Background

It is argued that rice-fish integrated farming in rice fields was started in Southeast Asia about 1500 years ago. Rice-fish culture is well practiced in other countries like Taiwan and Japan. Since the integrated farming of rice-fish is a low-cost, low-risk practice, it can be considered to be a viable option for rice farmers in countries such as Malawi, Bangladesh, China, India, Indonesia, Korea, Laos, Madagascar, Malaysia, the Philippines, Thailand, Cambodia, and Vietnam.

In Indonesia, about 60 hectares of fish farms have crops (pumpkin, spinach, cassava, maize, and chili) or livestock (cattle, goat, sheep, chicken, and duck) grown on the dikes of milkfish ponds. In Vietnam, culture of the giant prawn *Macrobrachium rosenbergii*, *Scylla serrata* and marine shrimps has been integrated with coastal rice farming. Aquaculture-silviculture is a flourishing venture in Vietnam and Indonesia and gaining ground with experimental sites in Thailand and the Philippines. The seaweed *Gracilaria* has been cultured with fishes and

shrimps in Taiwan, Vietnam, Thailand, and the Philippines. The production of Artemia cysts and biomass has been integrated with salt-making and fish or shrimp farming in the Philippines and Thailand.

Though India occupies an area about six million hectares of rice cultivation, only 0.03 per cent is now used for rice-fish culture. In integrated fish farming, fish becomes the major commodity. Rice-fish culture is a small-scale aquaculture in rice based farming systems. Rice-fish culture is practiced in two ways, viz. simultaneous culture and rotation culture. In the former, rice and fish are cultivated together and in the latter; fish and rice are cultivated alternately. The integrated rice-fish culture is practiced by people due to its several advantages such as economical utilisation of land, little extra labour, savings on labour cost towards weeding and supplemental feeding, enhanced rice yield, and additional income and diversified harvest such as fish and rice from water, and onion, bean, and sweet potato through cultivation on bunds. All these factors indicate the relevance to expand fish culture in the rice fields of our country.

The paddy fields retain water for 3-8 months in a year. The culture of fish in paddy fields, which remain flooded even after paddy harvest, serves an off-season occupation and additional income to the farmer. This system needs modification of rice fields, digging peripheral trenches, construction of dykes, pond refuge, sowing improved varieties of rice, manuring, stocking of fish at 10,000/ha and finally feeding of stocked fish with rice-bran and oilcakes at 2-3% of body weight. The rate of production of fish in the rice field depends on various factors namely, the method of production (extensive or intensive), the species cultured, the depth of water, the fertility of the water and soil, the interest of the farmer in the culture and the production potential of fish.

The common varieties of rice used in combination with fish are Panidhan, Tulsi, CR260 77, ADT 6, ADT 7, Rajarajan and Pattambi 15 and 16. These varieties not only possess strong root systems but also are capable of withstanding flooded conditions. Further, they have a life span of 180 days and fish culture is possible for about four to five months after their transplantation. Harvesting is done when fish attain marketable size.

5. Advantages of rice-fish cultivation

Studies reveals that by integrating rice with fish, the rice yield would increase by 10 to 15%. Cultivating two products in the same field could decrease the risk of loss during one crop fails. Integrated farming of rice and fish can improve food security. It is also a biological way

of reducing weeds, insects, snails and some rice diseases. Fish production forms an alternative source of income in areas where rice production is not profitable in all seasons.

Integrated farming is an economically attractive and ecologically viable strategy most suited for the wetland ecosystems. Rice –fish culture is an age-old integrated farming practice, now being practised in many of the south-east Asian countries. Nowadays integrated crop - fish farming gaining greater importance because this practice enables to increase production through maximum utilisation of land and water . This system is practicable only in wetland ecosystems.

The package of practices of both rice and fish has begun to attract many Asian government and policy makers. In recent past, the keen focus of all the governments on concepts likes sustainable rural development, food security, and poverty alleviation. Now in Kerala there is an increased urge for sustainability of land, productivity and income. The practice of an alternate or rotational farming of fish on rice lands is considered to be a good solution for maintaining sustainability. Moreover, the integrated farming of rice and fish can increase farm income and protein levels. As a viable option for achieving sustainable development, rice-fish farming systems have received a great deal of attention.

Rice-fish culture practice has had a long tradition in many of the South and South-East Asian countries for thousands of years (Ghosh et al., 1985). Multiple cropping further improved the returns from agricultural land thus shifting the emphasis from such integrated farming. So rice-fish farming in India is considered particularly suitable for the less productive rain fed areas (Halwart, 1994). Rice-cum-fish culture could play a prominent role in Niger State with the production of grain and animal protein (fish) on the same piece of land and at the same time. it might be considered as an almost ideal method of economic land use (Coche, 1967).

Conventional agriculture has caused economic problems associated with lower production of crops, increased costs of energy-based inputs and decreased farm incomes. It has also produced ecological problems on crop diversity, animals and poultry as well as soil and water pollution and soil erosion. The adoption of integrated farming systems involving lower external inputs, residue recycling and organic practices can alleviate economic and ecological problems. Alternatives to energy-based inputs, crop rotations, inter-cropping, use of organic matters, integrated crop, fertilizer, pests and weed management practices certainly impose larger dividends to farm income and employment. Besides this high-tech horticulture, pisciculture, dairy, poultry, mushroom culture, apiary and agroforestry can be made

component of Integrated Farming Systems. Post harvest management practices will certainly add flavor and values to young farmers and farm women and bring new dimension to the thought process and check their migration from own village / cities to other states for employment and income.

Major benefits of integrated farming can be summarized as,

- **Productivity:** IFS provides an opportunity to increase economic yield per unit area per unit time by virtue of intensification of crop and allied enterprises.
- **Profitability:** Use waste material of one component at the least cost. Thus reduction of cost of production and form the linkage of utilization of waste material, elimination of middleman interference in most input used. Working out net profit B/ C ratio is increased.
- **Potentiality or Sustainability:** Organic supplementation through effective utilization of by products of linked component is done thus providing an opportunity to sustain the potentiality of production base for much longer periods.
- **Balanced Food:** We link components of varied nature enabling to produce different sources of nutrition.
- **Environmental Safety:** In IFFS waste materials are effectively recycled by linking appropriate components, thus minimize environment pollution.
- **Recycling:** Effective recycling of waste material in IFFS.
- **Income Rounds the year:** Due to interaction of enterprises with crops, eggs, milk, mushroom, honey, cocoons silkworm. Provides flow of money to the farmer round the year.
- **Adoption of New Technology:** Resources farmer (big farmer) fully utilize technology. IFS farmers, linkage of dairy / mushroom / sericulture / vegetable. Money flow round the year gives an inducement to the small/ original farmers to go for the adoption technologies.
- **Saving Energy:** To identify an alternative source to reduce our dependence on fossil energy source within short time. Effective recycling technique the organic wastes available in the system can be utilized to generate biogas. Energy crisis can be postponed to the later period.

