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VISION

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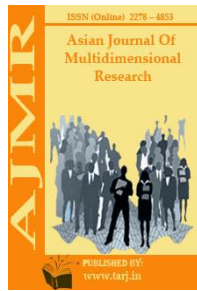
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REGRESSION ANALYSIS ON PROFITABILITY OF LIFE INSURANCE CORPORATION OF INDIA

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ABSTRACT

This paper identifies the factors which influence the profitability of Life Insurance Corporation. LIC remains the most profitable Life Insurance Company in India and hence it is imperative that we understand the factors which contribute to its profitability and growth. The absence of empirical studies in India, about Profitability of LIC became the motivation for the study. Related review of literature is structured around the key components of profitability, operating expenses and surplus distribution. With ~3lakh crore as Total Premium Income and 2.13 crore policies for 2017-18, LIC dominates the life insurance space both on premium and policy count. Corporation paid Rs.2446 crore as dividend to Government of India in 2017-18. LIC functions with 2048 fully computerized branch offices, 113 divisional offices, 8 zonal offices, 1381 satellite offices and the corporate office. LIC's Wide Area Network covers 113 divisional offices and connects all the branches through a Metro Area Network. In terms of overseas operations the Corporation directly operates through its branch offices in Mauritius, Fiji and United Kingdom. On product front the corporation has 30 Individual Products, 12 Group Products and 7 Riders, available for sale.

KEYWORDS: *Life Insurance; Profitability; Operating Expense, Commission, Capital*

INTRODUCTION

Privatization of Life Insurance Industry started in the year 1999 with the passage of IRDA act. Now we have 24 Life Insurance Companies including the big brother LIC. We have completed 17 yrs. but still companies are struggling with accumulated losses. Most of the insurance companies are still learning from Life Insurance Corporation and copying their model to become

successful. However they have been only partially successful. This is so because of the wider distribution LIC enjoys in its captive channel. LIC has close to ~11 lakh captive agents to source business. Also LIC is at the top in terms of cost efficiency which is compared with Operating Expenses to Total Premium Income. As on 2017-18 LIC cost efficiency is at ~9.4% and this is surely aiding them register higher profit.

While it remained a role model for agency distribution it left no stone unturned and ventured into newer business models viz. Banc assurance and corporate agency tie ups. LIC has tied up with close to 60 banking partners which include prominent bank like Andhra Bank, UCO Bank, Corporation Bank, Central Bank of India, and Dena Bank. Premium growth of LIC is as follows.

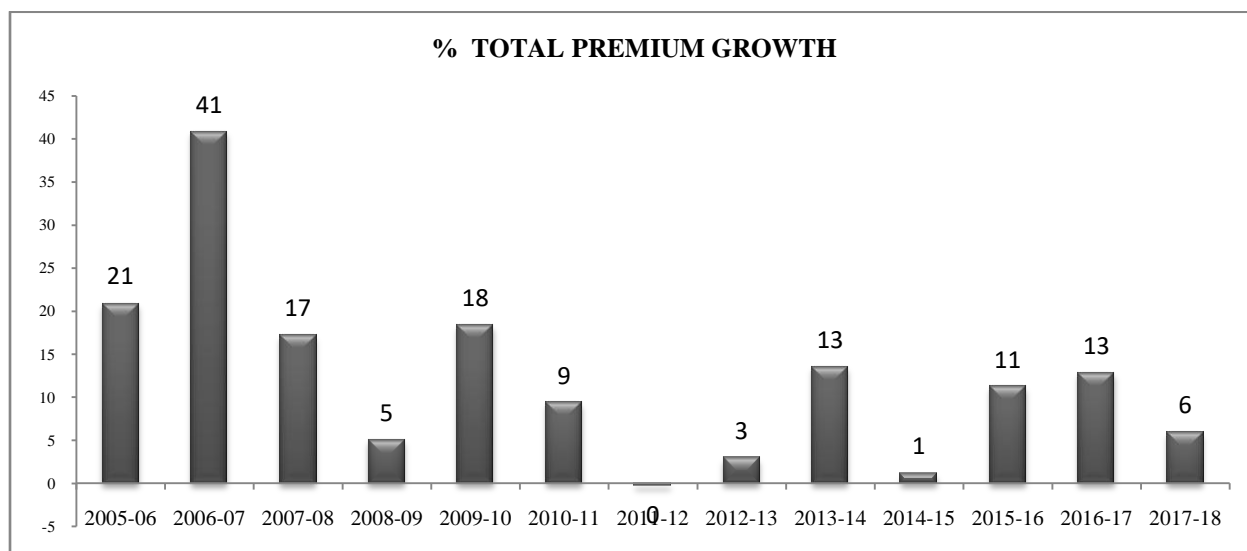


Figure 1.0

Growth in premium with LIC remained consistent except for 2011-12. However the %age growth remains a concern as LIC was not growing the way it has to grow. This is primarily due to wider base and also competition from private insurance companies. Private Insurance Companies have made inroads in insurance space thanks to their alternate channel distribution viz. Banc assurance and corporate agency models. However LIC remains to lead the market by grabbing 69.40% of the Market Share in Total First Year Premium and 75.67% in New Policies for FY 2017-18. The Corporation reported an increase of around 8% in its New Business Premium in the Financial Year 2017-18 i.e. over 1.34 lakh Cr., as compared to over 1.24 lakh Cr. in the F.Y 2016-17.

% age growth also remains a concern in LIC owing to high level of agency attrition. Details are as follows.

Parameter	Number of Agents
Net Agent Count as on 1st April'18	11,48,811
Number of Additions for FY 2018-19	2,63,894
Number of deletions for FY2018-19	2,33,476
Net Agent Count as on 31st March'19	11,79,229
Net Addition for FY 2018-19	30,418

TABLE 1.0

For FY 2018-19 LIC added ~2.63 lakh agents and terminated ~2.33 lakh agents which clearly indicates agency retention is the major drawback for LIC which has an adverse impact on the overall business portfolio. Effectively for FY 2018-19 net agent addition is only 30,418. Considering ~95% business premium is contributed by agency channel alone, higher agency attrition is surely a cause of concern.

LIFE INSURANCE CORPORATION DATA

FINANCIAL YEAR	In (000's)					
	TOTAL PREMIUM	COMMISSION	OPERATING EXPENSE	PAID UP CAPITAL	BENEFITS PAID	PROFIT
2004-05	751272898	62451669	59871841	50000	284404521	7083650
2005-06	907922236	70949194	60415606	50000	339271106	6315801
2006-07	1278228409	91690668	70858411	50000	532864555	7736203
2007-08	1497899867	95680966	83093206	50000	565503261	8446259
2008-09	1572880385	100332433	90642874	50000	524781387	9573488
2009-10	1860773108	121103128	122458242	50000	791306584	10607168
2010-11	2034733971	133086771	169802811	50000	1112411899	11718037
2011-12	2028892784	140356327	149144012	1000000	1174721448	13133429
2012-13	2088035797	147679801	167076628	1000000	1348812826	14375925
2013-14	2369423007	166812914	202778820	1000000	1580155355	16566813
2014-15	2396676514	150920966	223926956	1000000	1441257487	18237837
2015-16	2664442056	154771658	226927657	1000000	1428069460	25178479
2016-17	3004873598	165900666	289446565	1000000	1666947795	22317408
2017-18	3182232056	182268187	301423954	1000000	1965650396	24464054

TABLE 1.1

CONCEPTUAL FRAMEWORK

While we have many determinants which impact profitability, we will emphasize on the key attribute which influence the profitability of life Insurance Companies.

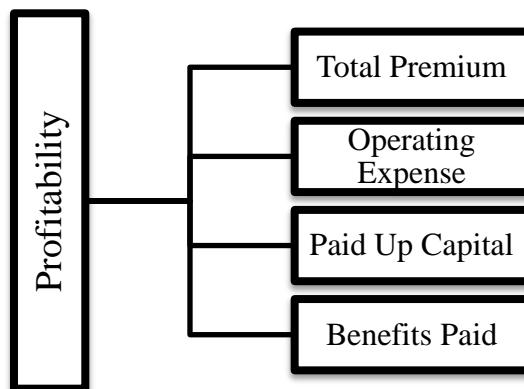


Figure 1.1

HYPOTHESIS

We have profitability as the Dependent Variable and Total Premium, Operating Expense, Paid up Capital and Benefit Paid as Independent Variables. Hypothesis for the proposed research will be as follows.

- ✓ H0: Profitability has no correlation with Total Premium, Operating Expense, Paid-Up Capital and Benefits paid.
- ✓ H1: Total Premium has a strong correlation with profitability
- ✓
- ✓ H2: Operating expenses has a strong correlation with profitability
- ✓
- ✓ H3: Paid Up Capital outgo has a strong correlation with profitability
- ✓
- ✓ H4: Benefits Paid has a strong correlation with profitability

TOOLS AND TECHNIQUES USED FOR ANALYSIS

The following tools and techniques have been used for analyzing the data.

- ✓ Mean
- ✓ Standard Deviation
- ✓ Correlation Coefficient
- ✓ Multiple Regression Analysis and
- ✓ ANOVA

✓ ANALYSIS AND INTERPRETATION

- ✓ In order to find out “Factors that influence the profitability of Life Insurance Companies in India” the following methodology is adopted
- ✓ **Profitability as Dependent Variable:** Profit remains the ultimate objective of all insurance companies. With long term contracts in insurance, profit is arrived only once all the liabilities are met than focusing on accounting profit. Profit is the outcome of many Internal and External factors and hence it remains the dependent variable.
- ✓ **Total Premium as Independent Variable:** Life Insurance Companies growth is assessed by the inflow of premium income. Total Premium will include both the new business and renewals. Hence top line may not culminate to bottom line. Since Total Premium is the major inflow for insurance companies it remains the most critical factor influencing profitability of insurance companies.
- ✓ **Operating Expense as Independent Variable:** Life Insurance Companies in India focused entirely on premium growth during the first decade of operations. However with the ULIP regulation (September 2010) attention shifted on efficiency. The major outflow for Insurance Companies is either in the form of claims or Operating Expenses. IRDA defined expense management through its communication “Regulation on EOM-Life Insurers-14.12.2015”. Since Total Benefits Paid/Claims ratio is the outcome of actuarial calculation the only

controllable factor remains Operating Expense for Insurance Companies. Hence we had taken Operating Expense as crucial factor for influencing profitability.

- ✓ **Paid-Up Capital as Independent Variable:** Variable: Life Insurance Companies growth is assessed by the inflow of premium income. Total Premium will include both the new business and renewals. Premium income is dependent on deploying capital and expanding distribution. Efficiency has a limitation but scalability does not. Hence the need to have capital deployed to reach masses and enhance LI penetration.

Claims/Total Benefits Paid as Independent Variable: Death Claim, Maturity Claim, Surrenders and Partial withdrawals are the outflows for insurance companies. While death and maturity claims are the outcome of actuarial calculation, surrenders and withdrawals can be controlled through customer retention and reiterating product benefit to them. Claims contribute close to 60% of the total outgo in a year. And from the accounting point of view it remains very important as lower the outgo higher the profit for insurance companies. Hence it will have direct bearing on profitability of insurance companies and thus it is considered as a vital factor.

MULTICOLLINEARITY

It is a situation in which two or more independent variables are highly correlated which is equal to 1 or -1. When we have a high correlation between independent variables then the result is going to get impacted because of the relationship which exists between these variables. In order to avoid this we select independent variables which are not highly correlated so that the regression provides us the right output. The correlation output for the assumed variables is as follows.

	TOTAL PREMIUM	COMMISSION	OPERATING EXPENSE	PAID UP CAPITAL	BENEFITS PAID	PROFIT
TOTAL PREMIUM	1					
COMMISSION	0.969553588	1				
OPERATING EXPENSE	0.973763695	0.939235699	1			
PAID UP CAPITAL	0.798484576	0.853516292	0.816834085	1		
BENEFITS PAID	0.96311092	0.985025336	0.967794597	0.880284732	1	
PROFIT	0.940510188	0.888638838	0.951673535	0.835391387	0.913876179	1

TABLE 1.2

From the above mentioned table we can interpret that there is high correlation between Commission and Total Premium, Commission and Benefits Paid, Commission and Operating Expense. Hence we will drop Commission as an independent variable for our regression analysis.

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.995307081
R Square	0.990636185
Adjusted R Square	0.887827041
Standard Error	1752381.451
Observations	14

ANOVA					
	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	3.24877 E+15	8.1219 2E+14	264.48 52105	2.53989 E-09
Residual	10	3.07084 E+13	3.0708 4E+12		
Total	14	3.27948 E+15			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0							
TOTAL PREMIUM	0.00609 3493	0.00190 0159	3.2068 32542	0.0093 82313	0.00185 9674	0.0103 27312	0.0018 59674	0.0103 27312
OPERATING EXPENSE	0.06600 9606	0.02597 3611	2.5414 10426	0.0292 9223	0.00813 6794	0.1238 82417	0.0081 36794	0.1238 82417
PAID UP CAPITAL	5.29104 212	2.25408 9512	2.3473 079	0.0408 27651	0.26861 7702	10.313 46654	0.2686 17702	10.313 46654
BENEFITS PAID	- 0.01073 2915	0.00498 1446	- 2.1545 7831	0.0566 25351	- 0.02183 2268	0.0003 66438	- 0.0218 3227	0.0003 66438

RESIDUAL OUTPUT

<i>Observation</i>	<i>Predicted PROFIT</i>	<i>Residuals</i>
1	5742055.135	1341594.865
2	6143612.062	172188.9383
3	7011573.442	724629.5584
4	8807445.425	-361186.425
5	10199753.7	-626265.7009
6	11193553.51	-586385.507
7	11932383	-214346.0006
8	14890837.5	-1757408.502
9	14566441.95	-190516.9454

10	16154780.77	412032.234
11	19207608.97	-969771.9709
12	21178857.44	3999621.556
13	24816262.16	-2498854.161
14	23481667.7	982386.3031

TABLE 1.3

Multiple R: Multiple R is the correlation coefficient. Multiple R of 0.99 clearly denotes that there is a strong positive correlation between profitability and other independent variables. This statistic, which ranges from -1 to +1, does not indicate statistical significance of this correlation. Any value closer to 1 is perfect positive correlation.

While we have many factors influencing the profitability of life insurance companies, we wanted to focus on the key parameter which influences the behavior of dependent variable.

R Square: R Square denotes the coefficient of determination. R Square denotes 0.99 which means 99% of moment of dependent variable can be predicted by independent variables.

Adjusted R: Adjusted R Square adjusts for the number of items in a model. Adjusted R square would be very relevant when we have multiple independent variables. Adjusted R square 0.88 means 88% of the moment of dependent variable can be predicted.

Standard Error: The standard error of the regression is 1752381.451 which is an estimate of the variation of the observed profit of Life Insurance Industry. The standard error here refers to the estimated standard deviation of the error term u .

It is sometimes called the standard error of the regression. It equals $\sqrt{SSE / (n-k)}$. It is not to be confused with the standard error of y itself (from descriptive statistics) or with the standard errors of the regression coefficients given below.

The above gives the overall goodness-of-fit measures:

- $R^2 = 0.9906$
- Correlation between y and \hat{y} is 0.995 (when squared gives 0.995).

$R^2 = 0.99$ means that 99% of the variation of y_i around \bar{y} (its mean) is explained by the regressor x_1

The regression line is

$$Y = \text{Profitability} = 0 + 0.006(\text{TOTAL PREMIUM}) + 0.066(\text{OPERATING EXPENSE}) + 5.2910(\text{PAID UP CAPITAL}) + 0.010(\text{BENEFITS PAID})$$

This clearly depicts for each unit increase in Total Premium, profit increases with 0.006 units. With regard to each unit increase in Operating Expense, profit increases with 0.066 units. Similarly for each unit increase in Paid up Capital profit increases by 5.2910 units. And for each unit increase of Benefits paid profit increases by 0.010 units.

Residual: The residuals show you how far away the actual data points are from the predicted data points. We do have residual as the model fits in up to 88%.

Significance of F: The column labeled significance F has the associated P-value. Significance F will consider overall scenario about the fitment which is not helping us derive the much needed

input. However considering individual P values we are pretty sure that the model fits in since all the P values of independent variables are <0.05 . Alpha or p value both mean the same. It is a value which will help us reject the null hypothesis.

ANOVA: The analysis of variance information provides the breakdown of the total variation of the dependent variable in this case profitability into the explained and unexplained portions

The SS Regression is the variation explained by the regression line; SS Residual is the variation of the dependent variable that is not explained.

The F-statistic is calculated using the ratio of the mean square regression (MS Regression) to the mean square residual (MS Residual). This statistic can then be compared with the critical F value for 264 and 14 degrees of freedom (available from an F-table) to test the null hypothesis.

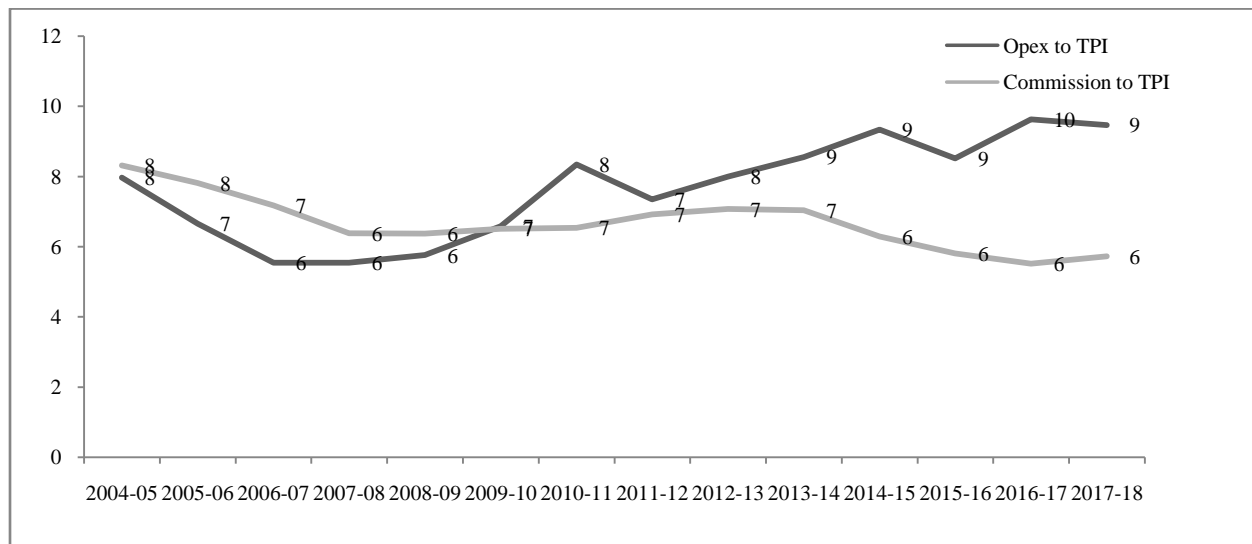


Figure 1.2

Operating Expenses and Commission remains the major outflow for any insurance company. Hence curtailing opex and to an extent commission outflow remains the crucial strategy for companies. One of the important factors contributing for Life Insurance Corporation profitability is the control on both Opex and commission. LIC consistency maintained a median opex of 8% to Total Premium Income and 7% of Commission to Total Premium Income. This is primarily due to higher productivity and also the product mix wherein corporation focusses mostly on single premium sales and Unit Linked plans. Single premium products will have a median commission of 2% and similarly unit linked will have a commission ranging between 5-10%.

TOTAL PREMIUM		OPERATING EXPENSE		PAID UP CAPITAL		BENEFITS PAID		PROFIT	
Mean	1974163335	Mean	158419113.1	Mean	525000	Mean	1054011291	Mean	13982467.93
Standard Error	194286887.2	Standard Error	21914613.51	Standard Error	131741.2966	Standard Error	145270748	Standard Error	1726243.021
Median	2031813378	Median	158110320	Median	525000	Median	1143566674	Median	12425733
Standard Deviation	726954966.6	Standard Deviation	81996975.5	Standard Deviation	492930.7956	Standard Deviation	543553367.5	Standard Deviation	6459009.95
Sample Variance	5.28464E+17	Sample Variance	6.7235E+15	Sample Variance	2.42981E+11	Sample Variance	2.9545E+17	Sample Variance	4.17188E+13
Kurtosis	-0.605658963	Kurtosis	-0.977773977	Kurtosis	-2.363636364	Kurtosis	-1.339784048	Kurtosis	-0.909001281
Skewness	-0.052817541	Skewness	0.408647636	Skewness	1.99271E-17	Skewness	0.014599764	Skewness	0.632672904
Range	2430959158	Range	241552113	Range	950000	Range	1681245875	Range	18862678
Minimum	751272898	Minimum	59871841	Minimum	50000	Minimum	284404521	Minimum	6315801
Maximum	3182232056	Maximum	301423954	Maximum	100000	Maximum	1965650396	Maximum	25178479
Sum	27638286686	Sum	2217867583	Sum	735000	Sum	14756158080	Sum	195754551
Count	14	Count	14	Count	14	Count	14	Count	14

TABLE 1.4

Total Premium: We are witnessing consistent growth on Total Premium which is well supported with a healthy renewal premium bucket. Except between 2011-12 TPI has achieved a very good traction and is growing year on year. Mean Total Premium is at 1974163335 and we witnessed LIC growing 11% CAGR between 2004 and 2018. Standard deviation for the said period is 726954966.6 which factors the growth. Also when we measure Kurtosis we realize that Total Premium in absolute normal distribution. We do not have heavier tails and distribution is shorter. Skewness value indicates that the Total Premium is part of perfect normal distribution and we do not see any asymmetrical distribution. Also the data is positively skewed. We are also witnessing regular premium growth due to huge renewal base. This is huge considering most of

the insurance companies have completed more than 10 yrs. of operations and their ~60% share is coming from renewals.