- Meeting Fodder crisis: Every piece of land area is effectively utilized. Plantation of perennial legume fodder trees on field borders and also fixing the atmospheric nitrogen. These practices will greatly relieve the problem of non – availability of quality fodder to the animal component linked.
- Solving Fuel and Timber Crisis: Linking agro- forestry appropriately the production level of fuel and industrial wood can be enhanced without determining effect on crop. This will also greatly reduce deforestation, preserving our natural ecosystem.
- Employment Generation: Combining crop with livestock enterprises would increase the labour requirement significantly and would help in reducing the problems of under employment to a great extent IFS provide enough scope to employ family labour round the year.
- Agro – industries: When one of produce linked in IFS are increased to commercial level there is surplus value adoption leading to development of allied agro – industries.
- Increasing Input Efficiency: IFS provide good scope to use inputs in different component greater efficiency and benefit cost ratio.

6. Fish farming with agriculture

Nowadays, as a result of the negative impacts of climate change and other factors, yields and profits of mono-aquaculture systems in ecologically sensitive areas has been declining. That's why many aquaculture farmers have shifted back to integrated farming methods as an adaptive strategy. There are various agri-based systems such as rice-fish integration, horticulture-fish system, mushroom-fish system, seri-fish system. Among this, fish culture is integrated with agricultural crops such as rice, banana and coconut, thereby producing fish and agricultural crops under one interlinked system.

7. Integrated Farming in Pokkali Fields

The integrated farming system in Pokkali lands offers an opportunity of climate resilient farming practice in the event of the change in climate scenario particularly in the recent decades. A study conducted by Regional Agricultural Research Station, Kumarakom, under the Kerala Agricultural University for productivity, income, cropping intensity and generation of employment revealed that a one hectare paddy holder in kuttanad has the carrying capacity of a minimum of 5,000 fishes, 750 broiler ducks and 3-5 male buffaloes in addition to rice.

According to the survey carried out by the Ministry of Environment and Forests in 1990, about 4.1 million hectares are covered by wetlands of different categories in India. They are predominantly located in the Himalayan Terai, Gangetic and Brahmaputra floodplains, deltaic regions of east-coast, forested valley swamps of north-eastern India, saline expanses of hot-arid regions of Gujarat and Rajasthan, the deltaic region of east and west coast, the wet humid zones of the peninsula and the fringing mangrove swamps of Andaman and Nicobar.

Pokkali field is prevalent in the coastal saline tracts of Kerala. Pokkali fields are able to produce paddy and shrimp rotationally in an organic way. The coastal saline soils along the Ernakulam district are referred to as pokkali fields. The traditional paddy cultivation involving a salt-resistant and tall pokkali variety of paddy, which used to cultivate from May-June to September- October is followed by shrimp filtration. Pokkali is a traditional zero input and naturally organic farming system in which Paddy and Shrimp farming are alternatively done in the same field. Widespread attack of WSS virus, labour shortage, lack of machinery, pollution, low price, erratic monsoon, saline water intrusion, unpredicted floods *etc* compelled farmers refrain from this farming system. The indigenous fishermen of this region have the traditional right to enter these farmers' fields and catch wild fish and shrimp as livelihood means prior to and during the paddy cultivation period. Land holding farmers get exclusive ownership and license to their field only for five months during shrimp farming. At the end of each year's license period the farmers open up the fields again for the local fisher folk for their livelihood. Due to this special social arrangement any intervention for fish farming during periods other than license period in this farming system is challenging.

The rice is cultivated from June to early November when the salinity level of the water in the fields is low. From mid-November to mid-April, when the salinity is high, prawn farming takes over. In order to survive in the water-logged field, the rice plants grow up to two meters. But, as they mature, they bend over and collapse with only the panicles standing upright. Harvesting takes place by the end of October. Only the panicles are cut, and the rest of the stalks are left to decay in the water, which in time become feed for the prawns that start arriving in November-December and is followed by prawn filtration as the second phase of the Pokkali farming. The total Pokkali lands were originally estimated to be 25,000 ha. Large areas are converted for coconut cultivation and other purposes. Year by year the area under Pokkalcultivation is declining. In another 2,000 ha, paddy cultivation is done occasionally i.e., only when the climatic conditions are favorable. About forty to fifty percent of the

potential yield is lost because of lodging and associated damages caused by fish, tortoise and rats. Quite apart from such losses and the difficulties experienced in paddy harvesting, field clearing for the succeeding selective stocking of prawn is also problematic under such situations. In Pokkali system, one rice crop followed by fish or prawn capture provides a substantial subsidiary income to the farmer. Pokkali fields are highly fertile and the pest and disease incidence is below threshold level, and hence, manuring or plant protection operations are not necessary for Pokkali farming systems, making Pokkali rice natural organic rice. Pokkali rice got GI registration in the year 2008–2009.

In 1996, the Government instituted the Pokkali Land Development Agency [PLDA] for the promotion of paddy cultivation in the wetlands. The information obtained through this agency helped to undertake a highly disaggregated analysis of the activities of Pokkalipadashekarams. According to the PLDA, the total area under Pokkali has shrunk from 25,000 ha a few decades back, to a mere 8,500 ha. Only 5,500 ha of that are actually under rice cultivation. The rest is either left fallow or used only for prawn farming. Unavailability of farm labors, especially for harvesting, is the main cause for the decline. As per the latest information of the media, the Pokkali cultivation exists only in 967 ha.

The Pokkali fields are effectively used for fish/ prawn farming after the harvest of the Pokkali crop. The seasonal rice and fish farming is effectively done over centuries. In this natural system, the ecological balance is maintained and a reasonable profit is obtained by the farmer. When the monsoon subsides, the backwaters and canals become saline and juvenile prawns and fingerlings of other fishes come in large quantities in the outer canals. They are guided to the fields through trap sluices and the sluice gates prevent them from going out. Thus, they are allowed to grow in the field. The waste materials of Pokkali rice cultivation forms the natural food material and will meet all the food requirements of the fish crop. In this system, no selective stocking or supplementary feeding are done.