Operating Expense: We are observing that the operating expense for LIC is growing on a YOY basis. This is due to acquisition of new customers and also the employee salary which constitute major pie. LIC made a conscious attempt to reduce OPEX post 2010-11 since Operating Expense is inversely proportionate to the profitability of insurance company. Mean Operating Expense is at 158419113.1 and Standard deviation for the said period is 81996975.5 which factors the year 2010-11 where the OPEX has come down. Also we measure Kurtosis we find that it is at 0.97 which clearly indicates that it is part of normal distribution and do not see any major deviation from normal distribution. Distribution remains shorter with no heavier tails. Skewness is at 0.40 which again indicates that the data is positively skewed.

Paid Up Capital: LIC continued with 5 crore paid up capital since inception and continued to add on new business with much vigor without meeting any solvency margin requirement. However with IRDAI intervening LIC along with other insurance companies was asked to maintain 150% solvency margin as the minimum requirement. Hence it has to infuse capital in 2011-12 for 100 crores to meet the regulatory guideline. Mean capital of LIC remained at 525000. This is due to infusion of 100 crores. The standard deviation on paid up is at 492930.7956 which is again influenced by the infusion of capital. Kurtosis measurement on Paid up Capital is at 2.36 which is slightly outside normal distribution. Distribution remains little longer and we witness medium tails on both sides. Skewness is at 1.99 which is again impacted by inflow of capital in 2011-12.

Benefits Paid: Benefits paid will include Death, Maturity, Surrender and Partial withdrawals. Average Benefits Paid by LIC is at Rs.1054011291 and the median at Rs.1143566674. Kurtosis measurement on Benefits Paid is at 1.36 which is slightly falling outside the normal distribution. Skewness is at 0.01 which clearly indicates that the data positively skewed.

Profit: Profitability is the outcome of cash inflow and cash outflow in a particular year and it may be an accounting profit and may not be accumulated profit. Average profit for LIC remained at Rs.13982467.93 and the median is at Rs.12425733. LIC distributes 5% surplus to GOI and 95% to policy holders in the form of bonuses. Kurtosis is at 0.90 which is within the normal distribution. Skewness is at 0.63 which indicates that the data is positively skewed.

SUGGESTIONS AND CONCLUSION

From the regression analysis it is evident that all the independent variables are highly correlated with the dependent variable profitability. This is evident from the fact that the P value for all the variables remained less than 5% which reflects data significance. However Significance of F is at 2.53 which is little unusual and this could happen due to higher Multicollinearity Also while we had taken four independent variables but the fact remains we have many more variables which influence profitability calculation. Assumptions made on Investment Income also play a vital role in determining profitability. We have had companies making profits even due to surrenders and lapsation in the initial years which was acknowledge by most of the companies. Thanks to the regulatory intervention and change in cost structure that companies no more make profit out of surrenders.

Profitability is also dependent on reserves and provisions made by insurance companies. Companies when remain conservative tend to keep higher reserves and provisions than required.

In the case of LIC it is evident that it maintains solvency margin as per the regulatory requirement and never maintained a higher reserve.

LIC need to invest in Digital and Analytics. Private Industry is witnessing huge opportunity in cross sell and upsell through data analytics. With higher penetration through Smart Phones and next generation customers viz. millennial, Gen X, Gen Y etc...It is quite obvious that companies which use technology are far ahead of competition.

Efficiency has a limitation and Scalability has not boundaries. LIC need to serious invest in distribution. It has to identify markets that have the potentiality and start penetration deeper by establishing new satellite branches. These branches will surely contribute for Top line which at a later stage will provide higher renewals and persistency thus enhancing profitability of LIC.

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LEGAL ISSUES RELATED TO REGULATION OF NON-GOVERNMENTAL HIGHER EDUCATIONAL INSTITUTIONS

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ABSTRACT

This paper investigates legal issues related to regulation of non-governmental higher educational institutions. On this case, major points of the development were seen as an important feature of the research. Regulation issues of the non-governmental higher educational institutions were mentioned with possible solutions of the further development. The characteristics of higher education institutions are expressed through cooperation with various government agencies and agencies in the establishment of the institution. The status of a non-partisan higher education institution is a part of certain legal relationships, but it requires commitment to the relationship. Funding is mainly carried out by private firms and foundations. Non-governmental (private) higher education institutions are paid tuition fees, and the full course fee is about 15,000 euros. In Germany, students are less likely to be enrolled in non-state higher education institutions than higher education institutions in Germany. In addition, the central office of the Ministry of Higher and Secondary Special Education does not have a separate structure for coordinating the activities of non-state higher education institutions. Looking at the higher education system of foreign countries, there are over 370 higher education institutions in Germany, of which over 60 are state-owned non-governmental organizations. Funding is mainly carried out by private firms and foundations. Thus, the Ministry of Higher and Secondary Special Education controls the compliance with the legislation on education in non-formal education institutions in accordance with the Law on Education.

KEYWORDS: *Legal Issues, Regulation, Non-Governmental Heis, Educational Institutions, Research Institutions*

INTRODUCTION

Higher Education Institutions are a non-government institution established as a non-profit organization operating in a socio-cultural field, acting as a non-profit organization within the executive authority of the executive branch or only with the educational management bodies (non-governmental, private educational institution) will appear. Higher educational institution realizes socio-cultural functions of the state by providing educational services to individuals in the field of higher education(Agnew, 1997; Kuvnakov & Kasimov, 2010).

Higher education institutions differ in their administrative-legal characteristics as their legal entities as a non-profit organization. The characteristics of higher education institutions are expressed through cooperation with various government agencies and agencies in the establishment of the institution. The status of a non-partisan higher education institution is a part of certain legal relationships, but it requires commitment to the relationship. For example, licensing of educational activities is legal and is mandatory(Kuralbayev, Myrzaliev, & Sevim, 2016).

Foreign scientists have carried out various scientific researches on legal regulation of non-state higher educational establishments, perfection of their legal status(Fauziah & Aryanto, 2012; Lucian Gramescu and Nicolae Bibu (West University of Timisoara, Faculty of Economics and Business Administration, 2015).

LITERATURE REVIEW

T.A. Vladykina states that the concept of higher education institutions, including non-state higher education institutions, is somewhat limited, and that their role in higher education institutions is not less visible - that is, it does not seem to be a subject in the administrative and legal relations. The author points out that the definition of a higher education institution is based on the following elements from a civil-legal point of view: 1) non-commercial organization; 2) whether it is licensed; 3) implementation of higher education programs; 4) financing by the founder¹.

O.A. Recrut investigated the legal status of non-state higher education institutions and introduced researchers in their respective legislation to introduce appropriate amendments and additions to the regulation of non-state higher education institutions, as well as to ensure that their activities are not covered by the statutory act of the public administration body, on the basis of norms of the law².

Higher education institutions established by private foundations (citizens and organizations) are not part of any governance body, their administrative relationships are within the scope of private ownership, and they only interact with the sectoral state authorities over matters of very limited coordinating nature(Bécherel & Vellas, 1999; Kuvnakov & Kasimov, 2010).

Non-governmental higher education institutions are in constant contact with management bodies in cases where they are not subject to higher education institutions and are subject to compulsory enrollment (registration, licensing, state accreditation, etc.).

RESEARCH BACKGROUND

Article 4 of the Law "On Education" provides for the right of access to education through the development of public and non-state educational institutions. In accordance with Article 6 of this Law, a non-state educational institution has the right to engage in the rights and educational

activities of legal entities since the date of government accreditation in the manner prescribed by the Cabinet of Ministers of the Republic of Uzbekistan (Carter, Gartner, & Reynolds, 1996; Hazelkorn, 2015).

In order to further develop the activities of non-governmental educational services, to create a healthy competitive environment among state and non-state educational institutions in ensuring high quality of education as well as to create favorable conditions for legal entities in the field of non-state educational services, the Decree of the President of the Republic of Uzbekistan of September 15, 2017 " On measures for further development of demonstration activities ".

The review notes that foreign experience shows that healthy competition among state and non-state educational institutions serves to the realization of the right to quality education. Thus, the share of non-state education in a number of foreign countries is substantial, with 12% in Germany, 17% in France, 18% in the United States, 20% in the United Kingdom, 30% in Spain, Ireland and the Netherlands³.

It is important to ensure the implementation of this Resolution, as well as to create favorable conditions for legal entities operating in the field of non-state educational services, to expand the network of educational institutions established on the basis of public-private partnerships, improve the regulatory and legal acts governing these activities and provide non- the Ministry of Foreign Affairs of the Republic of Uzbekistan to create favorable conditions for the license applicants by simplifying the licensing procedure March 27, 2018 hkamasining activities in the field of non-educational services on the improvement of the licensing procedure adopted Resolution No. 241, the decision on licensing activities in the field of non-educational services charter is approved (Rumyantseva, 2005).

Licensing, suspension or termination of licenses, as well as cancellation and renewal of licenses for legal entities for the organization of non-governmental educational services are carried out by the State Inspectorate for Supervision of the quality of education under the Cabinet of Ministers of the Republic of Uzbekistan and provides non- individuals are issued a separate license for each type of education (Rogers, Graham, & Mayes, 2007).

Main part

Paragraph 5 of the Charter defines the following license requirements and conditions for the implementation of non-governmental educational services:

- Compulsory observance of laws and regulations in the field of education of the Republic of Uzbekistan;
- organization of educational process in accordance with state educational standards (state requirements), curricula and curricula;
- availability of premises (premises), in accordance with the requirements established by the license applicant, which are designed to carry out the licensed activity, which relate to the property or other property rights;
- equipping auditoriums, learning rooms with modern information and communication equipment, teaching aids and tools;
- provision of educational buildings with necessary textbooks, teaching materials and other library-information resources and tools to implement the level of educational programs;

- implementation of educational programs in accordance with state educational standards of general secondary, vocational and higher education, as well as state requirements for preschool education, extracurricular education, retraining and retraining;
- education, the use of propagation of war, violence, discrimination of constitutional rights and freedoms of citizens, security and socio-political stability in the country, legal and spiritual foundations of the society, protection of civilians, interethnic and interfaith accord, to prevent the dissemination of false information and the infringement of its historical, cultural and spiritual values;
- Creating favorable conditions to ensure high quality of education through the identification and support of gifted children and talented youth;
- improving efficiency and effectiveness in the field of education based on the use of innovative forms of instruction and modern technologies, taking into account advanced international experience;
- admission of gifted and talented children from socially vulnerable children to a minimum of 10% of the total number of students attending the competition based institution;
- issuance of certificates to graduates in the prescribed manner.

Supervises compliance with the licensing requirements and requirements of the State Inspectorate for Supervision of the quality of education under the Cabinet of Ministers of the Republic of Uzbekistan, the education system management system and the competent authorities in the manner prescribed by law.

In addition, in accordance with paragraph 24 of the Regulation, the licensing authority has the following rights within the scope of its authority to control compliance with license requirements and conditions:

- licensed terms and conditions of licensing by the licensee;
- to check the compliance with the license requirements and terms by the licensee in the order established by the legislation, in the presence of circumstances that testify to the breach by the licensee of the license requirements and conditions;
- to request and receive the necessary information on the issues which arise during the examination of the compliance with the license requirements and conditions;
- registration of acts (certificates) with indication of infringement by the licensee of license requirements and conditions on the basis of results of inspections;
- issuing licenses to the licensee for the elimination of breach of license terms and conditions and setting deadlines for their elimination;
- to issue a decision on suspension and termination of the license or cancellation of the license in accordance with the procedure established by the legislation.

Looking at the higher education system of foreign countries, there are over 370 higher education institutions in Germany, of which over 60 are state-owned non-governmental organizations. Funding is mainly carried out by private firms and foundations. Non-governmental (private) higher education institutions are paid tuition fees, and the full course fee is about 15,000 euros. In Germany, students are less likely to be enrolled in non-state higher education institutions than higher education institutions in Germany.

In the United States, there are more than 4,000 higher education institutions, most of which are non-state higher education institutions. Such as Harvard, Princeton, Yale, Columbia, Pennsylvania, as well as the Massachusetts Institute of Technology, and many others.

Non-governmental sector activity of the Russian Federation is regulated by the 1992 Law on Education, and such higher education institutions in Russia began to be formed in the early 21st century. More than 60 non-governmental higher education institutions functioned at that time. Today in Russia there are 1097 higher education institutions, of which 193 are non-state.

Although more than 20 years have passed since the adoption of the Law on Education in the Republic of Uzbekistan, there are no specific legal mechanisms for the regulation of non-state higher education institutions. All received documents are mainly focused on pre-school and general secondary education. Today, the number of non-state higher education institutions in the country is insufficient to compete with state higher education institutions.

At the same time, if the draft resolution of the Government "On Approval of Requirements for Non-State Higher Educational Institutions Providing Legal Services Provided" was developed and discussed by the State Inspectorate for Supervision of the quality of education under the Cabinet of Ministers of the Republic of Uzbekistan, the legal relations will be regulated.

Additionally, the Law "On Education" should define the rules relating to the legal status, rights and responsibilities of non-state higher education institutions.

DISCUSSIONS

In fact, the government pays a lot of money for higher education, including strengthening material and technical basis, salaries, scholarships and so on. In contrast, non-state higher educational institutions, due to non-payment of scholarships to students, spend the proceeds of the payment contract mainly on the development of the material and technical basis and the conditions created for the students are better than the conditions in higher education institutions. Therefore, the expansion of non-state higher education institutions, based on world experience, creates opportunities for the creation of a competitive environment.

Article 29 of the Law "On Education" establishes the relationships between public administration bodies in the field of education and non-formal education institutions that ensure that public education authorities in the field of education follow the education legislation in non-formal education institutions, the accrediting bodies shall have the right to suspend their activities in accordance with the legislation. In addition, admission to non-formal education institutions takes place in accordance with the established procedure and deadlines for the state educational institutions.

RESULTS

The only public policy in the field of higher education that is aimed at the preparation of highly educated, highly qualified cadres in the country in the field of higher education, capable to think independently of the most advanced methods and forms of work in modern market conditions, is carried out by the Ministry of Higher and Secondary Specialized Education.

The Ministry of Higher and Secondary Specialized Education provides educational, pedagogical and scientific-methodological guidance to the higher educational institutions of the Republic, irrespective of their subordination and ownership, coordinates their activities in accordance with

the requirements of the state educational standards, the level and level of education, as well as the quality of professional training of specialists. to meet the requirements.

Thus, the Ministry of Higher and Secondary Special Education controls the compliance with the legislation on education in non-formal education institutions in accordance with the Law on Education.

However, the requirements for fulfilling the requirements of this law are not reflected in the Regulation on the Ministry of Higher and Secondary Specialized Education. In addition, the central office of the Ministry of Higher and Secondary Special Education does not have a separate structure for coordinating the activities of non-state higher education institutions.

CONCLUSION

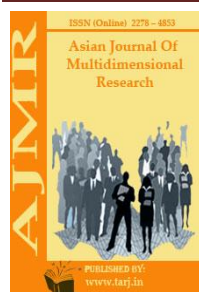
Therefore, the Regulation on the Ministry of Higher and Secondary Specialized Education provides for the main functions and rights of the Ministry as coordination of activities of non-state higher education institutions, control over observance of the legislation on education, establishment of a separate division in coordination of non-state higher education institutions in the structure of the central office of the Ministry purposeful.

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WORK PARTICIPATION OF SAORA TRIBAL WOMEN IN GAJAPATI DISTRICT: A STATISTICAL ANALYSIS OF ODISHA

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ABSTRACT

This paper has been written on the basis of qualitative and quantitative data collected from secondary source and discussed work participation of tribal women in Gajapati district in a descriptive manner. The tribal women have been equal partners with tribal men in the contribution to household economy. Women do more physical labour in their agricultural fields and forest than that of the tribal men. Tribal women have usually enjoyed a higher social status in their own communities. The literacy rate among the tribal's and more so in case of tribal women is quite low and this is also associated with poor nutritional and health status among the tribal's. They are engaged in various traditional occupations like mixed farming, hunting, Jhoom cultivation and shifting cultivation to settled agriculture. A very negligible percent are engaged in non-agricultural activities The Scheduled Tribes constitute 8.2% of India's total population. 9.2% of the country's scheduled tribe population is found in Odisha, which is third highest in the country and the scheduled tribes account for 50.78% population of the district.

KEYWORDS: Tribal, Gender, Work Participation, Agriculture, Livelihood.

INTRODUCTION:

Agriculture is the most primitive occupation of the tribal people. The people had changed their cultivation pattern from traveller's cultivation to settled cultivation, but some of the practices have remained unchanged among many groups of farmers. They are engaged in various traditional occupations like mixed farming, hunting, Jhoom cultivation and shifting cultivation to settled agriculture. The tribal people are practices traditional agricultural wisdom for their livelihood.

Tribal people have traditionally lived in about 15% of the country's geographical areas, mainly forests, hills and undulating inaccessible terrain in plateau areas, rich in natural resources. They have lived as isolated entities for centuries, largely untouched by the society around them. This seclusion has been responsible for the slower growth, dissimilar pattern of their socio-economic and cultural development and inability to negotiate and cope with the consequences of their involuntary integration into mainstream society and economy. Tribals continue to be socio-economically backward. One of the most distinguishing features of the rural economy of Gajapati has been the growth in the number of agricultural workers, cultivators and agricultural labourers engaged in crop production. Agricultural labourers, especially in smaller villages away from towns and cities, are generally unskilled workers carrying on agricultural operation in the centuries old traditional wages. Agriculture is the back bone of many developing countries. Women account for more than half of the work force by participating in different activities, either directly or indirectly. The gender division of labour varies from one society and culture to another, and within each culture external circumstances influence the level of activity (*Nigist, 2004*). Women are the unavoidable part of any development programmes whether it is for developed or developing country (*Raksha et al, 2016*). Odisha is one of the poorest states in India, with an estimated 47% of its population living on less than a dollar a day (*Haans & Dubey, 2003*). A regional and social group-wise analysis of poverty in Odisha highlights the fact that the population in Scheduled Areas is comparatively much poorer than the population in non-Scheduled Areas, and that Scheduled Tribes are the poorest groups (*Kumar. K, 2005*). Women have played and continue to play a key role in the conservation of basic life support systems such as land, water, flora and fauna (*Prasad C. and Singh R.P, 1992*). Women play a central role in the agriculture economy (*Chauhan, J., et al, 2016*).

Women's work participation is considered as an important indicator of women's participation in economic activities of the State. Women's contribution though not recognized in all spheres of activity is significant. Despite their overall input to the economy they have limited access and control over the resources and productive assets. Wage gaps and discrimination against women in labour markets lower their participation. Women's work participation among the Scheduled Tribe in India fell marginally from 44.8% in 2001 to 43.5% in 2011. In Odisha Women's work participation rate increased from 42.2% in 2001 to 43.9% in 2011. In Gajapati district women's work participation rate decreased from 49.7% in 2001 to 46.8% in 2011. The economy of Schedule Tribe areas is primarily subsistence oriented and based upon a combination of agriculture, forestry and wage labour (*Odisha review, 2014*).

As per 2011 census, Out of sixty-two (62) scheduled tribe population of India is 84,326,240 constituting 8.2%, Odisha scheduled tribes (ST) population as 8,145,081 constituting 22.1% and Gajapati district scheduled population as 263,476 constituting 50.78%. district wise distribution of the individual scheduled tribe shows that khond have the highest proportion i.e. 93.3 percent in kandhamala district, followed by Nayagarh as 76.9 percent, Baudh 76.4 percent and Rayagada i.e. 71.1 percent of the district. Gond has the highest concentration in Nabarangapur districts followed by Nuapada district whereas Santal and Kolha are primarily concentrated in Mayurbhanj district. Other four scheduled tribes i.e. Munda, Saora, Shabar and Bhottada are primarily concentrated in Sundargarh, Bargarh, Gajapati and Nabarangapur district. The scheduled tribes account for 50.78 percent population of Gajapati district and khond as 14.86%, Saora 32.21% and Shabar 50.84% are the largest tribal groups in the district (*Census 2011, Orissa review*).

TABLE NO. 1., IN ODISHA ALL SCHEDULED TRIBE WORKERS (IN PERCENTAGE)

Economic category	All Scheduled Tribes	Khond	Gond	Santal	Kolha	Munda	Saora	Shabar	Bhottada
Cultivators	33.3	39.1	39.1	32.3	25.8	23.4	29.6	27.5	32.6
Agricultural Labourers	46.9	46.8	46.6	45.1	47.6	41.7	54.3	55.3	58.2
Household Industry Workers	4.8	3.6	3.3	9.3	7.9	5.3	2.8	1.4	0.7
Other Workers	15	10.5	11	13.3	18.8	29.5	13.3	15.8	8.6

*Source: Data highlights- the scheduled tribes, Orissa, Census of India 2001.

The Work Participation Rate of the Scheduled Tribes population is 49 per cent, which is equal to that of all Scheduled Tribes at the national level (49.1 per cent). There has been a slight decline of 0.4 per cent in the Work Participation Rate of the tribes during 1991-2001. While there has been a decline in male Work Participation Rate from 58.9 to 54.8 per cent, female Work Participation Rate (43.2 per cent) has increased by 3.4 per cent during 1991-2001. Among the total workers, 57.4 per cent are main workers and this proportion is much below the national average recorded for all Scheduled Tribes (68.9 per cent).

Among the major tribal groups i.e. Khond, Gond, Shabar, Saora and Bhattada have higher work participation rate than that of the State as well as national average for recorded for all scheduled tribes. Agricultural labourers constitute the highest proportion 46.9 percent among the total workers. Cultivators 33.3%, other workers 15% and Household Industry constitute between as 4.8%. These Soura populations contribute to the four Economic Categories i.e. Cultivators 29.6 percentage, Agricultural Labourer 54.3 percentage, Household Industry Workers 2.8 percentage only and Other Workers 13.3 percentage (see figure-1).

TABLE NO.2., WORKER AND NON-WORKER IN GAJAPATI 2001-2011

	Worker and Non-Worker in Gajapati 2001		Worker and Non-Worker in Gajapati 2011	
	Worker	Non-Worker	Worker	Non-Worker
Male	56.6	43.4	55.1	44.9
Female	49.7	50.6	46.8	53.2

(Source: Census of India 2011 final data, Registrar General of India), Databook for PC: 4TH Aug-2014. Census of India 2011, Primary Census Abstract Figure at a Glance and Data Highlight.

In Gajapati district we find Women constitute 50% of the workforce where as men constitute 57% of the total workers. Among non-worker women are more (50.6) in comparison to men (43.4). This is trending all India, all Odisha level also. But same how 50% Women Work Participation Rate shows a significant highest of Women Work Participation Rate (WWPR) in Gajapati district. May be due to high concentration % of tribal population are engaged as marginal worker for their own survival. This is a marginal status of tribal women in Gajapati district. Which will be further clarified while stratify women engaged in Agrarian sector.

Agricultural related activities are picking and threshing of paddy crops followed by harvesting, winnowing, storage, making threshing yard, bagging/packing and marketing of agricultural produce. The roles of tribal farmwomen in all these operations were observed up to the highest importance level (*Chayal and Dhaka, 2010*). Agriculture production is dependent on rainfall (*Hans Asha, 2014*)

Agricultural pattern in our study area is primarily based on hill cropping pattern. Mostly people go for the cultivation of Ragi, Corn, Janna as main crop in year. And for secondary crop almost all families go for Jhudunga, Kandula and Kulata. Mostly people go for kharif cultivation and very few people go for rabbi cultivation where these are mostly found in wet land area (joba khiari). There is no irrigation facility in our study area of Gajapati district, though the river Mahendra Tanaya is flowing in this district. The perusal of the data in regards to participation of tribal farm women in sowing operation revealed that the highest participation of tribal farmwomen was observed in sowing, transplanting followed by stubble collection, clod crushing and seedbed preparation (*Chauhan, N. M. & Thakor, R, 2006*).

Our study area among men 77 per cent are agricultural farmers and 23 per cent are wage labourers. From among our women respondents 97 per cent are daily worker and 3% are housewives. But these daily wage workers among women also constitute agricultural workers.

Our study area are reflects that very few families are doing multi crop cultivation i.e. around 13%. Nearly 87% are depending on their single crop cultivation which is a very poor source of earning. Cash cropping in our study area are such as Mango, Banana, Cashew, Lemon, Orange, Jackfruit and Pineapple cash crop. The cash crops in the area are mainly citrus fruits, Cashew, Mango and Orange etc.

One of the most distinguishing features of the rural economy of India has been the growth in the number of agricultural workers, cultivators and agricultural labourers engaged in crop production. The phenomena of under-employment, under-development and surplus population are simultaneously manifested in the daily lives and living of the agricultural labourers. They usually get low wages, conditions of work put an excessive which they get is extremely irregular.

Agricultural workers constitute the most neglected class in Indian rural structure. Their income is low and employment irregular. Since, they possess no skill or training, they have no alternative employment opportunities either. Socially, a large number of agricultural workers belong to scheduled castes and scheduled tribes. Therefore, they are a suppressed class. They are not organised and they cannot fight for their rights. Because of all these reasons their economic lot has failed to improve even after four decades of planning.

SUMMARY:

This paper focuses attention to the practices of the resources poor tribal farmers that makes use of low cost renewable inputs, family and community labour for solving the food crises through their traditional wisdom which need documentation to make the future agriculture a sustainable one. The study on the farmer's traditional wisdom on agriculture was initiated through non-random selection of respondents from Lanjia Saora tribe of Gumma & Rayagada block of the district. A typical tribal village is situated a little away from the main road and mostly inside the forest. Generally, the houses are constructed on the both side of a wide village road. The cowsheds are constructed on the middle of the road earlier. Now they are having a cowshed in their house in front side or in the end of house row. This system has changed due to reduced

number of wild animals and effective forest. Most of the houses have some backyard and they raise a kitchen garden. Gradually, this kitchen garden extends to the field which again merges with the forest. The village has been set up where there was plain land and a stream. This selection of their dwelling place shows their intelligence and foresight. The villagers are used cow-dung like a fertilizer in their own cultivators land. Mostly of the house have same backyard and they raise a kitchen garden. Gradually, this kitchen extends to the field which again merges with the forest. In other hand women are engaged in other agricultural occupations like dairy, farming, horticulture, raising of live-stock, bees and poultry.

Today much of tribal people are loss of livelihood is an indication of displacement, migration and human distress. Scheduled tribe women in search of work in the last few years have been trafficked for work in different parts of the country. The migrant tribal women and girls faced a number of problems immediately after their migration to cities which included difficulty of communication in local language, residential accommodation, employment, education of children, local contacts, adjustment with city life and environment. Women migrants especially from tribal areas to urban areas are highly traumatized.

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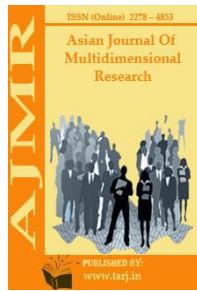
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Source: Data highlights- the scheduled tribes, Orissa, Census of India 2001.



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SOCIAL AUDIT AS TOOL OF STRENGTHENING ACCOUNTABILITY AND TRANSPARENCY IN RURAL LOCAL SELF-GOVERNANCE

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ABSTRACT

Based on the principle of democratic local governance, social audit is carried out with the consent, understanding and cooperation of all the members of Gram Sabha. It focuses on assessing the physical and financial gaps, creating awareness, increasing efficacy and effectiveness, scrutiny of policy decisions and estimation of the opportunity cost or reduction of wastage to improve the performance of Panchayats. The present paper has been devoted to discuss the facets of social audit, its weaknesses and suggest suitable measures to make it an effective tool of strengthening accountability and transparency in rural local self-governance. There is no denying the fact that the social audit trains the stakeholders and general masses, encourages rural local democracy and collective decisions, provides benefits to disadvantaged and makes rural local leadership more responsive, responsible and accountable but it has certain weaknesses because it is time consuming; lacks appropriate and correct methodology and scope; subjective, untrained personnel; indifferent attitude and vested interests; lack of follow up actions and so on. The measures suggested include awareness generation, effective involvement of stakeholders, committed elected representatives and leaders, functionaries to work as facilitators, effective involvement of civil society and media, training and retraining, action-oriented approach, strict vigil etc.

KEYWORDS: *Accountability, Chronological, Campaign, Demonstrate, Inconvenient, Legitimized, Manipulations, Responsiveness, Ratification, Scrutinizing, Spectrum, Stakeholders, Transparency, Tangible Comprehensive, Transformation, Verifiable, Violence, Vigilance, Vigorous.*

INTRODUCTION:

Governance whatever its level is has to be accountable and transparent. We can ensure the delivery of quality services within specified time limits if the system of governance is accountable and transparent. According to Pfiffner, accountability refers to the formal and specific location of responsibility whereas responsibility has a highly personal, moral quality and is not necessarily related to formal status or power. Hence, responsibility refers to the public servant's responsiveness to the public will, whereas accountability devotes the specific methods and procedures to enforce the public servant's responsibility. So, responsibility is subjective and works from within, while accountability is objective and works from without. As both the human and financial resources available to an organization are limited, therefore, administrative accountability seeks to ensure the optimum use of the available resources and at the same time to realize the organizational objectives. Besides, these core functions, accountability also serves some other purposes.¹ Similarly, transparency has also become an important aspect of governance. It is the availability of information to the masses and clarity about governing rules, regulations and decisions. It helps in curbing the corrupt practices and strengthens the capacity of commenting groups and civil society organizations to participate in decision-making process. "An organization will demonstrate its accountability by being able to produce an accurate and verifiable record of how it has spent a particular grant. Such a record would show how much was received, how much was spent and that all expended moneys were spent on the grant aided activity as agreed by the funder. In order to demonstrate accountability and transparency the organization will need to establish an adequate system for recording and reporting on financial transactions.....it will also need to comply with accounting and reporting guidelines laid down".² It has been aptly observed that "the democratic local governance initiatives currently underway in many countries hold much promise for developing effective systems of public accountability that will ensure that government servants are responsible to elected officials and that the latter are in turn responsible to the public that elected them in first place. In the process these systems of accountability should increase the pressure for more transparent local governance, in which corruption will be easier to bring to light and thus to curtail. But just as it took many decades for such efforts to make much headway in the industrial countries, so too quick results cannot be expected elsewhere."³ No doubt, Rural local-self-governance has been an important part of overall governance but its performance has remained below expectations. Due to lack of transparency and accountability the Panchayati Raj Institutions have not remarkably contributed in the socio-economic transformation of rural areas. Had our system been revamped and paid the required attention, the development of rural masses could have taken place and the hiatus between the urban and rural areas as well as between haves and have-nots might have been narrowed down. It is in this context that social audit is considered as an important tool of strengthening accountability and ensuring transparency in the rural local self-governance.

SOCIAL AUDIT

With the Gram Sabha coming to the fore, social audit has gained the ground. It is comprehensive in nature and is an independent evaluation of the performance and attainment of the social obligations. It starts from the principle that in a democracy, the decision-makers should account for use of their powers. Besides, it is the perspective of the vast majority of the people in a society in whose name and for whose cause the very institutional/administrative system is promoted and legitimized. This type of audit of the institutions is taken up to see what they mean for the vast majority of the ordinary people, who are not essentially a part of the state machinery

or the ruling class of the day.⁴ Social audit requires an organization to identify what it seeks to achieve, who the stakeholders are, and how it wants to measure the performance of the concerned organization or the institution. “Social audit may be regarded as being at the extreme end of the spectrum of audit functions. Over the countries, audit functions have been grown and evolved starting from the most ancient kind which may be called vigilance audit which was concerned mainly with the detection of frauds. Then came, in more or less chronological order, regulatory audit, propriety audit, value for money audit, performance audit and lastly social audit. We may regard the last three of these audit functions as representing economy, efficiency and effectiveness audit. As for as social audit is concerned, in value for money audit and performance audit, it examines areas internal to government agencies. In social audit it goes beyond these areas and examines the impact of specific governmental activities on certain sections of the society which are in contact with the governmental agencies.”⁵

RURAL LOCAL SELF-GOVERNANCE

An important feature of the 73rd Constitutional amendment has been establishment of Gram Sabha- a body consisting of all registered voters in the area of the Panchayat. According to article 243-A, “A Gram Sabha may exercise such powers and perform such functions at the village as the legislature of a state may by law provide.” The Gram Sabha is the lowest unit of rural self-governance. The Haryana Panchayati Raj (Second Amendment) Ordinance, 2000 the Gram Sabha is empowered to exercise control over the Gram Panchayat while considering the budget and future development programmes and plans at its Sawani meeting and review of the general progress of development at its Hari meeting; considering income and expenditure of the last financial year; considering and scrutinizing the existing schemes and activities; maintaining a complete register for all the development works; scrutinizing the completed works and all kinds of activities; and asking questions from the Sarpanch and Panch as to clarify any particular activity, income, expenditure scheme and other matters.

It has been observed that a close examination of the working of the Gram Sabha in various states one comes across two kinds of situations. In the first situation, social audit is taking a healthy democratic and humane approach to social and development problems. However, there are many success stories of Gram Sabha using the social audit for the good of the villages preventing misuse of resources and corruption. There is second situation in which the Gram Sabhas where people raise inconvenient questions which result in violence.⁶ There is another observation that “the grave reality is that in Assam, Arunachal Pradesh, Chandigarh, Himachal Pradesh, Uttar Pradesh, Madhya Pradesh, Haryana and Uttaranchal villagers are not aware of the meetings of Gram Sabha and its functions. Most of the Panchayats have failed to execute the decisions taken of the Gram Sabha. However, the recent experience reveals that there is a growing awareness among the rural people about the significance of Gram Sabha functions. For example, the states like Karnataka, Kerala, Tamil Nadu, Rajasthan, Sikkim have successfully implemented the decisions of Gram Sabha while in Assam, West Bengal, Uttar Pradesh the functions of Gram Sabha are only confined to ratification of budget and audit report, review programme of the work undertaken by the Panchayats and seeking clarification from *Mukhiya* about the schemes, income and expenditure.”⁷ In practice, it has been noticed that the resolutions of the Gram Sabha depend on the will of the Gram Panchayat. Besides, influential sections dominate the proceedings of the Gram Sabha and the vigilance committees cannot effectively watch and supervise the working of Gram Panchayat in most of the states. The Gram Sabhas are not meeting regularly, even women voters and elected representatives belonging to weaker sections

hardly attend the meetings of lower tier. Due to lack of full involvement of common masses, the transparency becomes doubtful and cases of misutilization of funds at Gram Panchayat level are reported. If the people are fully aware and take part in the meetings and raise related issues and seek clarifications from those who are responsible, the working of the Panchayats can become more transparent and accountable.

MAKING SOCIAL AUDIT AN EFFECTIVE TOOL

There is a need for making social audit more effective for ensuring transparent and accountable rural local self-governance. Following actions if are taken with strong political and administrative will/backing the basic objectives of transparency and accountability may be achieved.

ACTIONS TO BE TAKEN BY THE GOVERNMENT(S)

- Strengthen the Gram Panchayats by real devolution of functions, funds and functionaries.
- Incorporate appropriate changes by amending the respective Panchayati Raj Acts.
- Provide sufficient funds to organize training and retraining for the elected representatives and functionaries through non-governmental organizations of a repute. The training content must include working of Panchayats with special focus on social audit concept, components and process as well as transparency and accountability, and it should be organized in the villages itself.
- Monitor and evaluate the training imparted to assess its impact to make it more result oriented.
- Ensure quarterly meetings of the Gram Sabha for which neutral observers should be engaged/deputed for fair reporting the facts.
- Activate the social audit committee(s) while keeping constant watch on their role and performance.
- Institute special and handsome awards for those Panchayats as convene regular meetings of the Gram Sabha and involve all the voters irrespective of their caste, creed and religion.
- Arrange tours of the representatives of the Panchayats to those Panchayats which have showed the best performance and have worked in accordance with the legislative provisions for exposure purpose.
- Take stern action against those Panchayats as have failed to involve the Gram Sabhas or have violated the rules and regulations for getting the social audit conducted.
- Launch a vigorous campaign for generating awareness among the rural masses about the various aspects of Panchayats, there working and role and relevance of social audit.
- Formulate sufficient number of committees of Gram Sabhas so as to facilitate participation by a large number of voters in assisting and over seeing the functions and working of the concerned Panchayat.
- Involve all types of medias to strengthen the social audit for good governance.
- Set up some independent institution to redress the grievances if any of Gram Sabha against the defaulter Panchayats.

BY MEDIA

Media has an important role in every walk of life. Therefore, following necessary actions are required on its part:

- Make rural masses fully aware of the functions, responsibilities, working, accountability, transparency of Panchayats, importance of Gram Sabha and its role in social audit of Panchayats.
- Highlight pertinent issues related to accountability; transparency and social audit of Panchayats to attract the attention of policy-makers, planners and executors.
- Conduct fair survey to present the real working of the Panchayats and Gram Sabhas and suggest suitable measures for improvements.
- Report and timely demand the actions against the erring Panchayats.
- Form public opinion based on facts and figures regarding the organization and working of the Panchayats and social audit thereof.
- Extend cooperation in making Panchayats and Gram Sabhas responsive and responsible.
- Highlight the good deeds of the rural local self governance so as to appreciate and encourage them.

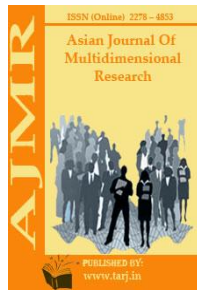
BY CIVIL SOCIETY AND NGOS

- Create civil society organizations for providing right type of guidance to the rural masses.
- Identify the non-governmental organizations of a repute for revamping the Panchayats and Gram Sabhas.
- Prepare training modules and provide all types of support in organizing special training for the elected representatives of Panchayats and all members of Gram Sabhas. Train them to seek information through Right to Information Act, 2005 and involve the RTI activists in this noble cause.
- Motivate the rural masses to become active stakeholders of socio-economic developmental benefits being provided through Panchayats.
- Take steps to take the benefits of experiences of the retired personnel and social workers and chalk out programmes for rendering services to the elected representative of Panchayats and members of Gram Sabhas so that they may render their dedicate and sincere services for societal development.
- Share good experiences for the success of Panchayats and Gram Sabhas and develop suitable strategies to be adopted for improving their working.
- Take note of manipulations and misutilization of funds by Panchayats and involve Gram Sabha members by organizing them to stand against corrupt practices.
- Extend moral support to the rural masses for making them responsible citizens for protecting the common interests of the people.
- Identify persons having leadership qualities and use their caliber for active participation of rural masses in Panchayats and Gram Panchayats.

The suggested measures if are followed and put into practice, tangible improvements in the working of Gram Panchayat and ensuring social audit through Gram Sabha can go a long way in making social audit an effective instrument of ensuring transparency and accountability in the working of Gram Panchayats and finding solutions to the related problems and in resolving the issues.

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EXPLORING ORGANIZATIONAL COMMITMENT AND ITS IMPLICATIONS FOR HRM: A REVIEW AND CRITIQUE OF LITERATURE

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ABSTRACT

Organizational behavior is the study of attitudes, beliefs, and behaviors exhibited by people in the workplace. Commitment is one of the basic constructs in behavioral studies. Behavioral scientists claim that managers who know why workers act the ways they do, are better equipped to encourage employees to add to the achievement of organizational goals. It was found that the higher an employee's commitment, the more likely he or she commits to "go the extra mile" and deliver excellent on-the-job performance. They are also five times less likely to leave the company voluntarily. Therefore, this article investigates the previous research and theories of organizational commitment using the exploratory methodology and an analysis of various relevant kinds of literature related to organizational commitment and its potential implications

for human resource management (HRM).. After analyzing the previous literature, we find a variety of definitions for organizational commitment. However, all of them include one or all of the meanings like emotional attachment to the organization, the obligation to remain and the need to stay with the organization. There are two assessment tools for evaluating employee commitment levels. A critical review of the literature also indicates that many factors influence organizational commitment; characteristics such as, personal, organizational, attitudinal, job and work experience are prominent factors. These identified factors in this paper can be improved by specific interventions as a part of HRM. Moreover, commitment was found to be related to intent and desire to remain, job performance and intention to leave

KEYWORDS: *Antecedents, Determinants, Dimensions, Organizational Commitment, Workplace Commitment.*

INTRODUCTION

As on date, we are operating in a VUCA (Volatile, Uncertain, Complex and Ambiguous) world in which a struggle for talent, attrition rates, and workforce retention have become serious issues for organizations. It is also enveloped by the fear of downsizing, loss of job security, the massive change in technology, and the stress of having to do extra with less established variety of caring, feisty workplace that will ignite worker commitment. In light of this new environment of downsizing, tele-community, merger and acquisition, globalization and diversity, organizational commitment has resurfaced as an essential topic of the study. Apart from this, among the different work variables available, organizational commitment is a necessary construct to understand an employee's psychological linkage with an organization (Pierce, Kostova, & Dirks, 2001) and is also central to understanding organizational performance (Gallagher & Parks, 2001). Mowday et al. (1982) suggested that understanding organizational commitment has implications for the employee as well as the organization (Mowday, Porter, & Steers, 1982) because commitment can ensure persistence in the behavior despite conflicting motives and attitudes (Meyer & Herscovitch, 2001).