The types of culture practices followed in the Pokkali fields are prawn filtration, extensive prawn culture, and the modified semi-intensive culture. Prawn filtration, is organized by collecting seedlings entering the estuary during high tides in the Pokkali fields, which ensures high rates of utilization of coastal wetlands in the area. The crop is harvested within 150 days. Prawns in Pokkali fields subsist on organic matter from decayed stubble, drying waterweeds, etc., and in turn the fields are enriched in manure and the excreta of organic wastes from fish and prawns. Chemmenvattu, or the Extensive prawn culture activities are done round the year

and is not confined to six months alone. Culture during the next six months is on a commercial basis and the laborers have the right to catch fish only at the end of the season. Semi-intensive culture form is the modern culture system, which applies modern science and technology to produce living organisms. It is not practiced in its true form rather it is a modified semi-intensive culture system that is being practiced in the backwaters of Cochin.

8. Integrated Farming- A Viable Option For Sustainability

Integrated farming (or integrated agriculture) is a commonly and broadly used word to explain a more integrated approach to farming as compared to existing monoculture approaches. Integrated production is a whole organic farm management system which aims to deliver more sustainable agriculture. It is a dynamic approach which can be applied to any farming system around the world. It refers to agricultural systems that integrate livestock and crop production. Integrated farming system has revolutionized conventional farming of livestock, aquaculture, horticulture, agro-industry and allied activities. It could be crop-fish integration, livestock-fish integration, crop-fish-livestock integration or combinations of crop, livestock, fish and other enterprises. On average, a fishpond area of 0.29 ha and rice field area of 1.25 ha yielded a net profit of Rs 25,123 and a 53.60 per cent rate of return. The study conducted on rice-fish farming in Mekong Delta in Vietnam revealed that total farm cash return from rice introduced fish, rice indigenous fish, rice-monoculture were Rs.3, 243.00, Rs. 3, 180.00 and Rs. 3, 914.00 ha-I respectively (Nhan et al., 1997).

The integrated farming system approach introduces a change in the farming techniques for maximum production in the cropping pattern and takes care of optimal utilization of resources. The farm wastes are better recycled for productive purposes in the integrated system. A judicious mix of agricultural enterprises like dairy, poultry, piggery, fishery, sericulture etc. suited to the given agro-climatic conditions and socio-economic status of the farmers would bring prosperity in the farming. An integrated farming system allows us to use some of the advantages of nature, and ecology, as opposed to relying on chemistry to solve all our production issues.

Farming and agriculture are respectively defined as the practice of cultivating the land or raising stock and the production of agricultural goods through the growing of plants and the raising of domesticated animals. Integrated farming is emerging as a viable proposition for farmers in Kerala, given its geographical and weather conditions. In the developing countries

frantic efforts have been made through research and enlightenment campaigns to encourage farming and thus ensure significant increases in agricultural production in order to feed and sustain the population that is increasing at geometric proportion. At present, the farmers concentrate mainly on crop production which is subjected to a high degree of uncertainty in income and employment to the farmers. In this context, it is imperative to evolve suitable strategy for augmenting the income of a farm.

9. Pokkali Fields and Rice-Fish Farming In Kerala

The water logged acidic coastal regions of central Kerala namely Ernakulam, Alappuzha and Thrissur districts extending to a total area of 6,274 ha. These regions follow a unique mode of saline rice production system popularly called 'Pokkali'. It is a traditional system of farming in which tall rice (*Oryzasativa* L.) varieties are growing during the monsoon season and prawn culture (prawn filtration) during summer season. Pokkali cultivation is considered to be a sustainable system of production harmoniously blended with natural processes like sea water inundation in the low-lying coastal zones. One of the desirable characteristic of these pokkali fields is that the practice of organic farming with exclusive use of saline tolerant rice varieties. The pokkali soil is basically acidic in nature with pH 2.8 to 4.5 and having salinity 12-24 ds/m during summer. Reclamation is required for rice cultivation.

The coastal areas covering the pokkali fields are rich in biodiversity and therefore have great capacity to generate organic paddy and shrimp alternatively. It is a type of integrated farming in which there are two production cycles having low saline phase and high saline phase. In the low saline phase (June to mid-October/early November), a single crop of rice is grown and is followed by prawn farming during the high saline phase (mid November to mid-April). The heavy south-west monsoon causes to flush out salt from the land turned to a natural preparation to start rice cultivation during the first cropping season. The rice varieties used are highly salt tolerant and their resistance to salinity is remarkable. In order to survive in the water logged field, the rice plants grow even up to two metres but as they mature, they bend over and collapse with only the panicles standing upright. Presently, high yielding varieties such as Vytilla 1, Vytilla 2, Vytilla 3, Vytilla 4, Vytilla 5, Vytilla 6, Vytilla 7, and Vytilla 8 are used for cultivation in this area. By the end of October harvesting begins. Only the panicles are cut and the rest of the stalks are left to decay in the water, which in time become feed for the prawns that start arriving in November–December- the second phase of the Pokkali farming. Juvenile prawns swim from the sea and the backwaters to the field when

the rice harvest is over. They feed upon the leftovers of the harvested crop. The organically grown Pokkali is famed for its peculiar taste and its high protein content.

Organic farms are treated as a model for sustainable agriculture. It has developed a database on organic farming besides carrying out a comparative exercise with modern farms in terms of technical feasibility and financial viability.

Pokkali cultivation can be considered as man's ingenuity in harnessing natural events for farming. It is a system of integrated farming, which does not affect the natural ecological processes. This system does not require any external inputs.

Traditional prawn farming in pokkali fields is also known as *chemmeenketu*. Most farmers in coastal areas of Ernakulam district follow the rice-prawn and rice-fish integrated farming in pokkali fields. In normal case, rice cultivation is risk as well as impossible in acidic and high saline soil. But the pokkali rice variety grown in the coastal areas have high resistance to salinity, flood and soil acidity. The pokkali fields in the saline coastal tracts of Ernakulam are close to the Arabian Sea and the fields are flooded regularly by the saline water. The water and salinity levels are affected by the high and low tides.