It is the differentiating factor between top-performing companies and those of average performance (Katzenbach, 2000). Performance enhancement in an organization goes beyond the commonly accepted principles of proper management and effective leadership by increasing the commitment and engagement of the employee. We can expect an increase in performance of up to 20 percentile points and 87% reduction in employees' probability of departure (Katzenbach, 2000; Corporate Leadership Council 2004; Harvard Business Review 2013). Employees with high levels of commitment are positively correlated with higher financial performance in organizations as demonstrated by noteworthy increases in operating and net profit margins and are engaged in discretionary efforts necessary to deliver extraordinary levels of customer service (International Survey Research, 2001; Gallup Organizations Survey, 2002; Watson Wyatt Global Consulting, 2003; Harvard Business Review 2013). According to Gallup's State of the Global Workplace report, 2017 shows that only 15% of employees worldwide are engaged at work. Therefore, it is vital to understand the phrase; organizational commitment as maintaining the commitment level of the employees and engaging them for the development of the organization. It is one of the biggest challenges before the management.

RESEARCH ISSUES AND OBJECTIVES

The research issues and questions are: (a) what is organizational commitment; (b) what are the determinants of organizational commitment; (c) what are the organizational and individual outcomes of commitment (d) what are the implications and (e) how does management efforts for employee commitment lead to outcomes?

(a) The main objective of this article is the integration and analysis of the extant literature on the concept of organizational commitment. The other objectives are;

(b) It also discusses the dimensions and determinants of organizational commitment, along with its assessment (measurement) tools.

(c) It also projects the potential implications for human resources management; that is, how to improve organizational performance by developing commitment in the organization.

(d) It also explores how organizational managers should evaluate the reasons why employees leave the organization.

METHODOLOGY

A structured review of the literature on commitment was conducted by adopting the exploratory approach and analysis to review the concepts of organizational commitment. The search strategy began with online databases (ERIC, Emerald, Jstor, Sage, Research gate & Psycnet). Keywords used for the review were workplace commitment, organizational commitment, antecedents, dimensions and determinants. The published studies that examined the factors influencing organizational commitment were chosen by using the keywords as mentioned above, while considering the inclusion criteria.

REVIEW OF ORGANIZATIONAL COMMITMENT LITERATURE

Mowday, Porter, and Steers (1982) deliver an extensive review of the theoretical and empirical work done on the concept of organizational commitment in a book on the psychology of commitment and other employee-organization linkage variables. However, Table 1 reveals the different definitions of organizational commitment that has been used in earlier works. Tables 2 and 3 summarize much of the previous empirical research on the determinants and outcomes of organizational commitment, respectively.

DEFINITIONS OF ORGANIZATIONAL COMMITMENT

Commitment - an employee's decision to remain with an organization - is a construct found in many disciplines that include marketing, psychology, and sociology. Therefore, depending on their backgrounds, different researchers have defined organizational commitment differently. Several definitions are popular and extensively used in research (as summarized in Table 1 below).

TABLE 1: DEFINITIONS OF ORGANIZATIONAL COMMITMENT

Definitions of Organizational Commitment	
1. Side-Bets	Commitment is associated with rewards and costs related to organizational membership; these typically increase as organizational tenure increases. This approach and its variations have been used by Alutto, Hrebiniak, & Alonso (1973), Becker (1960), Farrell & Rusbult (1981), Grusky (1966), Hrebiniak & Alutto (1972), Rusbult

& Farrell (1983) and Sheldon (1971).

2. Attributions

Commitment is a binding of the individual to behavioral acts that results when individuals attribute an attitude of commitment to themselves after engaging in behaviors that are volitional, explicit, and irrevocable. — This approach and its variations have been used by Kiesler & Sakumura (1966), O'Reilly & Caldwell (1980) and Salancik (1977).

3. Individual/organizational

Commitment occurs when employees usually demonstrate high levels of performance and fully embrace the goals and values of the organization for its success. It is a psychological link between the employees & the organization.— This approach, and its variations has been used by Angle & Perry (1981); Bartol (1979); Bateman & Strasser (1984); Hall, Schneider & Nygren (1970); Morris & Sherman (1981); Mowday, Porter & Steers (1982); Mowday, Steers, & Porter (1979); Porter, Crampon & Smith (1976); Porter, Steers, Mowday & Boulian (1974); Steers (1977); Stevens, Beyer & Trice (1978); Stumpf & Hartman (1984); Welsch & LaVan (1981) & Allen & Meyer (1996).

(Sources: Researcher's compilation)

The first definition appears in Table 1 comes out of Becker's (1960) early work on the idea of side bets theory whereby commitment involves consistent lines of activity in behavior that are produced by exchange considerations that he called "side-bets". Organizations make "side-bets" for employees through practices that lock them into continued organization membership. Another similar view was held by Sheldon (1971), who explained commitment as an investment orientation within the organization.

The second definition of organizational commitment (OC) appears in Table 1, focuses on behaviors that result in the attribution of commitment that is made, in part, in order to maintain consistency between one's behavior and attitudes. Staw & Salancik (1977) explained behavioral commitment as an attachment to the organization on account of past behavior or a process by which individuals become locked into a specific organization and also how they deal with the problem. In this approach, commitment is defined as an outcome variable, resulting from a series of factors like organizational, role-related characteristics, and past experiences of the individual (March & Simon, 1958). O'Reilly and Caldwell (1980) have provided partial support for this approach.

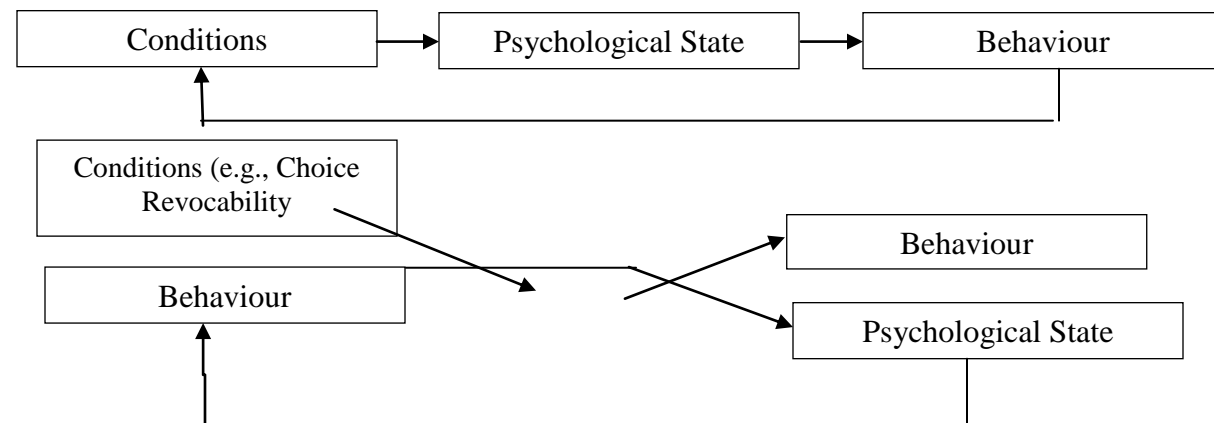
The third definition in Table 1, concerns itself with processes of identification and the dedication of one's own energies & values to the organization's goals and values. This is an attitudinal commitment. One of the most popular measures of organizational commitment, the Organizational Commitment Questionnaire (OCQ) developed by Porter et al. (1974), reflects an individual's willingness to work towards and accept organizational goals. Porter et al. (1974) maintain that commitment consists of (a) a belief in and acceptance of organizational goals and values, (b) the willingness to exert effort towards organizational goal accomplishment, and (c) a strong desire to maintain organizational membership. They suggested that the relationship between these dimensions is cyclical and so commitment attitudes will result in commitment

behaviors. In general, the research on organizational commitment contributed to the conceptual richness of its definition. However, there are two theoretical approaches to measure the construct: the “side-bet” or “calculative” approach (Becker 1960; Hrebiniak & Alutto, 1972) and the “moral and attitudinal” approach (Mowday, 1982; Allen & Meyer, 1991).

As is evident from the literature above, organizational commitment is directed towards one's employing organizations. That the bond is either psychological (attitudinal) and behavioral (calculative) is coming up through all the definitions considered above.

The attitudinal perspective reflects the individual's identification with organizational goals and his/her willingness to work towards them. The behavioral aspect concentrates on identifying the conditions where behavior, once exhibited, tends to be repeated, along with its effects on changes in attitudes. The important concern is not whether commitment reflects attitudes or behaviour, but that organizational commitment involves the interplay of the two (Mowday et al., 1982).

Figure 1: Attitudinal and behavioral perspectives on organizational commitment
Attitudinal Perspective



→ Causal Relationship

----- Secondary relationship (Complementary Processes)

Source: Meyer & Allen (1991, p. 82)

DIMENSIONS OF ORGANIZATIONAL COMMITMENT

Meyer and Allen (1993 & 1997) have identified the three dimensions of commitment in the organization, that is effective, continuance, and normative commitment. These three are more likely expressed as dimensions of organizational commitment than the types of it. This is because the relationship between the organization's members and the organization reflects the different levels of these three dimensions.

Affective or moral commitment is based on desire and emotion. It grows when employees fully embrace the goals and values of the organization. These employees usually demonstrate high levels of performance, positive work attitudes, and feel personally responsible for the organization's level of success.

Continuance or calculative commitment is based on need. It grows whereby commitment involves 'consistent lines of activity in behavior that are produced by exchange considerations,

that he called "side-bets". Employees with high continuance commitment will likely continue to be a member of the organization on what they are receiving in return for their efforts and what would be lost if they were to leave (pay, benefits, etc.). These employees put forth their best effort only when the rewards match their expectations.

Normative commitment is based on ethics. It grows when employees remain with an organization for reasons of moral or ethical being. Employees with a high normative commitment will continue to be a member of the organization because they felt they had to be in the organization.

ASSESSMENT OF ORGANIZATIONAL COMMITMENT

Mowday, Steers, and Porter (1979), the most widely cited researches in the area of organizational commitment created a 15-item Organizational Commitment Questionnaire (OCQ) that has been used widely in a number of studies (Millward & Hopkins, 1998; Kacmar, Carlson & Brymer, 1999; Bozeman & Perrewe, 2001) and has dominated the literature for over last twenty years. They also created a shortened 9-item version correlating to the 15-item questionnaire (Mowday, Porter, & Steers, 1982). Both versions have high reliability and validity (Cook, Hepworth, Wall, & Warr, 1981; Aryee, Luk, & Stone, 1998; Jones, Scarpello, & Bergmann, 1999).

Porter et al. (1974) and Allen and Meyer (1990) recognized affective commitment as a psychological attachment to the organization. Becker (1960) and Allen and Meyer (1990) recognized continuance commitment as a dependent attachment to the organization. Wiener (1982) and Allen and Meyer (1990) recognized the normative commitment as an obligatory attachment to the organization. Consequently, Allen and Meyer (1990) created three eight-item scales to measure each component. These scales were reviewed, evaluated and validated in several subsequent and overlapping studies (Meyer & Allen, 1991; 1997; Meyer, Allen & Gellatly, 1990; Meyer et al., 1993). In 1993, the scales were shortened to provide a six-item alternative (Meyer et al., 1993).

DETERMINANTS OF ORGANIZATIONAL COMMITMENT

The determinants to organizational commitment are presented in Table 2. Determinants of commitment are actions or elements that cause commitment to occur. Several works have focused on the determinants of commitment, and several vital classifications of variables have emerged from this stream of research. Specifically, psychological variables, role-related variables such as role conflict/ambiguity, and early work experiences have all been found to be determinants of commitment. Some researchers also have found that side-bets or sunk costs increase the commitment felt by long term organization members (Becker, 1960; Farrell & Rusbult, 1981; Hrebiniak & Alutto, 1972; Rusbult & Farrell, 1983). O'Reilly and Caldwell (1980) have revealed empirical support in a field setting for the attribution nature of commitment.

Despite the considerable number of studies that have investigated the determinants of organizational commitment, this article is still characterized by a list of significant determinants (Table 2) those can be categorized into personal characteristics, job related factors and leader related variables, organizational characteristics, job satisfaction, role variables & work experiences. Apart from this, some other variables that have been explored as determinants are ability and skills (Morris & Sherman, 1981; Mathieu & Zajac, 1990), work-life conflict (Mukanzi & Senaji, 2017) and personality traits (Silva, 2006).

TABLE 2: DETERMINANTS OF ORGANIZATIONAL COMMITMENT

Variables studied as determinants		Researchers
Personal characteristics	Background and Demographic factors (Age, Education, sex, race, income, position in the organization, organizational tenure, Locus of control and community of origin, etc.)	Meyer, Stanley, Herscovitch, & Topolnytsky, 2002; Meyer & Allen, 1997; Meyer et al. 2002; Lee, 1971; Lok & Crawford, 2001; Mathieu and Zajac 1990; Angel and Perry, 1981; Mowday, Porter, & Steers, 1982; Koch and Steers, 1978; Weiner, 1982; Steers, 1977; Sheldon, 1971; Grusky, 1966 Hrebiniak, Alutto & Alonso, 1971; Luthans, Baack & Taylor, 1987
	Dispositional factors (the centrality of work, need for achievement, sense of competence, etc.)	Dubin, Champoux and Porter, 1975; Buchanan, 1975; Angel and Perry, 1981 Hall, Schneider and Nygren, 1970; Lee, 1971
Organizational Characteristics	Organizational Structure (Decentralization, formalization, functional dependence, Centralization etc.)	Morris & Steers, 1980; Bateman and Strasser, 1984; Freeborn, 2001
	Organizational Climate	Sinha, A. K. 1983; Fabiene & Kachchhap, 2016
	Organizational Culture	Lok & Crawford, 2001; Sikorska-Simmons, 2005; Black, 1999; Deal and Kennedy, 1982; Peters and Waterman, 1982
	Organizational Justice	Porter, Colquitt, Wesson, Conlon & Ng, 2001; Cropanzano, Byrne, Bobocel & Rupp, 2001; Irving, et al., 2005; Rego, Lopes & Cunha, 2009a; Rego, Machado, Leal & Cunha, 2009b; Rakowska, Espinosa & Conca, 2015; Meyer, Stanley, Herscovitch & Topolnytsky, 2002; Allen, 1997
	Organizational Politics	Randall et al., 1996; Nye and Witt, 1993; Vigoda-Gadot et al., 2003; Cropanzano et al., 1997
	Perceived Organizational Support	Meyer, Stanley, Herscovitch, & Topolnytsky, 2002; Fu, Bolander and Jones, 2009; Rakowska, Espinosa & Conca, 2015; Israel, Kifle, Tigist & Fantahun, 2017
	HRM Practices (Recruitment, Selection, Compensation, Teamwork, Performance Appraisal, Training & Development, etc.)	Jackson, 1999; Bishop & Scott, 2000; McElroy, 2001; Payne, 2005; Ashforth & Saks, 1996; Smeenk, Eisinga, Teelken & Doorewaard, 2006;

Job/Role Characteristics	Job Characteristics (task identity, job challenge, Job Autonomy, Feedback, etc.)	Iverson & Buttigieg, 1999; Mathieu & Zajac, 1990; Cohen 1992; William & Hazer 1986; Steers, 1977; Koch and Steers, 1978; Hackman and Oldham, 1975; Bashir & Ramay, 2008
	Role-related characteristics (Role Clarity, Ambiguity, conflict, Role overload, etc.)	Steers, 1977; Mathieu & Zajac, 1990; Meyer & Allen, 1990; Hrebiniak and Alutto, 1972; Meyer, Stanley, Herscovitch, & Topolnytsky, 2002; Smeenk, Eisinga, Teelken & Doorewaard, 2006
Attitudinal Characteristics	Job Satisfaction (pay, work, promotion, coworker, supervision, and work environment)	Mueller & Price, 1990; Price & Mueller, 1986; Iverson & Roy, 1994; Price & Mueller, 1981; Nagar, 2012; Meyer, Stanley, Herscovitch, & Topolnytsky, 2002
	Organizational Citizenship Behaviour	Robinson and Morrison, 1995; Morrison & Robinson 1997
Work Experiences	Group attitudes toward the organization	Steers, 1977; Buchanan, 1974; Sheldon, 1971; Grusky, 1966
	Organizational dependability and trust	Buchanan, 1974; Hrebiniak, 1974
	Personal investment and personal importance	Buchanan, 1974; Patchen, 1970; Sheldon, 1971
	Leader behavior (the structure and consideration styles)	Glisson & Durick, 1988; Joiner & Bakalis, 2006; Rowden, 2000; Mathieu and Zajac 1990
	Group cohesiveness	Martin and O' Laughlin, 1984; Sheldon, 1971; Becker, 1960
Others	Personality Traits	Silva, 2006; Abdullah, Omar, and Rashid, 2013;
	Ability & Skills	Mathieu & Zajac, 1990; Morris & Sheiman, 1981
	Work-life Conflict	Spanuth & Wald, 2017; Mukanzi & Senaji, 2017; 7. Akintayo, 2010
	Leader-Member Exchange	Green, Anderson, & Shivers, 1996; Setton, Bennett & Liden, 1996; Liden, Sparrowe & Wayne, 1997; Kacmar, Carlson & Brymer, 1999; Erdogan & Liden, 2002

(Sources: Researchers' compilations)

OUTCOMES OF ORGANIZATIONAL COMMITMENT

The outcomes of organizational commitment are the effects that result from employees' commitment and are also referred to like the consequences. Outcomes include lower absenteeism, increased work effort (Mathieu & Zajac, 1990) and overall performance on the job (Meyer & Allen, 1997). It has significantly inverse association with employee turnover and, to a lesser extent of inverse association with other withdrawal behaviors such as decreased performance,

increased absenteeism and tardiness. The only exception has been the Marsh and Mannari (1977) study that assessed lifetime commitment norms and values among Japanese workers. The studies in Table 3 report that commitment leads to several specific behavioral outcomes.

TABLE 3: OUTCOMES OF ORGANIZATIONAL COMMITMENT

Variables studied as outcomes	Researchers
Tardiness, turnover, Absenteeism	Angle & Perry, 1981; Hom. Katerberg & Hulin, 1979; Koch & Steers, 1978; Steers, 1977; Porter, Crampon & Smith, 1976; Porter, Steers, Mowday & Boulian, 1974; Larson & Fukami, 1984; Marsh & Mannari, 1977; Mowday, Steers & Porter, 1979
Job performance	Steers, 1977; Van Maanen, 1975; Larson & Fukami, 1984; Meyer & Allen, 1997; Konovsky & Cropanzano, 1991; Indradevi & Veronica, 2018
Job satisfaction	Bateman & Strasser, 1984
Desire to remain, Intent to remain	Steers, 1977
Employee Retention	Steers, 1977
Work Stress	Indradevi & Veronica, 2018; Muthuveloo & Rose, 2005
Intention to leave	Indradevi & Veronica, 2018

(Sources: Researchers' compilations)

POTENTIAL IMPLICATIONS FOR HUMAN RESOURCE MANAGEMENT

A value-added organizational commitment leads to different consequences that contribute to an overall improvement in employee and organizational performance. Therefore, it is essential to emphasize that organizational commitment management is not linear and presents several difficulties regarding human resources practices. For example, while the length of service promotion policies increases continuity commitment, it can be argued that they reduce affective commitment via their impact on employee perception on company equity. Another example is training policies. On the one hand, they can positively affect affective commitment but may also bring about adverse effects for continuity commitment by raising individual employee perceptions about employment alternatives. It means that if the organization is not in line with the employee's career goals, the employee may be more committed to his or her career rather than to the organization, which may have an adverse effect on organizational performance (Cohen, 2003). Therefore, a little bit of effort can lead to satisfied, efficient and loyal employees.

The elements of organizational commitment are created and developed according to their own mechanisms. There are several strategies and activities that a company can resort to. They include clear and constant communication, participative leadership, transparency in problem and conflict resolution, empower employees across the organization, training programs, mentoring activities, rewards programs, promotion opportunity and career development, fair compensation, and benefits, internal recruitment strategies, promotion based on redistribution and skills and long-term contractual policies. They can also include honest feedback, selection programs that consider characteristics such as auto-efficacy and internal locus of control, intensive socialization systems to transmit values, reduce ambiguity and role conflict, safe working condition and work-life balance program.