- **Simultaneous Culture**

Simultaneous rice-fish culture is feasible in the pokkali tract as these fields are continuously inundated, have built-in peripheral channels, and the tall rice varieties are grown without chemical fertilizer and pesticide additions (Thampy, 2002). For simultaneous culture, rice fields of 0.1 ha area may be economical. Normally four rice plots of 250 m² (25 x 10 m) each may be formed in such an area. In each plot, a ditch of 0.75 m width and 0.5 m depth is dug. The dikes enclosing the rice plots may be 0.3 m high and 0.3 m wide and are strengthened by embedding straw. The ditches have connections with the main supply or drain canal, on either side of which, the rice plots are located, through inlet-outlet structures of the dikes.

The depth and width of the supply or drain canal may be slightly smaller than that of the ditches. Suitable bamboo pipes and screens are placed in the inlet and outlet structures to avoid the entry of predatory fish and the escape of fish under culture. The ditches serve not only as a refuge when the fish are not foraging among rice plants, but also serve as capture channels in which the fish collect when water level goes down. The water depth of the rice plot may vary from 5 to 25 cm depending on the type of rice and size and species of fish to be cultured. The fish species which could be cultured in rice fields must be capable of tolerating shallow water (15 cm), high temperatures (up to 35°C), low dissolved oxygen and high

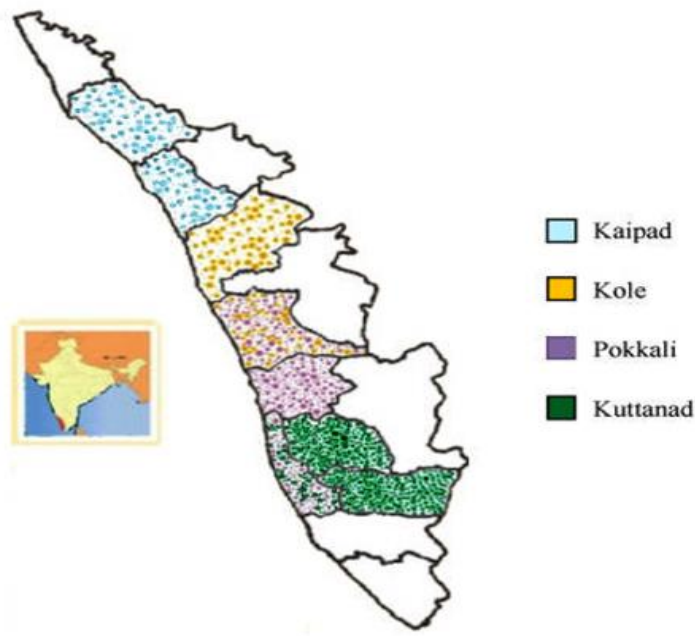
turbidity. Species such as *Catlacatla*, *Labeorohita*, *Cirrhinamrigala*, *Cyprinuscarpio*, *Chanoschanos*, *Oreochromismossambicus*, *Anabas testudineus*, *Mugil spp.*, *Clariasbatrachus*, *C. macrocephalus*, *Latescalcarifer*, *Channastrriatus* and *C. marulius* have been widely cultured in rice fields.

Fig.2 Distribution of different types of lands in Kerala



Source: ADAK Survey Report

Fig. 3 Distribution of water-logged areas in Kerala



Source: ADAK Survey Report

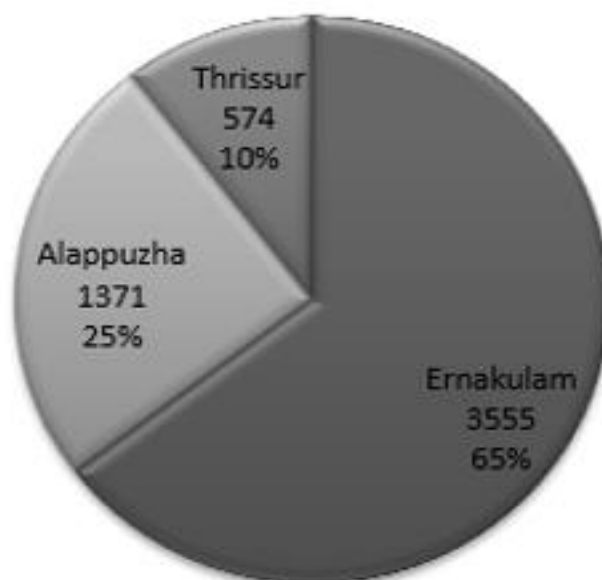
Fig. 4 District wise area under Paddy in Pokkali System - 2013-14



Source: Pokkali Development Agency, North Paravur ,Kerala

From the fig 3.4, Ernakulam district accounts for the largest area under ‘pokkali’ cultivation. In Ernakulam's southernmost panchayat, Chellanam, acreage under ‘pokkali’ has gone up to 178 hectares in 2011. Kumbalanghi panchayat has seen the largest gains for ‘pokkali’ . Acreage under the paddy variety has gone up to 240 acres. Kadamakkudy panchayat, which has the thickest concentration of ‘pokkali’ fields in Ernakulam.

Fig. 5 District wise area under paddy in Pokkali system – 2011-‘12



Source: Pokkali Development Agency, N.Paravur,Kerala

Table. 1 Area of Pokkali lands in Central Kerala

Sl. No.	Name of Local body	Area of Pokkali /prawn filtration fields (hectares)	Presently farmed area of Pokkali /prawn filtration fields (hectares)	Area of Pokkali / prawn filtration fields land that can be revived (hectares)
ERNAKULAM DIST				
North Paravur Taluk				
1	Puthanvelikkara	9.39	2.8	6.57
2	Vadakkekara	27.37	8.21	19.16
3	Paravur	29.08	8.72	20.36
4	Karumalore	16.67	5.00	11.67
5	Kottuvally	328.42	98.52	230.00
6	Ezhikkara	382	115.00	267.00
7	Varappuzha	227.18	68.15	159.00
8	Chittattukara	4.86	1.5	3.36
	Sub Total	1024.97	307.9	717.12
Kanayannur Taluk				
1	Kadamakkudy	507.22	152.00	355.22
2	Cheranallur	167.41	50.00	117.41
3	Kochi	21.69	6.5	15.69
4	Mulavukadu	372.32	111.00	261.32
5	Thripunithura	135.93	40.00	95.93
6	Maradu	196.11	50.00	146.11
7	Kumbalam	75.64	22.00	53.64
8	Udayamperoor	96.99	29.00	67.99
	Sub Total	1573.31	460.5	1113.31