Hence, knowledge about organizational commitment and its determinants enables human resources management staff to act more efficiently and specifically focus on those levels considered relevant to and in accordance with their own priorities and objectives. They also need to take the measure of employee engagement & commitment at least once a year through anonymous surveys in which people feel completely safe to speak their minds.

CONCLUSION

This paper explores and defines the phrase 'organizational commitment', its factors within each theme; personal characteristics, job attitudes, job characteristics, organizational characteristics, work experiences, and its outcomes are explained. It also reviews two assessment tools for evaluating employee commitment levels. This article has highlighted the importance of employee commitment for the effective and efficient functioning of an organization. A review of the literature also indicates that many factors influencing organizational commitment identified in this paper can be improved by specific interventions.

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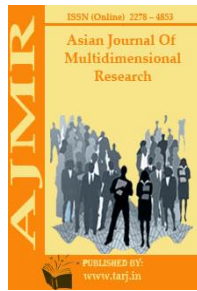
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GLIMPSE INTO HISTORICAL PERSPECTIVE OF INDIAN MILITARY LEADERSHIP

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ABSTRACT

India has a rich culture, heritage and history. Lack of awareness among the people about the strengths of the rich military history has led to many facets of the history not getting the required place and importance in the society. This paper is aimed at reminding the readers to study, take pride and spread awareness about the rich historical background they possess with respect to Military Leadership. The Principles of military leadership, the conduct of a leader and the qualities possessed by an efficient and successful leader have their roots in the epics that trace back to time immemorial. Kautilya's Arthashastra is one of the oldest collections that can be clearly linked to history. Though Arthashastra is focussed towards subjects like politics, administration, economy, expansion and functioning of a kingdom, a number of lessons can be drawn and followed by the military leaders of today. The expansion of the Mauryan empire is one of the finest examples in this regard. Leadership of great leaders like Chatrapati Shivaji and Maharaja Ranjit Singh have their own uniqueness and style. Certain incidents in their lives while dealing with their subjects, friends, enemy, etc, bring out various attributes of personal qualities of leadership and vision displayed by them. Their inspirational leadership have turned the battles in their favour. The number, of such leaders, is vast and cannot be covered in an article. Indian Education system, competitive and promotion exams need to lay more emphasis in these aspects.

KEYWORDS: *focused, leadership, inspirational*

INTRODUCTION

India is a rich country. Rich in culture, resources, mind, material, heritage and history built over thousands of years. The rich history of the country is unknown to many within the country. Many a times Indians are seen getting drawn towards the western literature. Indians are at times seen taking inspiration from history of foreign countries, their valour, their leaders and their principles. Even military thinkers are often seen quoting Tsunzu, Clausewitz, and many more and not even referring to the rich knowledge base existing within the country. While it is always correct to learn the goods from others, which leads to development and self-improvement, one should not forget that by missing out own great military thinkers whether deliberately or unknowingly, the country may lose out, with treasures getting buried deep in the history. The era when the philosophy of Manu was spelt out or the great Indian Epics were written or even Chanakya's philosophy was given out is incomparable and no parallels can probably be drawn.

Chanakya

Chanakya was a great scholar, teacher, philosopher, economist, strategist and builder of an empire. He lived in the third century BC (Chande, 2004). He was born in Pataliputra which is currently in Patna, Bihar, India. There are different versions in history about his name, as a result of which, present day leaders are at times apprehensive in referring to his thoughts and quoting him. By birth he was called Vishnugupta. He is also referred to as Chanakya. His father was Chanak, hence Chanak's son can be called Chanakya. In the Indian culture, a respected person is, many a times, referred to with father's legacy. Chanakya can be interpreted with the name Vishnugupta also as the same individual. He was also known as Kautilya. The origin for the name Kautilya has different versions, commonly accepted is probably Vishnugupta's family name. Even today there are families having the *Gotra* (lineage) name as Kautilya. Thus, it is clear that all three names viz Vishnugupta, Chanakya and Kautilya are the same person.

Chanakya was a teacher of Political Science at Taksh Shila (Taxila) University in present day Rawalpindi District, in Punjab province of Pakistan (Syed, 2011). It is said that he was so determined that when he observed that due respect was not given to him and he was humiliated by the Nanda King, he denounced the Nanda dynasty and took a vow not to tie his *shikha* (hair) till he brings an end to it. Legend goes that when Chanakya was moving out, he stumbled due to certain grass. He poured sweet syrup on the grass till the roots and an army of ants ate up the grass from its origin in no time. During this event, Chanakya met young Chandra Gupta and became his mentor. Kautilya was responsible for destruction of Nanda rule in Magadha and brought up his disciple Chandra Gupta to reign the throne of the Magadha kingdom. In the Maurya Kingdom, Chanakya was the counsellor and the main advisor. He had a Vision for United Bharat. The Empire of Chandragupta Maurya stretched across the Indian Peninsula. Thus, in that era, he proved that 'leaders are not only born, but are made', while the initial leadership theories of modern era have contemplated even as late as early 1900s whether a leader is born or made. The influence of the teachings of Chanakya certainly had such a lasting effect that Emperor Ashoka, the Grandson of Chandragupta Maurya, further extended the empire to parts of Afghanistan and Persia and to difficult parts of Kalinga.

During his lifetime Chanakya compiled Arthashastra which was a collection of 15 books consisting 150 chapters, 180 topics, 380 *shlokas* (stanzas) and 4,968 *sutras* (aphorisms). (Wikipedia, 2018) Each of the fifteen books is divided into varied number of chapters and sections dealing different topics like training, discipline, duties of the people in authority, law,

judiciary, calamities, war, defending and annexing the territory, fortresses, war, enemy, secret agents etc. The collection has three main parts ie National security, Administration and Economics. While the focus of Arthashastra, is development of kingdom, however, a large number of lessons on leadership can easily be drawn from it. Leadership in all spheres and facets can be interpreted from this collection. The compilation is a combination of statecraft, economy, military might, character development and many more aspects for a successful kingdom to flourish. In that era, this compilation was a one stop solution giving guidance for kings of that generation to efficiently run and expand the state. Thus, it is a complete science of good governance. In that era, monarchy was the form of governance. The stress was on the king as the leader and the ruler. It gives comprehensive do's and don'ts for leaders. Subsequently, this masterpiece was probably lost, however, in early Twentieth century, it was traced and translated into English and Hindi. Most of the aspects dealt in it are relevant in this modern era and can be applied suitably modified to the given situation in the present-day requirement. A leader today can easily take many of these lessons and build his personality, develop his organisation, beat the competition and be a successful entrepreneur, businessman, statesman or a military commander. These lessons can be aptly applied in the modern battlefield, which is technologically so advanced.

Book No X is 'Relating to War' (Kautilya, 1915). When Book No VI 'The Source of Sovereign States' is read in conjunction with Book No X and interpreted with the overall Arthashastra for the modalities of conduct of a leader, a number of aspects emerge which can be summarised as leadership principles for military leaders. The principles of military leadership followed by militaries across the world have large number of commonalities. A large number of principles of military leadership can be extracted from Arthashastra. Some of them are, be professionally knowledgeable and competent ; be courageous and set example ; be enthusiastic, have determination of purpose, quickness and probity ; be capable of foreseeing an event or a danger before others can see it ; make sound and timely decisions ; train your soldiers well and train them as a team ; seek responsibility and take responsibility for your actions ; maintain secrecy of your plans and establish a system of getting secret inputs ; act boldly in adversity ; keep communication channels open and maintain clear communication ; be sensitive to the needs, feelings and the motivation level of the followers. Book V 'The Conduct of Courtiers' brings out a large number of aspects that can be suitably applied by staff officers and advisers of commanders. The Qualities of a Good Leader can be summarised from the entire Arthashastra. Some important and relevant qualities are Integrity, Courage, Decisiveness, Endurance, Professional Knowledge, Enthusiasm, Initiative, Foresight, Judgement, and Justice. The text is a store house of character traits and principles of governance and leadership that can be suitably employed by military leaders.

A Glimpse

A glimpse into Indian history takes us through the Golden Period of the Guptas, of which, Samudragupta and Chandragupta Vikramaditya are remembered as greatest of the leaders. Any reference to Military Leadership will be incomplete without a mention of the Cholas of South India. Under the leadership of Emperor Raja Raja Chola 1 and his successor Rajendra Chola 1, their kingdom expanded not only in the mainland, but also, with their navy, influenced Srilanka, Maldives and South East Asia. Subsequent era, great Indian leaders like Chatrapati Shivaji, Maharaja Ranjit Singh and Maharana Pratap are just a few names from the prestigious Roll of Honour. Post-independence, Field Marshal SHFJ Manekshaw, General KS Thimayya,

Lieutenant General Harbaksh Singh are a few among the exemplary leaders of the senior hierarchy. The brave and bold actions by the honourable Param Vir Chakra Awardees and the most coveted of the junior leadership of Indian army raise the head of every Indian high in any comparative study of military leadership with any other nation. The leadership principles followed and the leadership qualities displayed have their origin into the Chanakya era. Though it cannot be definitely said that Arthashastra has been followed by all of them, however, their traits and their actions indicate towards this direction. In order to get a glimpse, certain aspects of leadership of Chatrapati Shivaji and Maharaja Ranjit Singh are being discussed in this paper.

Chatrapati Shivaji

Chatrapati Shivaji was born in 1630 at Shivneri Fort, Maharashtra in a royal family of The Bhonsle Maratha Clan (Kingaid & Bahadur, 1918). He spent his childhood along with his mother Jijabai (Wikipedia, 2018). This gave time and opportunity to train hard and train well.

A mentor is a trainer, a friend, philosopher and guide in the life of a leader. This has been generally followed in Indian History. Chanakya mentored Chandragupta Maurya from his young age till emperorship. Guru Dronacharya mentored Arjuna during his education and training leading him to be the greatest archer, and Krishna mentored him during the preparation for war and through the battlefield. Many more such examples are famous. The importance of a mentor in life of a successful soldier and a military leader is clearly established as a mandatory need. Shivaji was mentored by Dadaji Konddeo, as a result of which, by the age of twelve he obtained excellent training in skill at arms, warfare, horse riding, negotiation of difficult terrain, physical fitness and wisdom. He grew to be an expert in Guirella warfare.

Shivaji was a determined leader. Once he was clear at young age that he was not to serve under the then Muslim leaders, his actions throughout his life were dedicated towards bringing down the empire and establishing his power. Shivaji was prompt in taking balanced decisions. He could always anticipate an upcoming danger and took a decision well before time and prepared for the upcoming danger. One of the examples in his life were the fight against Afzul Khan. (Kingaid & Bahadur, 1918, p. 161) When Shivaji was to meet Afzul Khan for a planned pre-discussed meeting to reach a treaty of understanding, he was aware that danger lay ahead for him. His mother Jijabai pleaded him not to meet Afzul Khan, however he stood firm on his resolve. He kept his calm in the morning before the interaction. He had ordered all the niceties and arrangements for the meeting. At the same time, he had ordered his backup troops at various levels including near the place of interaction and the mountains nearby. Under his robe he was physically secured by body armour for his defence. For a contingent offensive action / attack, Shivaji tactfully armed himself with steel tiger claw covered under the robe. He studied his enemy so well that he could anticipate probably what action could happen at every moment. When Shivaji met Afzul Khan and they embraced each other, Afzul Khan attacked Shivaji's back, however the body armour was there to protect him. At that moment Shivaji attacked Afzul Khan with the steel claws. The subsequent fight led to the killing of Afzul Khan. Shivaji would learn every detail of the king with whom he had to be friendly or wage war. Knowing the enemy is an important quality of a great leader. Shivaji always studied his enemy so thoroughly that even his enemies had a reason to appreciate his knowledge of enemy actions, movements, thought processes and tactics. He maintained superb intelligence network as a result of which he could always anticipate the enemy actions.

The daring attack on Shaistekhan breaching the palace walls and security was a well-timed and tactically planned operation. Though Shaistekhan lost his thumb, and probably was dragged away to safety by his servant and some women, the daring raid personally led by Shivaji is a lesson even today. It was all done so skilfully that no alarm was raised. The subsequent retreat towards Sinhgarh and the deception created by the light torches through the Katraj ghat of the Sahyadri ranges made the Moghuls to attempt an attack presuming a major force. This Moghul attack went in vain and gave adequate time for Shivaji and his men to join-up (Kingaid & Bahadur, 1918, p. 198).

Shivaji's life is full of incidents for today's leaders to follow. He was an inspirational leader who led by example. During his lifetime he was successful in uniting the Marathas and giving them a new identity. He was an efficient general and a military strategist who built his empire from the base by starting to retake his father's lost *Jagirs* (estates) and forts. He was a visionary leader. He began his conquest with capture of forts. He got a number of forts constructed including those with Naval importance.

Shivaji was a skilful diplomat; (Kingaid & Bahadur, 1918, p. 143) when he was unable to get his father Shahaji released from the captivity of Mohammed Adil Shah of Bijapur, he approached the Moghul Emperor Shah Jahan and reached a stalemate. His leadership and administration were fair and effective. Shivaji was sharp, always alert and used his presence of mind to take advantage of fleeting opportunities. He respected women and other religious faiths. (Kingaid & Bahadur, 1918, p. 153) Once he was offered a beautiful captive young woman, however he respected her dignity, respected her like a mother and returned her to her place as if she was being sent back by a brother and a father. The grooming by his mother Jijabai had a major influence on him.

Lessons from Shivaji's life can create volumes for strategists as well as tactical leaders. The need is to refer to the literature as a compulsory professional reading.

Maharaja Ranjit Singh

Maharaja Ranjit Singh, the great Sikh warrior of the era 1780 to 1839 is a leader of rare comparison (Wikipedia, n.d.). Under the leadership of Ranjit Singh, the kingdom of Punjab expanded in the west up to present day Afghanistan and in the North up to Kashmir. (Singh, 2002) The young Ranjit Singh did not receive any formal education. He had passion for Horse Riding. He would ride over a hundred miles a day. He excelled in musketry and swordsmanship as a young boy. At an early age, he rode into the battle with his father in the thick of fighting. The moment he sat on a horse back, he was completely transformed and vibrant. He was a fearless leader and there are many accounts of his fearlessness. At the age of 17, while laying siege against the Afghan ruler, Shah Zaman, Ranjit Singh boldly stood and challenged the Shah to come to meet him, but, the Shah did not dare. Similarly, there is another interesting incident in which the Shah demanded certain gifts, to which Ranjit Singh's reply was that the gifts would be delivered to the invader in the battle field.

It is important for a leader to identify talent and nurture the potential of his subordinates. An example here is of Sardar Hari Singh Nalwa. When Hari Singh was a young boy of seven years, he lost his father. Maharaja Ranjit Singh met Hari Singh in his open *Durbar* (court). Seeing Hari Singh's chivalry, he was enrolled in the Royal service as a personal *Khidmatgar* or an attendant. Subsequently, he was given the command of cavalry. Rest is history as Hari Singh grew as a General and fought a number of battles for the Maharaja.

Unification of the Sikhs was a major achievement by Maharaja Ranjit Singh. Earlier there were large number of *mists* (confederacies) (Narang, 2009). Maharaja gave them the identity by uniting them and further expanding them as the great Sikh Kingdom. He took control of these Sikhs and became leader of the whole Khalsa. He established a centralised and efficient military system by taking the best of the elements from indigenous as well as foreign resources. The effectiveness of organised military, artillery and cavalry regiments as well as the tactics of guerrilla warfare were proved by successes in a number of battles. Ranjit Singh's forces were divided into regular and irregular infantry, regular and irregular cavalry and artillery. His allies and treaties with various kingdoms supplied him with the irregular forces. The Artillery was kept under the state control. Thus, he organised the military for the best utilization and control of resources. In order to modernise his army, Ranjit Singh placed some of his forces under the leadership of General Allard and some under General Ventura both of whom had fought in the armies of Napoleon Bonaparte.

Ranjit Singh was forgiving by nature. 'Yaar Mohammed' and 'Dost Mohammed' were forgiven when they presented themselves at Ranjit Singh's court and sought his pardon. He forbade his soldiers from harassing, molesting or robbing. When he had Muslims as his subjects, he ensured that no act would upset or alienate them. He continued to grant state support to mosques and confirmed the jurisdiction of Islamic law over Muslims. His army consisted of officers from different religions. Maturity, liberalism and vision were his hallmarks.

The possession of the Kohinoor diamond by the Maharaja, was again an act of chivalry displayed by him and by his warriors by undertaking the release of Shah Shuja from captivity in Kashmir on the request of his wife Shah Shuja Wafa Begum (Sodhi, 2011).

At the age of 20, he was crowned as the Maharaja of Punjab. The proclamation was proof of his confidence and élan that contributed to his future successes of Sikh ascendance.

Decision making, resolute leadership and leading by example are the qualities that have been indicated by a number of incidents and events during the Maharaja's lifetime. During the battle of Naushera (1822-23) the attack on the Afghans was getting delayed due to the delay in arrival of heavy guns and there was an urgent need for reinforcements for the capture of Fort Jehangiria. The bridge over river Attock was already destroyed. Ranjit Singh decided that the forces could not wait any more for the bridge to be constructed. One early morning, Ranjit Singh led the forces riding on his white horse through the freezing water to cross the river. The whole army followed without a moment's thought and plunged their horses in the swollen and turbulent river. It was believed that no one could cross the river at its full swell. The enemy was caught by surprise. As a result, enemy fled from Jehangiria leaving even their dead and injured in the battle field.

He was a visionary leader. He correctly assessed the strategic importance of Khyber Pass and visualised the need for guarding it. He organised the defences of his frontier around Kabul by apportioning adequate resources in terms of troops and fortifications. The forts constructed during his time have been utilised even by the British Indian Army during subsequent wars. One of them is Fort Saragarhi where the famous Battle of Saragarhi (the finest display of junior leadership of Indian soldiers) was fought by 21 brave soldiers of 36 Sikh Regiment under the leadership of Havildar Ishar Singh on 12 September 1897.

Way Ahead

We are coming across more evidences on various aspects of Indian History which may probably bridge the gap between the mythology and history, in future. More awareness is required for every Indian to be abreast with the rich history, chivalry, heritage and finally The Pride. There is a need to make a beginning from the grass-root level where children are taught about the valour and the history of great Indian leaders at home and in schools. The education system can influence this aspect to a great extent by increasing the content on great leaders, military values and the might of Indian Leadership. Indians should feel confident and proud of quoting the Indian leaders with authority. There is a need to institutionalise this part of knowledge. The way ahead is to constantly revisit the heroism, believe it and make others believe it. This is feasible by increasing the visibility of Indian Military leadership in various forums, panel discussions, media, journals and syllabi for competitive and professional examinations.

CONCLUSION

Many of the values and the practices, that Arthashastra has quoted, have probably become second nature to Indians over the centuries by sheer repetitive usage and practice. Some have been absorbed in the culture in the Indian society. As a result, Arthashastra does not get due recognition, though it has become integral part of the practices in the society. The principles of leadership, leadership traits and leadership quotes of Chanakya era are applicable even today to the modern armies. The study of Indian leaders of the ancient, middle and the modern age is an eye opener to many present-day leaders. With that as the background knowledge, the study of post-independence military leaders gives a new sense of belongingness and pride.

Indian history provides a vast list of Kings, Generals, and Junior leaders displaying the leadership qualities with unparalleled match in battlefield, administration, welfare, negotiation and the routine. It is nearly impossible to cover such vast history in a single article. In this paper, glimpses into the historical perspective of Indian military leadership has been briefly touched upon with a view to bring to the notice of the present-day leaders, the rich history and legacy they are descending from. The saga of Indian military leadership continues. Even in the recent past, the finest examples of leadership are available during the various battles fought by the Indian Army. The battles fought in the treacherous terrain of Kargil heights in 1999 have once again proved to be the finest examples of junior leadership in the Indian Army. Leadership lessons in ongoing Counter Insurgency operations are arising on near daily basis.

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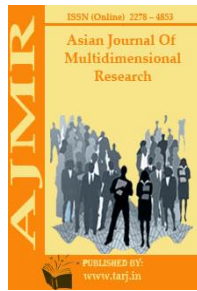
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**ELDERLY PARENTS AND THEIR ADULT CHILDREN: A STUDY ON
THE ROLE OF INTERGENERATIONAL FAMILY RELATIONS IN THE
PSYCHOLOGICAL WELL-BEING OF ELDERLY PEOPLE**

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ABSTRACT

This study investigates the role of intergenerational relations in the psychological well-being of elderly people through mixed method design i.e., combining both qualitative and quantitative approach. Total 100 respondents were selected with the help of purposive random sampling from rural areas of Dibrugarh district of Assam. And the data for the present study has been collected with the help of structured and semi structured interview schedule. Elderly's psychological well-being were measured using Ryff and Keyes's (1995) six dimensions of psychological well-being-Self-acceptance, Autonomy, Environmental Mastery, Positive Relations with Others, Meaningful Life and Personal Growth and found positive relationship between elderly's psychological well-being and their relations with children and it was strongly affected by their socio-economic background. Significantly, study reveals that the elderly female enjoyed all the dimensions of psychological well-being than their male counterparts. Finally, the study suggests that good amount of intergenerational relations can enhance elderly's psychological well-being.

KEYWORDS: *Intergenerational Relations, Psychological, Well-Being, Elderly, Rural*

INTRODUCTION:

Presently the whole world is witnessing the changes in the structure and functions of the family. Specially modernization, industrialization and technological revolution has changed the basic structure of intergenerational family relations. And with the advancements in health services and improvements in quality of life, the longevity of human lives has been increasing and hence there have been increases in the number of aging population in the world than the general population. This demographic change leads to lower fertility and lower mortality which contributing to population aging with survival at older ages. In addition, the demographic transition process of declining fertility and mortality gives rise to increasing bulge in older cohorts, compared to younger cohorts. The shift from a period of high mortality, short lives, and large families to one with a longer life, far and fewer children is the hallmark of demographic transition (India Aging Report, 2017).

According to the United Nations World Population Prospects, 2015 (UNWPP,2015), the share of the population in the age group of 60 plus years is projected to increase from 11.5 percent in 2015 to 22 percent by 2050. Further, in Asia the portion of elderly increase from 10.5 percent in 2012 to 22.4 percent in 2050. And for EastAsia, it is expected to be 34.5 percent from 17.2 percent. In Japan, it is projected to increase from 31.1 to 41.5 percent, for South Korea it is expected to increase from 18.5 percent to 38.9 percent, and for China it is projected to 15.2 in 2015 to 34 percent by 2050. On the other hand, for the South Asian Association for Regional Cooperation (SAARC) countries the population of the elderly is expected to increase 21 percent by 2050. Therefore, the UNWPP also said that the population aging will have a profound effect on the retiree aged in various countries, as measured by the Potential Support Ratio (PSR). Interestingly due to the decreasing intergenerational social support and protection system, the UNWPP said that by 2050, 24 European countries, 7 Asian countries including the countries of Latin America and Caribbean countries will have PSR below 2 percent.

Like other countries in the world India also experiencing a similar demographic transition. According to UNWPP (2015), in India, the population in the age group of 60 plus years is projected to increase from 8 percent in 2015 to 19 percent in 2050 and, with the end of the century it is expected that India will have nearly 34 percent of the elderly population in the country with disability, frailty, and lack of security. Due to this demographic transition, India will have more than three generations within a family like any other developed countries.

The recent family literature also indicating two kinds of transformation within intergenerational family relations. First, the recent family literature showed the stability and the number of generation in a family has been increasing and Second, within this complex and large kinship structure the generations in a family have been surviving. But interestingly Riley (1983), in his, 'The Family in an Aging Societies' significantly define intergenerational family relations as "Latent Relationship" where generations might or might not become close and significant during a lifetime. Whereas, Bengtson (2001) gives importance on the demographic aspects of changing intergenerational relations and said that "We now have more years of 'co survivorship between generations' than ever before in human history." By this, he meant that the importance of bonds between different generations has been increasing i.e., with the increased in the kin structure of family the members will have more opportunities to interact, support in various needs and mutual influence among the generations. According to him this changing structure and kin availability can enhance the well-being of different generations.

Nevertheless, Harper (2005) stated that “demographic shifts have increased the number of generations, but decreased the absolute number of relations”. Nowadays, with more life expectancy four generations of the same families remain alive at the same time. So the debate is also going on as to the aspects of whether we should give more importance to the old or the young generations. Dykstra (2010) argues that “The young are growing up in societies where they are a numerical minority and where they have several generations of family member’s “above” them. These considerations suggest that attention should be given to people of all ages”. But in this demographic transition of intergenerational relations the older generations today live more vulnerable life with disability, frailty, depression, lack of care, protection and support than younger generations. There are many instances where loneliness leads to suicides among the older generations. In this context, the present study attempts to analyze the intergenerational relations and its impacts on the psychological well-being of elderly people.

OBJECTIVES OF THE STUDY:

- (a) To investigate the role of intergenerational family relations in the psychological well-being of elderly people.
- (b) To examine the gender differences regarding the intergenerational relations among the elderly parents.
- (c) To examine the co-relations between socio-economic background of the elderly parents and their relationship with children.

A BRIEF REVIEW OF LITERATURE:

Lee and colleagues (1995) conducted a study on the intergenerational exchange and depression among the older and reported that there was a positive co-relation between filial responsibility expectations and depression among the elderly. They found that who received aid from their adult children they are more depressed than who don’t receive. Among elderly who have lower education and lower income with poor health were more depressed and it was high among the women basically unmarried women. However, they found that the frequency of contact can improve the psychological wellbeing of elderly parents. But, Broadly (1970) reported that high parental demand can be the cause of strain and conflict between generations and its effect on the qualitative aspects of relationships i.e., emotional bonding between generations become weak. Robinson and Thurnhner (1979) reported that negative appraisals were most likely to occur in instances where caretaking functions were reported as confining and stressful.

In another study Quinn (1983) in his ‘Personal and family adjustment in later life’ examined the effects of affection, communication, and consensus and found that these three major qualitative dimensions of interaction should spurious effects on psychological wellbeing among the elderly and on the quality of the relationship. Similarly, Kerckhoff (1966) also found that parents who live in nuclear family form reported the highest morale as they neither expect to live near their children nor they received aid from their children. This suggests that parent’s independent situations give more life satisfaction and wellbeing to the elderly.

Supporting Kerckhoff’s notion on the morale of elderly Stoller (1985) also examined the exchange patterns in the informal support networks of elderly and reported that parents who give more aid to their adult children are less depressed than who received more aid from their adult children. Consequently, Lee and Ellithorpe (1982) also examined the intergenerational exchange and subjective wellbeing among the elderly and found no relationship between patterns of intergenerational exchange and psychological well-being. McCulloch (1990), and Dwyer and his

associates (1994) also found the no significant relationships of intergenerational reciprocity of aid and morale among the elderly. Also, there were no significant effects of reciprocity on elder satisfaction through the caregiver's stress and burden. They have also reported that no correlation of co-residence and well-being of elderly people. However, Wolk and Telleen (1976) have been found opposite result. They investigate the psychological and social correlation of life satisfaction and residential constraint and reported that elderly with the highly constrained environment with little autonomy and self-governance has a low life satisfaction. Similar findings were reported by Woodward and his colleagues (1974). They have revealed that the living environment has a significant impact on the life satisfaction of the aged. The elderly with healthy living environment experienced a lower level of loneliness and also help in the alleviation of social isolation. In that case, Lawton et al (1976) reported that with a healthy living environment elderly feels secure and it increases the morale.

RESEARCH QUESTIONS:

In the present study the following research questions are addressed:

- Does intergenerational relations impact on the psychological well-being of elderly people?
- Is there any conflict regarding autonomy and decision making among the older and younger generations?
- Is there any gender differences between elderly man and elderly women regarding the intergenerational relations and how it effects on their psychological well-being?

RESEARCH METHODOLOGY:

A descriptive design of study has been conducted with purposive random sampling. Five villages- Genichuk, Hahoyal, Bogoritoliya, Rohmorria, and Dupabor Maijan were selected purposefully under the Lahowal Development Block of Dibrugarh District of Assam. The total sample size for the present study is 100 (50 Men and 50 Women) from older generations in the age group of 60 and above. From each village, 20 respondents were selected and it was gone through the head of the villages. For the fruitful outcome of the present study, the researcher adopts a mixed (Quantitative and Qualitative) method design. Pilot study has been conducted with five elderly people and they were not included in the main study.

The present study is based on both primary and secondary sources of data. The primary data collected through a field survey during the month of August to October 2018 from rural areas of Dibrugarh District of Assam under Lahowal Development Block. For the present study, the data has been collected with the help of both structured and semi-structured interview schedule keeping in mind the objectives of the topic under study. The data has been divided into two main sections. The first section pertains to 'General Information' like age, sex, educational status, employment status etc., of the respondent. The Second section deals with the intergenerational family relations relating it to the psychological well-being of elderly people. The present researchers prepared both the schedule with the help of google form. Besides participant observation has also been used. Secondary data and information collected from various government's reports, books and journals and concluded with a well design set of references.

The quantitative data has been analyzed and interpreted systematically through quantitative techniques such as percentage, and cross tables with the help of MS Excel-7 and SPSS- 13. Qualitative data, on the other hand, were measured with the help of Interpretative Phenomenological Analysis (IPA) and Narrative Psychology (NP)

Psychological well-being in the present study has been measured with the help of Ryff and Keyes's (1995) six items of psychological well-being i.e., (1) Self-Acceptance, (2) Environmental Mastery (3) Autonomy (4) Meaningful Life, (5) Positive relationship with Others, and (6) Personal growth. Following are the questions that were asked to measure the six dimensions of psychological well-being-

- 1) **Self-Acceptance**- "Do you feel happy with the support provided by your children or positive about your past life that you have spent with your children?" Please explain the for the above response.
- 2) **Environmental Mastery**- "Are you able create contexts suitable for demanding personal needs and value from your children?" If yes, then explain how?
- 3) **Autonomy**- "Is there any conflict regarding autonomy and decision making in family matters with your children?" If yes, then kindly share your experience.
- 4) **Meaningful Life**- "Do you receive love and respect from children?" (Meaningful life can be varied from person to person. But in the present study the researcher relates elderly's meaningful life with love and respect that they receive from their children).
- 5) **Positive Relationship with Others**- "How would you describe your relationship with your children?" Please explain the Positive/Negative Relationship with your Children.
- 6) **Personal Growth**- "Do you feel bored and uninterested to stay with your children?" If yes, then please explain why?

RESULTS AND DISCUSSION:

It is always expected that family as a close kinship unit it should look after the social, emotional-psychological, health and economic need of its members. Family system theory posits that parent-child relationship is always affected by the qualities and characteristics that possess by parent and child within the family. And since the family is a close kinship unit and the parent-child relationship grown within the family, therefore, intergenerational support activities need to be understood within the family context. Despite that, its significance as a social institution varies from society to society, and within the same society, among different groups and individuals occupying various positions and statuses and placed at different stages of growth in their life (Bhatia,1983). But it is also the truth that intergenerational relationship and support given to each other is a lifelong process going through family which has important context for both parents' and children's well-being.

Table- 1 shows that 31 % (Majority) of the elderly reported that they were very happy about their past life and positive about it. Similarly, 26 % elderly express their happiness with their past life. Whereas 19 % were neutral about it, 7 % respondent was partially happy and 17 % were unhappy about their past life. And if we look at the socio-economic variables than we can see that women were very happy about their past than male respondent. The elderly representing the age group of 71-80, widowed, living with children only also helps in domestic work and child care, fully dependent and with excellent or good health were reported high self-acceptance. Self-acceptance was also higher whose children's had very good economic condition.

TABLE 1. PERCENTAGE OF ELDERLY WHO FEELS HAPPY AND POSITIVE ABOUT PAST LIFE THAT SPENT WITH CHILDREN: SELF-ACCEPTANCE

Background Characteristics	Self-Acceptance (%)				
	Very Happy	Happy	Neutral	Partially Unhappy	Unhappy
Sex					
Male	22	30	24	4	20
Female	40	22	14	10	14
Age Group					
60-70	29.1	25.3	17.7	7.6	20.3
71-80	38.5	46.2	15.4	0	0
81 and above	37.5	0	37.5	12.5	12.5
Marital Status					
Married	27	27	20.6	7.9	17.5
Widowed	37.8	24.3	16.2	5.4	16.2
Educational Status					
Illiterate	21.3	29.8	19.1	8.5	21.3
Primary	39.2	23.5	19.6	5.9	11.8
Secondary	50	0	0	0	50
Co-residence					
Alone	0	0	0	0	100
With spouse	33.3	0	0	0	66.7
With children	46.2	15.4	19.2	3.8	15.4
With spouse and children	25.7	31.4	20	8.6	14.3
Economic Status					
Retired	20	20	20	0	40
Engaged in agricultural activities	12.5	25	18.8	6.2	37.5
Engaged in non-agricultural activities	20	20	40	20	0
Engaged in both agricultural and economic activities	0	100	0	0	0
Helps in domestic work and child care	38.2	26.5	17.6	7.4	10.3
Economic Dependency					
Independent	22.7	22.7	13.6	4.5	36.4
Partially dependent	16.7	25	33.3	8.3	16.7
Fully dependent	36.4	27.3	18.2	7.6	10.6
Subjective Health					
Excellent	29.4	29.4	23.5	5.9	11.8
Good	42.9	28.6	9.5	0	19
Average	0	57.1	28.6	14.3	0
Below average	32.6	19.6	17.5	6.5	23.9
Poor	22.2	22.2	33.3	22.2	0
Economic Condition of Children					

Very good	80	0	20	0	0
Good	58.8	23.5	5.9	0	11.8
Average	50	33.3	8.3	0	8.3
Bad	16.2	29.7	24.3	10.8	18.9
Worst	17.2	24.1	24.1	10.3	24.1
Total	31	26	19	7	17

Contrarily, they were also asked to explain the reason for the above response. Elderly those who were very happy or only happy about their past life have pointed out that – They were very happy/happy as they are getting all the expected support from their children and have a good amount of family interaction and integration. One of the respondents has opined that ***“Though my children’s economic condition is not much good still they are always ready to help and most importantly, they abide and respect my words”***.

Another one respondent belongs to the age group of 81 and above have said, ***“Nowadays I don’t need money from my children. I just need some love, care, and attention and I am getting all that from my children right now and that makes me very happy”***. Whereas those who were partially happy pointed out that they do not get their expected support and attention from children. And those who were unhappy reasoned that – they were ignored and not taken care of, by their children and also have been disrespected by children.

Table- 2 represents elderly’s environmental mastery i.e., elderly’s state of being able to create contexts suitable for demanding personal needs and values from children. The table shows that 40 % of elderly reported that they have environmental mastery within their family, 37 % of elderly are sometimes able to create context suitable for their personal needs and remaining 23 % reported that they don’t have environmental mastery. Here important thing is that female respondent had higher environmental mastery than male. Economic status and dependency are also important in this regard. Data shows that elderly those who were independent or partially dependent, retired, engaged in both agriculture and economic activities were showing higher environmental mastery than fully dependent. Environmental mastery has also been enjoyed by married respondent than widowed and elderly with poor health comparatively have lower environmental mastery than other elderly with excellent, good, average or below the average of their subjective health. Interestingly, elderly whose children’s economic condition was good also possess higher environmental mastery than worst or bad.

The respondents were also asked- If you have environmental mastery then please explain how? Most of the elderly with an environmental mastery had explained, ***“We had sacrificed our whole life only to provide a better life to our children and also due to our strict control over the children we are still able to demand personal needs and values from children.”*** Whereas other with an environmental mastery stated that, ***“since we have a very friendly relationship with children, therefore, we can freely share our needs, demands, and values and are able to manage the whole family environment.”***

On the other hand, elderly who have been enjoying their environmental mastery only sometimes explained, ***“Sometimes we have to adjust with our children’s needs and attitudes and have to think about the peaceful family environment and just listen to whatever they said.”***

TABLE 2. PERCENTAGE OF ELDERLY BY THEIR ENVIRONMENTAL MASTERY

Background Characteristics	Environmental Mastery (%)		
	Yes	No	Sometimes
Sex			
Male	5	20	30
Female	30	26	44
Age Group			
60-70	38	21.5	40.5
71-80	69.2	7.7	23.1
81 and above	12.5	62.5	25
Marital Status			
Married	44.4	20.6	34.9
Widowed	32.4	27	40.5
Educational Status			
Illiterate	19.1	31.9	48.9
Primary	58.8	13.7	27.5
Secondary	50	50	0
Co-residence			
Alone	0	100	0
With spouse	66.7	33.3	0
With children	26.9	34.6	38.5
With spouse and children	44.3	17.1	38.6
Economic Status			
Retired	70	10	20
Engaged in agricultural activities	31.2	25	43.8
Engaged in non-agricultural activities	40	40	20
Engaged in both agricultural and economic activities	100	0	0
Helps in domestic work and child care	36.8	23.5	39.7
Economic Dependency			
Independent	59.1	22.7	18.2
Partially dependent	41.7	33.3	25
Fully dependent	33.3	21.2	45.5
Subjective Health			
Excellent	41.2	11.8	47.1
Good	38.1	23.8	38.1
Average	42.9	28.6	28.6
Below average	41.3	21.7	37
Poor	33.3	44.4	22.2
Economic Condition of Children			
Very good	40	0	60
Good	64.7	11.8	23.5
Average	50	0	50
Bad	29.7	35.1	35.1
Worst	34.5	27.6	37.9
Total	40	23	37

TABLE 3. CONFLICT REGARDING AUTONOMY AND DECISION MAKING IN FAMILY MATTERS WITH CHILDREN: AUTONOMY

Background Characteristics	Conflict Regarding Autonomy (%)		
	Yes	No	Sometimes
Sex			
Male	18	44	38
Female	12	62	26
Age Group			
60-70	17.7	48.1	34.2
71-80	0	84.6	15.4
81 and above	12.5	50	37.5
Marital Status			
Married	17.5	50.8	31.7
Widowed	10.8	56.8	32.4
Educational Status			
Illiterate	17	51.1	31.9
Primary	11.8	54.9	33.3
Secondary	50	50	0
Co-residence			
Alone	0	100	0
With spouse	0	100	0
With children	15.4	57.7	26.9
With spouse and children	15.7	48.6	35.7
Economic Status			
Retired	20	50	30
Engaged in agricultural activities	18.8	50	31.2
Engaged in non-agricultural activities	0	20	80
Engaged in both agricultural and economic activities	0	0	100
Helps in domestic work and child care	14.7	57.4	27.9
Economic Dependency			
Independent	18.2	50	31.8
Partially dependent	16.7	41.7	41.7
Fully dependent	13.6	56.1	30.3
Subjective Health			
Excellent	23.5	41.2	35.3
Good	14.3	57.1	28.6
Average	14.3	42.9	42.9
Below average	15.2	54.3	30.4
Poor	0	66.7	33.3
Economic Condition of Children			
Very good	0	80	20
Good	11.8	58.8	29.4
Average	0	66.7	33.3
Bad	13.5	59.5	27
Worst	27.6	31	41.4
Total	15	53	32

According to table- 3 of the total respondents, 53 % reported that they don't have any conflict regarding autonomy and decision making with their children. Whereas, 15 % respondent has a conflict with children regarding autonomy and decision making and the remaining 32 % reported that sometimes they were engaged in conflictual situations with children.

Significantly the conflict was high among the male respondent than female and in the age group of 60-70. On the other hand, it is also significant according to co-residence, economic dependency, and subjective health. Data shows that elderly with excellent health, independent or partially dependent, living with spouse and children were experience high conflict with their children regarding autonomy and decision making. The conflict was also higher among the elderly whose children's had the worst or bad economic condition.

Chance was also given to the respondents to share their opinion on autonomy and decision making and conflict around it. Elderly those who had a conflict with their children regarding autonomy and decision making explained- *"They Don't like our ideas and decision and are always ready to protest our decision. We are now head of the family and before going to do something they should discuss with us. But never !!...They are just doing whatever they want to do and it creates conflict between us."*

Ryff and Keyes's another important dimension of psychological well-being was a person's purpose and meaningful life. And in the present study, efforts have been made to relate the elderly's meaning of life with love and respect given by their children. Table- 4 shows that more than half (82 %) of the respondent received love and respect from children and 18 % have not received love and respect. Gender differences have been seen regarding receiving love and respect. Female in comparison to male received more love and respect and it was also varied according to elderly's economic dependency, economic status, and marital status. Elderly those who were engaged in domestic work and child care, living with spouse and children and fully dependent with good or excellent health were received high love and respect from children. And elderly, whose children's economic condition was very good, or average received high love and respect from their children.