Kochi Taluk

1	Pallippuram	54.66	16.00	38.66
2	Kuzhuppilly	287.07	86.00	201.07
3	Edavanakad	212.8	63.84	148.96
4	Nayarambalam	418.6	125.58	293.02
5	Njarakkal	182.42	54.73	127.69
6	Elamkunnappuzha	101.34	30.4	70.94
7	Palluruthi	201.79	60.53	141.26
8	Kochi	48.18	14.45	33.73
9	Kumbalanghy	584.32	175.00	409.32
10	Chellanam	349.21	104.00	245.21
	Sub Total	2440.39	730.53	1709.86

Source: ADAK Survey Report, PAN FISH BOOK (2011) , Dept. of Fisheries

The above table represents area of pokkali lands in central Kerala during 2011 from 3 taluks such as North Paravur, Kanayanur and Kochi. There are three categories namely area of pokkali /prawn filtration fields, farmed area of pokkali /prawn filtration fields and revived area of pokkali /prawn filtration fields. Among the three taluks, Kochi taluk stands at top position in area of pokkali /prawn filtration fields ,in farmed area of pokkali /prawn filtration fields and in revived area of pokkali /prawn filtration fields.

Fig. 6 Different stages of Pokkali/Kaipad fields



Two phases of Pokkali agro-ecosystem



Low saline phase – June to November High saline phase- December to May

Source: Rice Wisdom (website)

10. Rotational culture of rice and fish

Rotational culture means alternate cultivation of rice and fish. In this practice, a temporary fish pond by converting the rice field is prepared after the harvest. The field is prepared one or two weeks after rice harvest. Moreover, a greater water depth (up to 60 cm) could be maintained throughout the fish culture period. The advantage of rotational culture over simultaneous culture is that it permits the use of insecticides and herbicides for rice production.

Process of Cultivation

a) Pond construction

Paddy cum brackish water aquaculture is carried out in the renovated paddy plots. Construction of an earthen dyke surrounding the paddy plot is essential for retaining water and also for holding the fish and shrimp during aquaculture. The height of the dyke is required to be maintained between 50 and 100 cm depending upon the topography of the plot and tidal amplitude at the site. A perimeter canal is necessary on the inner periphery of the plot. For a one ha paddy plot, the width and depth of the canal may be about 2 m and 1 m respectively. The earth removed from excavating the canal may be utilized for constructing or strengthening the dyke. In addition to the perimeter canal, two cross trenches of about 1 m width should also be constructed at both the directions. The bottom of the trenches should be above the perimeter canal so that during the course of desalination, entire water can be easily removed to the canal. The area covered by the perimeter canal and the trenches will be about 12% of the total land area.

b) Water supply and drainage

The entry of tidal water during the culture is made through feeder canal and the flow of water into the field is regulated by a sluice gate fitted with wooden shutters and placed at about 30 cm height from the main plot. During high tide, water is taken into the plot after sieving through velon nets and split bamboo mats to prevent entry of any kind of fish/ shrimp and other undesirable species, especially carnivores. Another sluice is used for draining out water from the culture plot to the feeder canal at low tide periods for water exchange, desalination and drainage of excess water. On the entry and exit mouths of the slice gate, wooden shutters are provided to regulate the movement of water.

c) Pond management

The plots are prepared in two phases, once for brackish water aquaculture and again for paddy cultivation. For aquaculture crop, the plot is sun dried after the kharif harvest. If necessary, to rectify acidic soils, lime is applied depending on requirement of the soil. Usually no inorganic fertilization is done. However, urea may be used in extreme cases of nitrogen deficiency of soils @ 60 kg N/ha. Some shade zones are provided over the perimeter canal with twigs, hay, palm leaves etc., so that during summer the shrimp can take shelter and also hide themselves from predation.

d) Stocking

The paddy field is made ready for stocking and *Penaeus monodon* or *Penaeus indicus* are stocked @ 3 nos/sq.m.

e) Feeding

Although natural food items have good conversion values but they are difficult to procure in large quantities and maintain a continuous supply. Hence only supplementary feed is given.

f) Harvesting

Complete harvesting is done by draining the pond water through a bag net and hand picking. The average culture period in paddy fields is around 100-120 days during which time the shrimps will grow to 35 gm size. Harvested shrimps can be kept between layers of crushed ice before transporting the consignment to market.

11. Coastal Line of Kerala

Coastal line of Kerala covers 590 Kilometers. There are 6 Marine fishing harbours, 14 fish landing centers and 222 fishing villages in the state. About 0.54% of the total population of the state are fishermen. Marine fish catching is carried out through Traditional and

Mechanical boats. There exist 14 FFDAs (Fish Farmers Development Agency) and 6 BFFDAs (Brackish Water Fish Farmer's Development Agency) in the State. These agencies are formed to provide guidelines to promote Inland fish cultivation in the state. In Kerala there are 44 rivers covering an area of 85000hectares, 53000 ponds and bunds covering area more than 27000hectares, 9 fresh water lakes, 53 reservoirs and brackish water area of 46000 hectares. The last year production of inland fish was estimated as around 75000 tonnes. At present the calculation of SDP portion of this sector is based on the data furnished by the State Fisheries Department.

Table 2 : District Wise Distribution of Coast Line of Kerala

Sl.No.	District	Length of Coast Line	
		Length(in Km)	% to Total
1	Thiruvananthapuram	78	13.22
2	Kollam	37	6.27
3	Alappuzha	82	13.90
4	Ernakulam	46	7.80
5	Thrissur	54	9.15
6	Malappuram	70	11.87
7	Kozhikode	71	12.03
8	Kannur	82	13.90
9	Kasargode	70	11.86
	Total	590	100

Source: Kerala Marine Fisheries Statistics-2013

Table 3.2 shows district wise distribution of coastal line of Kerala. According to Kerala Marine Fisheries Statistics -2013, Kerala has 590 km of coastal line. The districts possess top position in length of coastal line are Alappuzha, Kannur and Thiruvananthapuram.

Table 3: Share of Agriculture & Allied Sector in Total GVA (Rs. in Crore)

Items	Year			
	2011-12	2012-13	2013-14	2014-15
GVA of agriculture and allied sectors	1995251	1902452	1680797	1501816
Per cent to total GVA	18.5	18.2	18.3	17.4

Source: Central Statistics Office, Ministry of Statistics and Programme Implementation, Govt. of India.