TABLE 4. PERCENTAGE OF ELDERLY BY RECEIVING LOVE AND RESPECT FROM CHILDREN: MEANINGFUL LIFE

Background Characteristics	Receiving Love and Respect from Children (%)	
	Yes	No
Sex		
Male	80	20
Female	84	16
Age Group		
60-70	82.3	17.7
71-80	84.6	15.4
81 and above	75	25
Marital Status		
Married	84.1	15.9
Widowed	78.4	21.6
Educational Status		

Illiterate	78.7	21.3
Primary	86.3	13.7
Secondary	50	50
Co-residence		
Alone	0	100
With spouse	66.7	33.3
With children	73.1	26.9
With spouse and children	87.1	12.9
Economic Status		
Retired	80	20
Engaged in agricultural activities	75	25
Engaged in non-agricultural activities	60	40
Engaged in both agricultural and economic activities	0	100
Helps in domestic work and child care	86.8	13.2
Economic Dependency		
Independent	68.2	31.8
Partially dependent	75	25
Fully dependent	87.9	12.1
Subjective Health		
Excellent	82.4	17.6
Good	95.2	4.8
Average	71.4	28.6
Below average	80.4	19.6
Poor	66.7	33.3
Economic Condition of Children		
Very good	100	0
Good	88.2	11.8
Average	100	0
Bad	75.7	24.3
Worst	75.9	24.1
Total	82	18

Data presented in table- 5 shows that 42 % (Majority) of the elderly had good relation with their children and there were no gender differences. But the elderly who were married, having

TABLE 5. RELATIONSHIP WITH CHILDREN: POSITIVE RELATIONSHIP WITH OTHERS

Background Characteristics	Relationship with Children (%)				
	Excellent	Good	Neutral	Poor	Very Poor
Sex					
Male	12	42	28	8	10
Female	32	42	6	8	12
Age Group					
60-70	20.3	43	16.5	7.6	12.7
71-80	38.5	46.2	7.7	7.7	0
81 and above	12.5	25	37.5	12.5	12.5
Marital Status					
Married	17.5	44.4	23.8	3.2	11.1
Widowed	29.7	37.8	5.4	16.2	10.8
Educational Status					
Illiterate	17	40.4	17	10.6	14.9
Primary	25.5	45.1	17.6	3.9	7.8
Secondary	50	0	0	1	0
Co-residence					
Alone	0	0	0	0	100
With spouse	0	33.3	33.3	0	33.3
With children	30.8	34.6	3.8	23.1	7.7
With spouse and children	20	45.7	21.4	2.9	10
Economic Status					
Retired	20	40	20	10	10
Engaged in agricultural activities	6.2	43.8	18.8	6.2	25
Engaged in non-agricultural activities	0	20	40	40	0
Engaged in both agricultural and economic activities	0	0	1	0	0
Helps in domestic work and child care	27.9	44.1	13.2	5.9	8.8
Economic Dependency					
Independent	24.2	27.3	31.8	9.1	13.6
Partially dependent	16.7	25	25	25	8.3
Fully dependent	18.2	50	10.6	4.5	10.6
Subjective Health					
Excellent	23.5	35.3	23.5	0	17.6
Good	28.6	52.4	4.8	4.8	9.5
Average	0	71.4	0	28.6	0
Below average	10	17	19.6	8.7	13
Poor	22.2	33.3	33.3	11.1	0
Economic Condition of Children					
Very good	80	0	20	0	0

Good	52.9	29.4	5.9	0	11.8
Average	25	66.7	8.3	0	0
Bad	13.5	40.5	27	8.1	10.8
Worst	3.4	48.3	13.8	17.2	17.2
Total	22	42	17	8	11

education up to primary level, living with spouse and children, helps in domestic work and child care also fully dependent with average health were have a good relationship with children. Whereas 22 % elderly has excellent relation, but there were a gender differences. Females showing excellent relation with their children than their male counterparts and age group between 71-80, widowed, showing excellent relationship with their adult children. Co-residence, education, economic status has also been related to excellent relation showed in the table.

On the other hand, 17 % elderly were neutral about their relationship with children and it was high among the male respondent. Whereas 8 % reported that they have poor relation with children and 11 % of elderly had very poor relation and significantly elderly who were illiterate, living alone or living with only their spouse showed a very poor relationship with children. Excellent relation was also reported by those elderly whose children's economic condition was very good or only good. Whereas children with the worst economic condition have poor relationships with their aged parents.

Elderly's personal growth which is an element of psychological well-being given by Ryff and Keyes, were examined with the help of a question, "Do you feel bored and uninterested to stay with your children?" Data presented in table- 6 shows that 57 % of elderly don't feel bored and even they were interested to stay with their children and it was high among the female respondent. The analysis also shows that 32 % of elderly has reported that sometimes they feel bored and uninterested to stay with their children and 11 % were totally bored and don't want to stay with their children. Like gender differences, the feeling was also diverse according to their socio-economic background. Elderly who don't get bored and interested to stay with their children were high among the age group of 71-80, widowed, having education up to primary level, living only with children, retired and engaged in domestic work and child care, and fully dependent with good health. Whereas elderly who feels bored and uninterested to stay with children were high among the males, who are illiterate, engaged in agricultural activities and living with a spouse or alone. And there is a strong correlation between the elderly's personal growth and their children's economic condition. Data shows that elderly whose children's economic condition is very good or good reported that they don't feel bored to stay with children than those whose children have the worst or bad condition.

Question were also asked about the reason (s) for their given responses. Elderly who feels bored and uninterested to stay with their children pointed out that they have been ignored by their children and other family members; disrespected and did not receive their expected support from children. Also, nobody wants to talk with them and it was high among the elderly who were advanced in their age i.e., 81 and above.

While other who sometimes feel bored and uninterested explained that when their children did not abide by their words or did not listen to their opinions in any family matters, then they just feel like leaving their home. But due to their poor economic and poor health, they have to adjust

with those situations and it pushes them into depression. Also due to family related conflict with children and daughters-in-law, they just feel that it's better to stay alone than with their children.

TABLE 6. PERCENTAGE OF ELDERLY BY THE FEELINGS OF BORED AND UNINTERESTED TO STAY WITH CHILDREN: PERSONAL GROWTH

Background Characteristics	Feel Bored and Uninterested to Stay with Children (%)		
	Yes	No	Sometimes
Sex			
Male	10	50	40
Female	12	64	24
Age Group			
60-70	10.1	51.9	38
71-80	7.7	84.6	7.7
81 and above	25	62.5	12.5
Marital Status			
Married	11.1	52.4	36.5
Widowed	10.8	64.9	24.3
Educational Status			
Illiterate	17	51.1	31.9
Primary	5.9	62.7	31.4
Secondary	0	50	50
Co-residence			
Alone	100	0	0
With spouse	33.3	33.3	33.3
With children	7.7	61.5	30.8
With spouse and children	10	57.1	32.9
Economic Status			
Retired	10	70	20
Engaged in agricultural activities	12.5	37.5	50
Engaged in non-agricultural activities	0	40	60
Engaged in both agricultural and economic activities	0	0	100
Helps in domestic work and child care	8	61.8	26.5
Economic Dependency			
Independent	13.6	45.5	40.9
Partially dependent	8.3	58.3	33.3
Fully dependent	10.6	60.6	28.8
Subjective Health			
Excellent	11.8	58.8	29.4

Good	9.5	66.7	23.8
Average	0	57.1	42.9
Below average	13	52.2	34.8
Poor	11.1	55.6	32
Economic Condition of Children			
Very good	0	100	0
Good	5.9	82.4	11.8
Average	41.7	58.3	0
Bad	35.1	51.4	13.5
Worst	44.8	41.4	13.8
Total	11	57	32

CONCLUDING REMARKS:

One of the main limitations of the present study was, the importance has only been given to the elderly people although the study was on the intergenerational relations and support activities. All the data in the present study has been collected from the older generation only. And hence, to some extent, the study becomes one-sided. Therefore, the future researcher should collect data from both generations which will enhance the study with more validity.

The present research is limited within the Dibrugarh district of Assam. Also due to the limited number of data, the results of the present study cannot be generalized as a whole. To some extent, the data can be similar to other parts of the country but due to geographical variations, the findings may not be similar. In addition to this, the study is only limited in rural areas. And the problems of elderly people living in rural areas may not be similar to the elderly living in urban areas.

Methodological challenges has been arised during the study as it was based on a mixed method. Specially during the time of observations, the researcher faced problems. For instance, during the time of interview, on questioning an old lady, she voluntarily answered to all our questions. But on the next day, she came and told that whatever information she had given were all false. She also stated that it was out of fear of being tortured by her family that she was bound to give the false information. Therefore, it was very difficult for the present researchers to carefully observe the whole those things. And hence, the qualitative part somewhere negatively affected by the quantitative part.

Similarly, in the present study affectional ties such as love, respect, subjective judgment, relationship quality has been tried to study mostly by quantitative methods though the qualitative methods are there. And family relationships are always complex in nature, and therefore, in that matter, qualitative methods will be very fruitful to explore the subjective things. But the present study also does not suggest to leave the quantification aside.

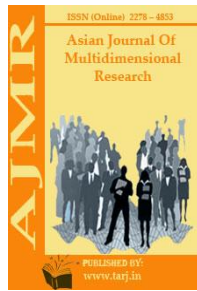
The findings of the present study also suggest that future research should give its importance on the socio-economic background factor. Because the pattern of exchange and interaction has a significant correlation with the background characteristics of respondents.

The time has always been an important aspect of any research. It is seen that the same kinds of studies may have different results in different periods of time. Therefore, the results may not be valuable or applicable for long periods of time. And generational relations itself is a lifelong process which cannot be understood within a short period of time. But the present study has been done within a short period of time. Due to this reason, the whole aspects of generational relations may not be explored.

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**HOTEL VISITOR'S SATISFACTION TOWARDS SERVICE QUALITY:
INSIGHTS FROM SEMI-URBAN CITY OF MADHYA PRADESH IN
INDIA**

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ABSTRACT

The Service sector plays an increasingly important role in modern economy. In India the service sector contributes as the dominant component of the economy. A service is an act or performance offered by one party to another. With tremendous pull of opportunity, India is a destination for hotel chains looking for growth. The World Travel and Tourism Council, India, data says, India ranks 18th in business travel and will be among the top 5 in this decade. Sources estimate, demand is going to exceed supply by at least 100% over the next 2 years. This study is limited to the consumers within the limit of Sagar city of Madhya Pradesh, India. The study will be able to reveal the preferences, needs, perception of the customers regarding the service quality in hotels. It also help the Hotels to know whether the existing services are really satisfying the customer's needs. This study attempts to examine the relationship between service quality and customer's satisfaction in Hotels by adapting and modifying SERVQUAL and CARTER scales (Parasuraman et al., 1988; Othman and Owen, 2001 & 2002) particularly in semi-urban city of Madhya Pradesh i.e. Sagar. The SERVQUAL scale constitutes an important landmark in the service quality literature and has been extensively applied in different service settings. The

findings of this study will highlight the issues of quality of services offered by the hoteliers to their visitors/customers in semi-urban area where very few hotel managers are concerned about to maintain high quality of services.

KEYWORDS: *Service Quality; SERVQUAL; Semi-urban; Hotels; Satisfaction; India*

1. INTRODUCTION:

The service sector in India plays a vital role in Indian economy. The Indian service sector contributes a major share to the economy. According to Lovelock (2001), services can not be seen, tested, felt, heard or smelled before they are consumed. They are intangible, inseparable and perishable in nature. In the words of Zeithaml (2000), services consist of all those economic activities whose output is not a physical product, are generally produced and consumed simultaneously and provides added value. Although preliminary efforts in defining and measuring service quality originated majority from the goods sector, a strong foundation for research work in this area was laid down in the mid-eighties by Parasuraman *et al.* (1985). They were pioneer in pointing out that the concept of quality prevailing in the goods sector cannot be extended to the service sector. Being intangible, heterogeneous, perishable and involving simultaneity and inseparability of production and consumption, services need a different framework for quality explanation and measurement. As against the products, quality in a service context is explained in terms of dimensions that largely come under the domain of 'experience' and 'credence' properties and hence difficult to measure and evaluate (Parasuraman *et al.*, 1985; Zeithaml and Bitner, 2001). In this light, the goals of this work are twofold: a) To understand the service quality dimensions in Indian context and b) To examine hotel visitor's satisfaction in a semi-urban city, using these service quality dimensions.

The findings of this research work are limited to the consumers of Sagar city. It reveals the preferences, needs, perception of the customers in context of service quality in hotels and visitor's satisfaction. This study attempts to examine the relationship between service quality and customer's satisfaction in Hotels by adapting and modifying SERVQUAL and CARTER scales (Parasuraman *et al.*, 1988; Othman and Owen, 2001, 2002).

2. LITERATURE REVIEW

Many researchers have explored the area of service quality in different contexts. It is challenging to measure service quality because of service intangibility and difficulty in defining services (Kandampully, 1997). Equally challenging is measurement of improvements in service quality (Parasuraman *et al.*, 1990). Scholars have used customer service audits (Takeuchi and Quelch, 1983), gap analysis (Zeithaml *et al.*, 1988), SERVQUAL (Parasuraman *et al.*, 1988), SERVPERF (Cronin and Taylor, 1994), critical incident technique (Bitner *et al.*, 1990), and sequential incident technique (Stauss and Weinlich, 1997). These methods focus on assessing internal service quality without taking into account the competitors' strategies. Min and Min (1997) criticized these methods saying, "It alone may not help evaluate the firm's comparative service performance". Hence, competitors' consideration is important. Hence, Parasuraman *et al.* (1990) provided 5 guidelines for carrying out service-quality research out of which, one was measuring service performance in relation to competition. In this light, Parasuraman *et al.* (1990), Min and Min (1996, 1997), and Min *et al.* (2002) all tried to judge competitive service quality. Moreover, Parasuraman *et al.* (1990) suggested adapting the SERVQUAL instrument to

measure service quality in relation to competition. The adapted SERVQUAL instrument (Parasuraman *et al.*, 1990) uses a non-comparative evaluation model, i.e. customers of firm X are asked to state their perception or expectation towards firm A's services and another group is asked to state their perception or expectation of firm Y's services. After getting the perceptions and expectations, the SERVQUAL scores are evaluated and gaps are identified. Johns and Tyas (1996) extended the use of SERVQUAL to include competitors. Further, Fick and Ritchie (1991) employed the SERVQUAL model to compare the services in travel and tourism industry.

3. Determinants of Service Quality

Although there are several generalized models to measure service quality and customer satisfaction, a model specific to hotel industry is rarely seen. The SERVQUAL framework offers an apt conceptual understanding for service quality assessment in the service sector. It is based on the definition of quality as a comparison of what is expected and what is received as well as considering gaps in the process of service delivery. SERVQUAL is based on the client's evaluation of service quality. A variant of this scale containing desirable attributes of services, known as SERVQUAL scale, is currently quite popular in literature. In the original SERVQUAL instrument, Parasuraman *et al.* (1985) define service quality through 10 dimensions which they summed up in only 5 dimensions in 1988 viz. 1) Reliability, 2) Assurance, 3) Tangibles, 4) Empathy and, 5) Responsiveness

Each of the above mentioned dimensions has different features. These dimensions have different effect on the final service quality. Despite its popularity and wide application, SERVQUAL is criticized also, not only conceptually but operationally as well.

3. Indian Hotel Industry

The growth in tourism and travel is the main reason for the existence of hotel industry in India. With the rising foreign and domestic tourists, hotel industry is expected to grow manifold in years to come. International hospitality companies are also keeping an eye on Indian tourism sector. There is an imbalance in supply and demand in this industry, which is a prominent source of growth opportunities in India. In long run, the demand-supply mismatch in India is very real and there is need for more and more hotels. There is a prominent shortage in budgeted hotels and the mid-market hotels category. Various domestic and international brands have made considerable efforts in this direction. Although regulatory hurdles are prevailing in this sector, the revenue growth is expected to improve to 6 – 7%, according to an ICRA report. "The revenue growth for the Indian hotel industry is expected to improve to 6-7 per cent in FY18, despite growth prospects being scaled down from the earlier 8-10 per cent, constrained by the regulatory hurdles the industry is currently facing", the rating agency said in a report. "The muted supply pipeline across several markets coupled with robust demand uptick will be the driver for the next up cycle in the industry over the next five years". The supply growth pipeline in the Indian premium hotel segment is likely to be muted at 5 per cent during FY17-20, compared to 17 per cent during the supply peaks of FY10-13 and a softer 7 per cent during FY13-16, ICRA added.

Over the last decade and half the rush to India for increasing business opportunities have increased room rates and occupancy levels in India. In Asia Pacific, Indian Hotel Industry stands second after China. While the supply is limited to 110,000 rooms only, 4.4 million tourists visited India last year and demand is expected to soar to 10 million in 2019. This shortage is increasing hotel room rates across India. With tremendous pull of opportunity, India is a

destination for hotel chains looking for growth. The demand is expected to exceed the supply by at least 100% over the next 2 - 3 years. With demand-supply disparity, room rates are most likely to rise 25% annually and occupancy to rise by 80%, over the next few years. Due to all these factors, Indian hotel industry is losing its competitiveness. However, the rating on Indian hotels is bullish. According to a report, Indian hotel industry is adding about 60,000 quality rooms, currently in different stages of planning and development and should be ready by 2020.

The industry is broadly divided in two segments:

Tourism, which includes, medical and healthcare tourism, adventure tourism, heritage tourism, ecotourism, rural tourism, wildlife tourism and pilgrimage tourism.

Hotels, which includes, business hotels, suite hotels, resort hotels, airport hotels, extended stay hotels, apartment hotels, resort hotels, timeshare hotels, casino hotels, convention centers and conference centers.

The Indian Tourism generates several employment opportunities and is an important source of FOREX for the country. This sector contributed Rs 2.17 trillion (US\$ 36 billion) or 2 per cent to the country's gross domestic product (GDP) in 2013. These figures will rise to Rs 4.35 trillion (US\$ 72.17 billion) by 2024. The Indian hospitality sector is emergent at a CAGR of 14%, adding big chunk of foreign exchange to the Indian economy.

According to NITI Aayog (formerly Planning Commission), the sector creates more jobs / million rupees of investment than any other sector of the economy. This sector provides employment to various job seekers, from the unskilled to the specialized service providers. The beauty lie in its ability to cater the employment needs in the remote areas also. The sector's employment generation potential has also been highlighted by the World Travel & Tourism Council (WTTC), which says India's travel and tourism sector is expected to be the second-largest employer in the world, employing approximately 50 lac people, directly or indirectly by 2019.

In the year 2018, the sector attracted second highest FDI i.e. US \$3.9 billion. It is the diversity of offerings in India which attracts an improving number of tourists every year. Initiatives by GoI related to infrastructure have helped the sector to grow faster. The sector has lead to the maneuvering of diverse jobs to India, bringing in its wake transit travelers, business travelers, business meets and holiday seekers.

4. RESEARCH METHODOLOGY

The 'SERVQUAL' is most commonly used tool to evaluate service quality in varied organizations. With initial 10 dimensions, at present only 5 dimensions viz. Tangibility, Reliability, Assurance, Responsiveness and Empathy are used to judge customer satisfaction and loyalty. Hence, this study also uses these 5 factors as they are well established factors and globally acceptable as well. The sample of the study was 100 respondents and study was conducted in Sagar City (Semi-Urban Town) of Madhya Pradesh during two weeks' time to test validity and suitability of this questionnaire (Research Instrument). The SERVQUAL model has been utilized to study the impact of these variables on customer satisfaction and loyalty.

To achieve proposed research objectives, the study was carried out with the primary data collected through a well designed questionnaire. The questionnaire was divided into four parts. The first part collected information about demographic details like age, gender, educational

qualification, family occupation, income and frequency of visit to hotel while second part contained twenty four items related to service quality variables Tangibility (4), Reliability (5), Responsiveness (5), Assurance (3) and Empathy (5). The third part contained 5 variables to measure customer satisfaction and fourth part contained five variables for customer loyalty. All these variables were measured with 5-point Likert-type scale ranging from 1 - Strongly Disagree to 5 - Strongly Agree.

The data was analyzed using SPSS 19.0 package. For the purpose of data collection, customers visiting hotels were surveyed. Convenience sampling method was used to obtain the data through self-administered questionnaires from the customers. Table 1 shows the summary of the demographic composition of the respondents in terms of age, gender, education, and income. To test the constructs and items presented in this study, reliability analysis and factor analysis were used at pilot survey stage to further validate the conceptual model using multivariate analysis.

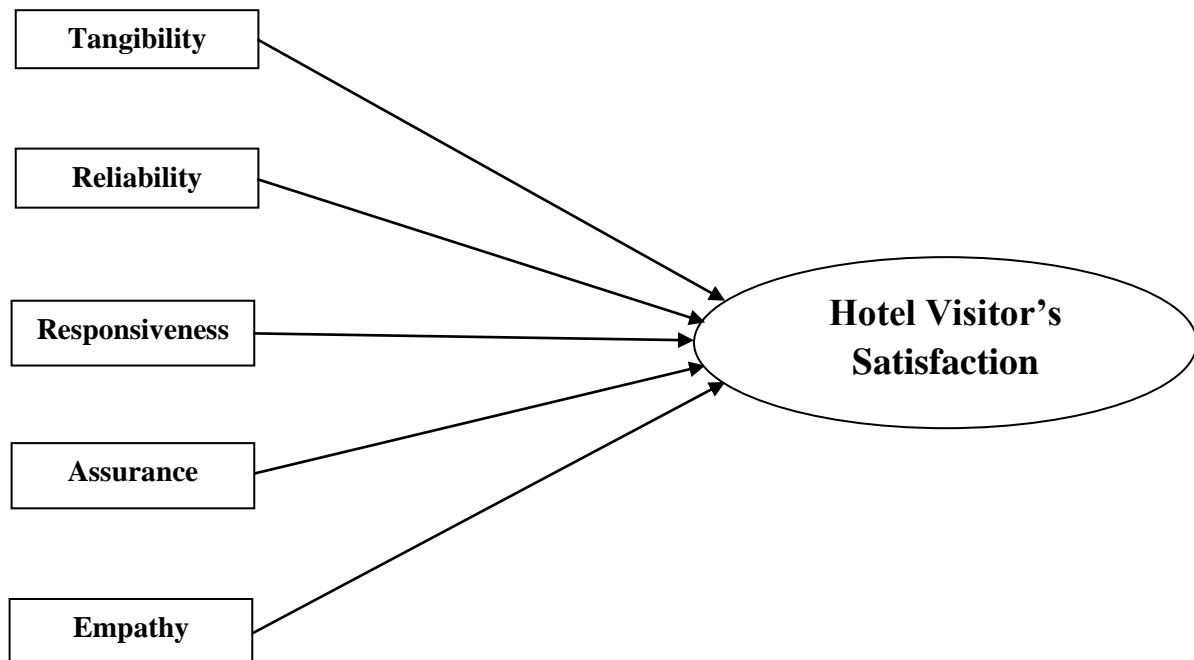


Figure 1: Proposed Research Model

4.1 Research Design and Hypothesis

Research Design: Descriptive Research

Sampling Plan and Design: 100 Respondents

Sampling Unit: The sample unit of this survey was the guest/ hotel visitors having stay in hotels in Sagar City, Madhya Pradesh.