In view of the structural change in the economy, there has been a continuous decline in the share of agriculture and allied sector in the GVA from 18.5 percent in 2011- 12 to 17.4 percent in 2014-15 at current prices. A fall in the share of the agriculture and allied sector in GVA is an expected outcome in a fast growing and structurally changing economy.

Table 4: Inland Profile

Inland Areas	Numbers	Area (Ha)
Rivers	44	85000
Reservoirs	49	34180
Ponds/Tanks	47216	27625
Backwaters	53	46129
Prawn Filtration fields	234	12873
Mangrove	-	1924

Source: Kerala Fisheries Statistics, 2015

The above table shows the inland profile of Kerala. Rivers possess largest area . Kerala has 234 numbers of prawn filtration fields and 47216 numbers of ponds and tanks.

Table 5: Inland Fish Production (in Lakh M.T)

Year	Production (in Lakh M.T)
2010-11	1.21
2011-12	1.40
2012-13	1.49
2013-14	1.86
2014-15	2.02

Source: Kerala Fisheries Statistics, 2015

According to the report of Kerala Fisheries Statistics 2015, inland fish production in Kerala shows an increasing trend throughout the years.

Table 6: MatsyaSamrudhi

The below table represents area brought under fresh water fish culture, brackish water shrimp culture and karimeen culture in Kerala. Among the three categories, the largest area used is for fresh water fish culture and karimeen culture is done in small area than compared to others.

Sl.No.	Area brought under	Area (in ha)
1	Fresh Water Fish culture	9833.59 ha
2	Brackish water shrimp culture	2422.752 ha
3	Karimeen Culture	62.33 ha

Source: Kerala Fisheries Statistics, 2015

12. Challenges In Pokkali Rice-Fish Farming

Overall integrated rice-fish farming should play an important role in contributing to food security. However, a number of significant challenges exist for the adoption of integrated rice-fish farming, particularly the lack of technical knowledge of farmers.

Labor intensive: Pokkali harvesting is highly labor-intensive, and the young generation of the traditional farm workers' families prefers other trades, notably construction work in booming Cochin.

Shift to monoculture of prawn: The unsustainable monoculture of prawn is catching up in the Pokkali lands and has gained momentum in the last decade. Though this provides higher net returns over the traditional rice-prawn culture in the short run, it is found to be unsustainable in the long run, both in the ecological and the social context. Despite the State Governments' direct intervention making the monoculture of prawn illegal, more area is being gradually brought under fallow-prawn and prawn-prawn systems, owing largely to the multitude of constraints associated with the labor intensive rice cultivation in Pokkali lands. This poses a challenge to the in situ conservation of salinity resistant indigenous rice varieties and cultivation practices. Due to changing economic realities, farmers are showing a tendency to convert these seasonal lands to single crop-prawn-system.

Anthropogenic threats: Invasion of weed and over exploitation of fish and prawn are some of the major reasons for the decline of the lands. Also, these areas appear to be one of the most preferred landfills for dumping solid waste and an ultimate point for discharging untreated industrial and domestic effluents.

13. Decline in area of cultivation

In recent years Kerala has witnessed a drastic decline in paddy cultivation. According to State Planning Board data, the state lost over 500,000 hectares of land under paddy cultivation

between 1980 and 2007 to various other sectors. As of 2010-11, there were only 213,000 hectares under paddy cultivation. The case is not different in Pokkali lands. Two decades ago, there were more than 25,000 hectares of *Pokkali* lands. Now, only about 5000 hectares survive, but actual cultivation takes place in less than 1000 hectares of these.

Reasons responsible for this general decline in paddy cultivation is various such as financial viability, shortage of labour, demand for land for other purposes, and general apathy towards agriculture. Besides all these factors, there was another special factor i.e, the lure of money is a serious problem in the case of pokkali.

Nowadays, farmers are reluctant to practice the old system of pokkali cultivation due to the lack of farm labour and economic inviability. Since the rice-fish cultivation depends on the proper combination of rain and tides, due to the present climatic changes, there is concern about the unpredictability of the system. The growth rate in rice has sharply declined since nineties as compared to the eighties. As per the estimates of the Central Rice Research Institute (CRRRI data base, 2011), the compound annual growth rate (CAGR) of rice production in the country has declined from 3.55 per cent during 1981-'90 to 1.74 per cent during 1991-2000. Although an all time high production of 99.50 million tonnes of rice with a productivity of 2200kg per hectare was achieved during the year 2008-'09, India needs to produce 120 million tons by 2030 to feed its one and a half billion plus population by then.

Fig. 7 : Decline in area of pokkali fields



**Destruction of Kaipad wetlands
of North Kerala**

**Invasion of exotic weeds
in Pokkali wetlands**

Source: Rice Wisdom (website)

14. New Interventions In Rice-Fish Farming

Pokkali is a naturally organic farming system in the coastal areas of Ernakulam district that involves alternate growing of Paddy and Shrimp in the same field. Pokkali farming system which was sustained mainly on the income from shrimp turned loss due to wide spread attack of White Spot Symptom (WSS) virus infection in Shrimps. Labour shortage, high wages, lack of machinery, lack of branding to Pokkali products *etc.* accelerated the crisis. Most of the Pokkali fields which harvested lots of organic paddy and shrimp in the past are kept barren at present. One of the important initiative taken by ICAR-KrishiVigyan Kendra (KVK) Ernakulam of ICAR-Central Marine Fisheries Research Institute is working towards betterment of agriculture and its allied fields, a survey conducted among Pokkali farmers way back in 2011 revealed that ensuring more income per unit area from Pokkali fields is the only way to attract farmers back to this organic farming system and bringing back its glory. In order to reap more profit, KVK introduced a third component-Cage fish farming and demonstrated it as profitable during last three years. Pearlsport, Mullet and Seabass are the species suitable for Pokkali fields. Pearlsport and Mullet can be grown in the open field, whereas Seabass being carnivorous require confined farming in cages. Cages can be positioned in field channels and sluice pits.

Traditional paddy farming yields a profit of only 25,000/- per ha, whereas paddy and shrimp together yield a profit of INR 50,000/- per ha. This could be augmented to 1.3 lakhs per ha in the newly introduced Paddy-shrimp-cage culture integrated system. Subsequent to the success of this integrated farming, the Fish Farmers Development Agency (FFDA) under the State Government has initiated a subsidy scheme - *Integrated fish farming in Pokkali fields*. Under this, the agency support fish farming both in open Pokkali fields and also in cages sited in Pokkali fields. Total of 100 ha open fields and 100 cages would receive financial assistance (INR4000/- per cage and INR20,000 per ha open field). KVK extended technology backstopping to 15 farmer groups. Subsequently a Pokkali farmer producer company got registered with 50 member farmers and 11 director board members.

15. Conclusion

The package of practices of both rice and fish has begun to attract many Asian government and policy makers. In recent past, the keen focus of all the governments on concepts like sustainable rural development, food security, and poverty alleviation. Now in Kerala there is an increased urge for sustainability of land, productivity and income. The practice of an alternate or rotational farming of fish on rice lands is considered to be a good solution for

maintaining sustainability. Moreover, the integrated farming of rice and fish can increase farm income and protein levels. As a viable option for achieving sustainable development, rice-fish farming systems have received a great deal of attention.

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VALUE CHAINS AS A METHOD TO STUDY BIOTRADE**Suma Sunny**

Independent researcher

Introduction

Globalization has led to growing integration of economies. Global production, distribution and consumption have far reaching implications for the environment and the society. BioTrade has been put forward as a mechanism, in this context, to conserve biodiversity. UNCTAD defines BioTrade as “those activities of collection, production, transformation, and commercialization of goods and services derived from native biodiversity under the criteria of environmental, social and economic sustainability”¹³. The new markets opened up as a result of globalization present avenues for indigenous communities (ICs) in developing countries to enter the global value chain. This has been argued as leading to enhancement of well being of ICs as well as conservation of biodiversity. This article reviews briefly the possibilities of BioTrade and outlines the utility of value chains as an analytical tool to study it.

Many developing countries in the world are rich in biodiversity, and a substantial proportion of the poor in these countries depend on natural resources for their livelihoods. In many instances, these are the ICs of the respective countries. That the biodiversity rich regions of the world are losing it is a reason for concern and action. The biodiversity dependant populations, like the ICs, cannot be blamed for such a situation as they are among the most disadvantaged sections in their societies. Modernization often poses difficult questions on the traditional livelihoods of these already vulnerable and marginalized groups. Hence, their contact with modern societies has often been marked with resistance, often times violent (Ravi Raman, 2004). As they depend mainly on natural resources for their livelihoods, it is important to develop solutions to the problems of ICs in ways that are close to the nature. The ‘solutions’ must also conserve biodiversity and ensure sustainable development. The creation of markets is often advocated as means for counteracting the erosion of biodiversity as well as promoting indigenous and traditional knowledge by providing economic incentives to the ICs (Krishna and Pascual 2004). Bioprospecting or exploration of biodiversity for commercially valuable genetic and biochemical resources (Moran 2000) emerged in this context. Several bioprospecting initiatives have taken place. An example is the one involving

¹³ <https://unctad.org/en/Pages/DITC/Trade-and-Environment/BioTrade.aspx> (accessed 21 December 2018).

the Kani tribe in Kerala (Anuradha 1998). Sectors involved in BioTrade activities are pharmaceuticals, food, ornamental flora and fauna, handicrafts, textiles, tourism and forestry based carbon credit activities (United Nations 2017).

BioTrade as a conservation strategy

The Convention on Biological Diversity (CBD) of 1992 aimed at conserving biodiversity, sustainable use of its components and equitable sharing of benefits accruing from use of genetic resources. BioTrade Initiative was proposed at the third Conference of the Parties (COP3) of the CBD by UNCTAD in 1996. UNCTAD's major objective in the area of trade is to assist developing countries to stimulate trade and investment in biological resources by enhancing the capability of developing countries to produce value-added biodiversity products and services for both domestic and international markets. UN envisages that "BioTrade's philosophy centers on providing livelihoods for poor, particularly rural communities and people, living in and depending on biodiversity"¹⁴. In BioTrade Initiative biodiversity is considered as a product. Earlier the trade of bio products were confined within the walls of local or regional market, but this initiative tries to create new horizons in bio products trade by extending it to the international market through the road of globalisation. So the biodiversity rich countries have the advantage of including potential business opportunities based on the sustainable use of biodiversity (Bayon et al 2000).

ICs have an intimate cultural relationship with their land and its natural resources. They embody knowledge and wisdom that is vital to the conservation and the sustainable use of biological diversity. This knowledge may relate to planting and harvesting methods, the use of natural herbs and other material for medicinal purposes, and the understanding of changes that have occurred to local biological features and landscapes. It is the accumulated knowledge and practices of these peoples that have protected and enhanced biodiversity over generations (UNCTAD 2002). BioTrade, through its country programmes, seeks to enhance the role played by local and indigenous communities in conserving and using their biological diversity, knowledge, innovations and practices. These programmes promote the wider application of this knowledge, encouraging equitable sharing of benefits arising from the utilization of this knowledge with its holders, as well as adding value to the products and services derived from biodiversity.

¹⁴ <https://unctad.org/en/Pages/DITC/Trade-and-Environment/BioTrade.aspx> (accessed 21 December, 2018).

Emphasis given to eco-friendly and natural products, especially in the West, has opened up a vast market for biodiversity-generated output. This, in turn, will raise the quality of life of ICs and take them out of poverty if the benefits due to them are shared with them. This is possible by linking them to the global value chain. While these are the arguments that have been put forward in support of BioTrade, it has had its fair share of critics. Lack of understanding on the part of the ICs on the finer legal details of the contracts lends them vulnerable to exploitation. Moreover, the larger political economy of development places developing country facilitating agencies and the ICs in a disadvantageous position in terms of patents and markets for the produce¹⁵.

The Indian experience

India has a long tradition in the field of natural medicines and the country has a vast area comprising all climatic zones. India is hence, a leading producer of natural ingredients for pharmaceuticals. India is a leading exporter of natural ingredients for pharmaceuticals like medicinal and aromatic plants, medicinal and vegetable saps and extracts and vegetable alkaloids to the European Union (EU) market (CBI 2004). A market research report on herbal medicine projected its growth to reach \$111 billion by 2023 with a compound annual growth rate of 5.88%.¹⁶

A detailed study by Planning Commission (GOI 2000) describes the condition of medicinal plants trade in India. There is a vast, secretive and largely unregulated trade in medicinal plants, mainly from the wild, which continues to grow dramatically in the absence of serious policy attention with environmental planning. Confusion also exists in the identification of plant materials where the origin of a particular drug is assigned to more than one plant, sometimes having vastly different morphological and taxonomical characters. There are few others, where the identity of plant sources is doubtful or still unknown; therefore, adulteration is common in such cases. A holistic management action plan is necessary to formulate for assessment and management of resource base; best harvesting and processing practices; trade issues and aspects dealing with the intellectual property rights on the traditional medicines by the tribal people (GOI 2000).

¹⁵ <https://www.downtoearth.org.in/coverage/the-kani-learning-39208> ;

<https://www.downtoearth.org.in/news/tragic-potion-11014> (both accessed 21 December, 2018).

¹⁶ <https://www.marketresearchfuture.com/reports/herbal-medicine-market-3250> (accessed 21 December, 2018).

A study by Nautiyal (1995) reported that the potential returns to the farmer from cultivation of medicinal plants are quite high. The cultivation of certain high altitude Himalayan herbs could yield products priced anywhere between Indian Rupees (INR) 7,150 to 55,000 per hectare although it is not clear at which point in the marketing chain these prices are paid. Rao and Saxena (1994) reported average annual (per hectare) income of INR 120,000 through mixed cropping of high altitude medicinal herbs. 90 per cent of the medicinal plants in India ultimately come from the wild and natural sources in various parts of the country collected by unskilled forest dwelling communities and purchased by the contractors at a nominal price. This supply chain often extends to 3-4 tiers without much value addition but with increase in sale price at each level. There is, on an average, 70 to 100 per cent increase in sale price of crude drugs from primary collectors level to pharmacy level. Many times the same crude drug is available in various grades with major traders having considerable difference in price. For instance, various grades of 'safed musli' are available at varying prices of INR 800 to 1200 per kilogram. The gradation is generally dependent on physical features of the crude drug as well as the geographical source of origin. Crude drugs trade in certain states like Kerala, Andhra Pradesh and Maharashtra operates through Tribal Co-operative Societies established to ensure fair price for tribals who collect the crude drugs. However, the operation of many of these organisations is unsatisfactory and the tribals prefer to sell their produce to middlemen who ensure quick payment in cash. Unsustainable ways of harvesting and unrestricted marketing have led to the reduction in population of some of the high demand medicinal plants leading to sudden escalation in prices of these crude drugs in the market (GOI 2000).

The ICs of Kerala, the *Adivasis*, have wide knowledge of medicinal plants. A study by Faizi for the Kerala Research Programme on Local Level Development reports that the state has about 3,700 species of vascular plants of which 100 are endemic. 30 odd species are listed in the red data book for conservation priority. 2,865 plant species of Kerala have economic value, of which 900 species are used in herbal medicine. The agro-biodiversity and the biodiversity at the village level that spreads on to farms, homesteads, sacred groves, mangroves, and a large network of wetlands are also significant.

Value chains as an analytical tool

Value chain approach is a fruitful tool to study the complex and dynamic inter-linkages that exist in globalised trade (Kaplinsky 2000, Pelupessy 2000). A (simple) value chain describes the full range of activities, which are required to bring a product or service from conception,

through the different phases of production, delivery to final consumers and final disposal after use (Kaplinksky and Morris 2001). Real life chains are complex and ‘messier’.

The pharmaceutical industry provides an interesting case. Medicinal plants form the raw material for many drugs. Some 42 percent of the sales of the top 25 selling drugs world-wide are either biologicals, natural products, or entities derived from natural products (Ten Kate and Laird 1999). According to WHO, the industry of medicinal plants is estimated to be worth more than € 45 billion and is growing steadily. Moreover, it estimates that 4 billion people, 80 percent of the world's population, presently use herbal medicine for some aspect of primary health care. Use of medicinal plants is expected to rise globally, both in allopathic and herbal medicine (CBI 2004). It is a paradox that most of the biodiversity rich regions are in underdeveloped or developing countries and research and development (R&D) facilities are in developed countries (Smith and Kumar 2002). Many of the medicinal plants (raw materials) are grown in developing countries and exported to developed countries to manufacture the drugs (final product). The following is a simple schema of the medicinal plant value chain.

Cultivator (1) □ Trader/Exporter-Importer (2) □ Company/Manufacturer (3) □ Distributor (4) □ Retailer (5) □ Consumer (6)

Simplistically, (1) and (2) takes place in the developing country (Asian and South American countries) whereas (3), (4), (5) and (6) occur in the developed country. The ICs, who are the cultivators, often neither form part of the chain owing to their disadvantages nor reap the monetary or other benefits accruing from it. A solution to this is to bring them to the chain so that they are better off and biodiversity is conserved voluntarily.

To assess the appropriateness of BioTrade as a mechanism for biodiversity conservation and the implications of BioTrade on the socio-economic status of local communities we have to consider many questions.

- a. Is BioTrade a suitable mechanism for conserving biodiversity in the particular selected community?
- b. What are the socio-economic implications of BioTrade on local communities?
- c. What is the structure of the value chain of selected goods and how does trade take place?
- d. What is the position and role of ICs in the value chain? Whom does the share of profits go to at each stage and in what proportion?
- e. How are the socio-cultural institutions of ICs affected by BioTrade?

These questions do not merely concern the economics of trade but has livelihoods, political economic and legal implications. We require an interdisciplinary perspective which can accommodate and analyse the ecological and critical political economic factors in approaching BioTrade. Here, broader analytical tools such as commodity chain analysis proposed by critical scholars are much more useful than a straight forward economic analysis that merely focuses on the value creation along the chain of producer to the final consumer. Commodity chain analysis helps us see who gains and who loses in the economic value chain, thereby critically analysing and unpacking the socio-structural factors. Value chains need to be socially and politically embedded (Rammohan and Sundaresan 2003) to assess the larger implications of BioTrade for ICs and marginalized groups.

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Countries implementing BioTrade

Africa: Botswana, Burkina Faso, Ghana, Madagascar, Malawi, Mozambique, Namibia, South Africa, Swaziland, United Republic of Tanzania, Zambia and Zimbabwe

Asia: Indonesia, Lao People's Democratic Republic, Myanmar and Viet Nam

Latin America: Plurinational State of Bolivia, Brazil, Colombia, Ecuador, Mexico and Peru.



Source: unctad.org¹⁷

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¹⁷ <https://unctad.org/en/Pages/DITC/Trade-and-Environment/BioTrade/BT-countries.aspx> Accessed on 23 december.2018