Sampling Technique Adopted: Convenient sampling

Types and Sources of Data:

Primary Data: Through Self Administered, Structured Questionnaire

Secondary Data: Through Journals, Magazines, Newspapers etc.

Research Hypothesis:

Service Quality and Hotel Visitor's Satisfaction relationship is summarized in the following hypothesis:

H1: Service Quality has a significant positive impact on Tourist Satisfaction.

Considering the decomposition of perceived quality into its component units; H1 can be divided into the following:

H1a: Tangibility has a significant positive impact on Hotel Visitor's Satisfaction.

H1b: Responsiveness has a significant positive impact on Hotel Visitor's Satisfaction.

H1c: Reliability has a significant positive impact on Hotel Visitor's Satisfaction.

H1d: Assurance has a significant positive impact on Hotel Visitor's Satisfaction.

H1e: Empathy has a significant positive impact on Hotel Visitor's Satisfaction.

5. Analysis and Interpretation

Kaiser-Meyer-Olkin (KMO) test was conducted to measure the adequacy of sample and Bartlett's test of sphericity, the result revealed a high KMO (.645) which is more than 0.50, indicating that the sample used is appropriate for this study and the data are adequate as posted in Kaiser (1974). Further, Bartlett's measure of sphericity test shows significance less than 0.05 meaning that data are not identical and there is a relationship among the variables. The internal reliability of a given scale, i.e., the extent to which the items included in the scale are correlated, was evaluated using Cronbach's Alpha. A cut-off value of 0.5 was used to indicate an acceptable level of internal consistency (Hair *et al.*, 1998) Refer Table 3. The Principal Component Analysis method initially extracted nine factors explaining 63.539 % of the total variance in the data.

TABLE 1: DEMOGRAPHIC PROFILE OF THE RESPONDENTS

Sr. No.	Category	Sub-Category	Total	Percentage
1.	Age	Under 18	04	4%
		18 – 25	26	26%
		25-35	36	36%
		35 and above	34	34%
2.	Gender	Male	62	62%
		Female	38	38%
3.	Occupation	Professional	24	24%
		Service	48	48%
		Business	18	18%
		Any other	10	10%
4.	Monthly income	Less than 30000	56	56%
		30001-40000	28	28%
		40001-50000	08	8%
		More than 50000	08	8%
5.	Frequency of Visit	First time	16	16%
		Once in a moth	36	36%
		Once in a year	28	28%

Sr. No.	Category	Sub-Category	Total	Percentage
		Rarely	20	20%
6.	Reason for Stay	Location is convenient	28	28%
		Reasonable	56	56%
		Accommodation service	24	24%
		Food	12	12%
7.	Hotel Charges	Less than 500	28	28%
		500-1500	44	44%
		1501-2500	10	10%
		More than 2500	18	18%
8.	Name of the Hotel	Hotel Deepali	30	30%
		Hotel Vandana	18	18%
		Hotel Majestic Plaza	08	8%
		Hotel Paradise	20	20%
		Hotel Mid-City	10	10%
		Hotel Natraj	02	2%
		Hotel Deepak	04	4%
		Hotel Ram Saroj Palace	08	8%

TABLE 2: KMO AND BARTLETT'S TEST

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.645
Bartlett's Test of Sphericity	Approx. Chi-Square	1155.574
	Df	101
	Sig.	.000

TABLE 3: FACTOR LOADINGS AND RELIABILITY ANALYSIS

S. No.	Statements	Factor Loading	Cronbach's Alpha
Tangibility			
1.	The billing system of this hotel is trustworthy	.514	0.548
2.	The service process provided by secure is secure	.508	
3.	The pricing policies of hotel are reasonable	.603	
4.	Hotel take sincere interest in solving customers' problems	.543	
5.	Reservation information is sent through email or SMS in advance	.608	
6.	Physical facilities at the hotel are visually appealing	.517	
7.	Staff at the hotel appear neat and well dress	.613	
8.	This hotel provide clean guestroom and lobby areas	.523	
9.	This hotel provide proper drinking water and sanitation	.744	
10.	This hotel have good management of parking	.513	
11.	This hotel provide good quality of refreshments	.619	
Reliability			
12.	Staff at the hotel give prompt service to the patrons	.614	

13.	Staff at the hotel are always willing to help patrons	.558	0.509
14.	Staff at the hotel are never too busy to respond to patrons	.708	
15.	Staff of the hotel are consistently courteous with patrons	.648	
16.	Hotel has staff who give its patrons personalized attention	.538	
Responsiveness			
17.	Hotel keeps your records accurately	.726	0.554
18.	Hotel gives you individual attention	.758	
19.	Hotel employees have to know what you need	.608	
20.	When you have problems, the hotels shows a genuine interest in solving them	.598	
21.	Staff at the hotel were able to tell customers exactly when services would be performed	.548	
22.	Customers of the hotel feel safe in their transactions	.507	
Assurance			
23.	Hotel employees have always willing to help you	.835	0.571
24.	Hotel have operating hours convenient to you	.751	
25.	The hotel performs the service right the first time	.638	
26.	Hotel provide security of self and security of luggage	.559	
27.	The hotel insists on error free service	.560	
28.	Hotel provide you Security and safety	.587	
Empathy			
29.	When you have problems, Hotel is sympathetic and reassuring for you.	.654	0.812
30.	Employees of the hotel are polite.	.709	
31.	Staff of the hotel have the knowledge to answer patrons	.667	
32.	The hotel has opening hours convenient to all of its patrons	.517	
33.	The hotel has the patrons best interest at heart	.583	
34.	The staff of the hotel understand the specific needs of their patrons	.573	
Visitor's Satisfaction			
35.	I will recommend this hotel to my friends and relatives	.794	0.727
36.	I will stay in this hotel, even if the room rates will increase in future	.708	
37.	This hotel continuously improving their services for guests	.618	
38.	This hotel has a good brand image in this city	.598	
39.	Staying in this hotel is pleasant experience	.642	
40.	Overall, I am satisfied with the services if this hotel	.629	

Regression Analysis

The hypothesized research model (Refer Figure) was validated by regression analysis. It was carried out at 95% of level of significance. Regression enabled to predict the variability in dependent variable based on its covariance with all independent variables. . The coefficient of determination (R Square) indicates that the research model explains 56.5 percent variation in measuring customer loyalty towards services of hotels.

Hypothesis Testing- Model Summary-1

The hypothesized analytical model was tested with multivariate linear regression. For the first stage, we adjust a multivariate model to test hypothesis H1a, H1b, H1c, H1d and H1e

TABLE 4: MULTIPLE REGRESSION ANALYSIS: MODEL SUMMARY - 1

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin - Watson
					R Square Change	F Change	df1	df2	Sig.	
1	.595 a	.565	.552	.37135	.426	53.293	5	597	.000	1.981
a. Predictors: (Constant): TANGIBILITY, RELIABILITY, RESPONSIVENESS, ASSURANCE, EMPATHY										
b. Dependent Variable: SATISFACTION										

Based on the model summary, the R square (0.565) indicates that 56.5% of the observed variability in customer satisfaction is explained by the independent variables. In addition, the R value shown in the model summary is 0.595 which signifies that the correlation coefficient between the observed value of the dependent variable (customer satisfaction) and the predicted value based on the regression model. In this scenario, it is observed that the value of 0.595 indicates that the linear regression model predicts moderately. The Durbin-Watson value, which tests the serial correlation between errors, was 1.981; this is close to 2 and so proves that the residuals are not correlated (Field, 2005).

TABLE 5: MULTIPLE REGRESSION ANALYSIS-ANOVA: MODEL SUMMARY-1

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	31.304	5	6.823	6.725	.000 ^a
	Residual	67.909	507	.151		
	Total	112.424	512			
c. Predictors: (Constant): TANGIBILITY, RELIABILITY, RESPONSIVENESS, ASSURANCE, EMPATHY						
a. Dependent Variable: SATISFACTION						

The F-value 8.895 with 602 degree of freedom shows that independent variables help to explain the variations in dependent variables (Table 5). The standardized coefficient beta values show the degree of association between dependent variables and independent variables (Table 6). The 't' statistics test the significance of correlation between dependent and independent variables.

TABLE 6: MULTIPLE REGRESSION ANALYSIS- COEFFICIENTS: MODEL SUMMARY-1

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.483	.356		1.325	.186		
	TANGIBILITY	.383	.036	.221	4.467	.000	.887	1.307

RELIABILITY	.428	.028	.202	3.533	.000	.648	1.583
RESPONSIVENESS	.547	.048	.218	5.452	.000	.717	1.144
ASSURANCE	.436	.046	.133	1.873	.017	.761	1.383
EMPATHY	.306	.032	.127	2.287	.023	.572	1.646

Hypothesis Results Model Summary-1

H1a: Tangibility has a significant positive impact on Hotel Visitor's Satisfaction.

As shown in the table of coefficients summary, the t-statistics for the tangibility is 4.467 (p-value <0.05) and beta is 0.221. Therefore, there is sufficient evidence to conclude that the tangibility does influence visitor's satisfaction while taking hotel services. Hence, H1 is accepted with high significant value (.000).

H2a: Reliability has a significant positive impact on Hotel Visitor's Satisfaction.

As shown in the table of coefficients summary, the t-statistics for the reliability is 3.533 (p-value <0.05) and beta is .202. Therefore, there is sufficient evidence to conclude that the reliability influence customer satisfaction of hotel services. Hence, H2 is accepted with high significant value (.000).

H3a: Responsiveness has a significant positive impact on Hotel Visitor's Satisfaction.

As shown in the table of coefficients summary, the t-statistics for the responsiveness is 5.452 (p-value <0.05) and beta is 0.218. Therefore, there is sufficient evidence to conclude that the responsiveness influence visitor's satisfaction while taking hotel services. Hence, H3 is accepted with high significant value (.000).

H4a: Assurance has a significant positive impact on Hotel Visitor's Satisfaction.

As shown in the table of coefficients summary, the t-statistics for the assurance is 1.873 (p-value <0.05) and the beta is .133. Therefore, there is sufficient evidence to conclude that the assurance does not influence visitor's satisfaction while taking hotel services. Hence, H4 is accepted with significance value (.017).

H5a: Empathy has a significant positive impact on Hotel Visitor's Satisfaction.

As shown in the table of coefficients summary, the t-statistics for the empathy is 2.287 (p-value <0.05) and the beta is .127. Therefore, there is sufficient evidence to conclude that the empathy influence visitor's satisfaction while taking hotel services. Hence, H5 is accepted with significance value (.023).

6. CONCLUSION AND FUTURE SCOPE OF RESEARCH

This study concludes that service quality as perceived by customers is a result of how well service meets customer expectations. Further, service quality was determined by two dimensions viz. customer expectations and customer experience. Also, 5 factors resolve the outcome of service quality which is used by the customers to completely judge the service delivery. This study has implications for researchers, hotel managers and academicians. It will provide directions to hotel managers to alter existing practice of measuring customer satisfaction in hotels. It is important to understand guests' needs, gather their opinions and comments and most importantly, to judge guests' satisfaction with hotel's services. The study reveals that the main

dimensions of perceived service quality in hotels are ‘reliability’, ‘empathy’, ‘competence of staff’, ‘accessibility’ and ‘tangibility’. It is clear that altered version of SERVQUAL model is useful for hotel managers to evaluate perceived service quality of hotel visitors. It is utmost important that solving guests’ problems, performing hassle-free service, employees’ attitude, suitable location, and the appearance of the facilities are the key attributes for a hotel’s success. These findings will act as a guide for hotel managers to work upon critical quality attributes which will enhance service quality and business performance.

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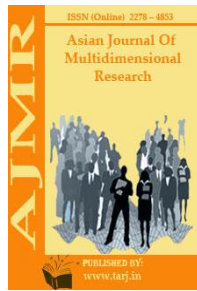
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A SYSTEMATIC REVIEW OF FINANCIAL INCLUSION STRATEGIES AND PRACTICES

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ABSTRACT

Financial inclusion has been a key enabler in achieving sustainable development at a macro level. Inclusive financial system promotes policy objective of financial stability, economic growth and developmental goals of the nation. The micro and macro benefits of financial inclusion are immense. However, there coexist certain limitations. In India, barriers to financial inclusion can be categorized as income insecurity, socio economic condition, financial illiteracy and technological infrastructure. Financially excluded sections largely comprise of marginal farmers, urban slum dwellers, migrants, women, self-employed and senior citizens. One of the foremost challenges faced by banks is the inclusion of this financially excluded segment in the formal financial sector. Present study is carried out with following objectives. (1) To analyze the similarity and dissimilarity that exists in the financial inclusion initiatives across emerging nations. (2) To examine the interdependence of financial inclusion and financial stability of the economy. (3) To assess the payoffs of the financial inclusion interventions. For this paper, a systematic review of financial inclusion strategies and practices is made. It comprises of two sections: Section I summarizes on the pragmatic and institutional studies and the paybacks of financial inclusion at a macro level. Section II outlines the uneven distribution of the concerns underlying the financial inclusion initiatives. Barriers to financial inclusion can be categorized

as income insecurity, socio economic condition, financial illiteracy and technological infrastructure. Section III gives the summary of the characteristics of Studies based on challenges of Financial Inclusion and the strategic payoffs. The next wave of inclusion should be to financially educate and prompt beneficiaries to use their access to financial services for improving their economic and social well-being.

KEYWORDS: *Financial Inclusion, financial stability, sustainable development, economic growth, strategies, practices*

INTRODUCTION

Financial inclusion has been a key enabler in achieving sustainable development at a macro level. Inclusive financial system promotes policy objective of financial stability, economic growth and developmental goals of the nation. The micro and macro benefits of financial inclusion are immense. However, there coexist certain limitations. Poor people frequently lack access to safe, affordable, convenient and reliable ways to manage the meagre resources they have under their control. As a result, they face exclusion from the financial system that the rest of us rely on. Access to finance is a prerequisite for countries development. Globally, about 1.7 billion adults persist unbanked deprived of an account with a formal financial institution. In India Banks began to implement financial inclusion as part of their business policy after the RBI directed them to adopt a three-year board-approved financial inclusion policy which began in 2010. In India, nearly 70% of the people are from the rural areas and are mainly involved in agriculture and allied activities. Microfinance institutions have been pivotal in encouraging savings yet the concern revolves on regularity and stability of services.

Impediments to financial inclusion can be characterised as, socio economic condition, illiteracy income security and technological infrastructure. Commercial banks have been stimulating on numerous service delivery networks based on the demographics of rural and urban, yet there exist numerous weaknesses deterring banks in realising cent percent service penetration in these sections. In India financial exclusion is characterised for marginal farmers, slum dwellers, migrants and women, bringing these segment under formal financial purview is one of the foremost challenge for the banks. In India, the banking sector made greatest strides since country gained independence in 1947. Though the banking sector has grown since its establishment and had 27 state run and 22 private sector bank for 1.2 billion people, nearly half of the Indian household were still unbanked. Only 35% of the adults had bank accounts and the unbanked relied heavily on easily accessible yet very expensive moneylenders. India has made several attempts to address this issue right from the nationalisation of banks, private sector lending stipulations, establishments of Regional Rural bank, Self-help group in early days to recent PMJDY (Pradhan Mantri Jan Dhan Yojana,) Aadhar, Digital India and DBT initiatives.

The tectonic shift in financial inclusion came on 15th August 2014, when Hon. Pradhan Mantri Narendra Modi launched the financial inclusion campaign, 'Pradhan Mantri Jan Dhan Yojana (PMJDY)' in his first Independence Day speech. Slogan for this scheme is 'Merakhatabhagyavidhata' (meaning, my account brings me good fortune). On 20 January 2015, the scheme entered into Guinness book of world records for 'The most bank accounts opened in one week' wherein as on 27 June 2018, over 31 crore (318 million) bank accounts were opened and over ₹792 billion (US\$12 billion) were deposited. An increase in the number of bank accounts would increase the capacity of banks to provide loans and it would increase the

revenues and profitability of Banks and other financial institutions. It would provide the underprivileged with an opportunity to avail Banking facilities in the future, thereby improving their standard of living.

SCOPE OF STUDY

According to Kaur et al (2017), there are 5 A's of financial inclusion- Availability, Affordability, Accessibility, Awareness, and Adequacy. For improving the financial condition of weaker sections of society, initiatives for financial inclusion are essential. The lower strata of the economy have been under the purview of financial constraint because of irregular income, insufficient investments and lack of knowledge about financial products nonetheless depriving them from the benefits of formal banking sector. Financial Inclusion has the capacity to create positive externalities: resulting in augmented savings and investments further encouraging the processes of economic growth and development. Accessibility of timely, adequate and transparent credit from formal banking channels will boost the entrepreneurial spirit of the masses to increase outputs enhancing prosperity of the nation. Acceptable banking penetration will ensure timely distribution of government benefits and subsidies to the beneficiaries' bank accounts. Numerous studies have been conducted so far in this domain, yet, there is a scope to have in-depth analysis of this crucial initiative not only in India but also at global level. This paper attempts to do the same. The study aims to review the prevailing indicators that facilitate the process of financial inclusion.

LITERATURE REVIEW

Concept of Financial Inclusion

Planning commission (2009) financial inclusion refers to universal access to a wide range of financial services at a reasonable cost. These include not only banking products but also other financial services such as insurance and equity products. Financial inclusion is not only about credit, but involves providing a wide range of financial services, including saving accounts, insurance, and remittance products.

According to **Dr. C. Rangarajan Committee (2008)** financial inclusion as "The process of ensuring access to financial services and timely and adequate credit when needed by vulnerable groups such as weaker sections and low income groups at an affordable cost." The definition does not encompass delivery of financial services for all at all cost, however it means that the delivery of financial services and products at affordable costs to the excluded sections of the population and to the lower income groups. **World Bank (2008)** discusses Financial Inclusion as broad access to finance and the absence of price or non-price barriers in the use of financial services.

Financial Inclusion as per **World Bank (2013)** is where individuals and businesses have access to useful and affordable financial products and services that meet their needs- transactions, payments, savings, credit and insurance delivered in a responsible and sustainable way. This definition is precise to the availability of financial services attribute where an opening of account is a first step towards broader financial inclusion as it permits people to gather money, send and receive payments and also provides a gateway to other financial services. OECD enumerates Financial Inclusion as the process of ensuring access to appropriate financial products and services needed by vulnerable groups such as weaker sections and low income groups at an affordable cost in a fair and transparent way by mainstream institutional players. The twin

objective of this definition was financial literacy and accessibility to credit, thus narrowing down the gap between the demand and supply side. All the reported definitions concentrate on the following three indicators for measuring financial inclusion. Accessibility of financial services, usage of financial services and cost of availing the financial services. However, they ignore the aspects of financial literacy which is a vital constituent deterring financial inclusion process.

Mas (2012) concludes in his research financial inclusion as- a process for bridging three clouds: firstly, physical cash cloud which discuss the financial system as a legacy which most of the poor people operate; secondly, it is the digital cloud where money is treated as virtual account and thirdly, is the psychological could which deals with the inferences of the people in financial management and planning. The study emphasizes that connecting the digital and the physical cloud unlocks “access” while the digital and psychological could unlocks the “usage” aspect.

Section I: Similarity and Dissimilarity in Financial Inclusion Interventions

Review of literature provided the constructs and relevant variables (indicators) which define the area of present study. Successively mapping the variables from different studies underlined the significance of the variables in outlining the aforesaid research.

Table 1 below indicates the existence of the select indicators of financial inclusion across the nations.

TABLE 1- INDICATORS OF FINANCIAL INCLUSION

Studies	Formal Credit	Shrinking income inequality	Reducing social underdevelopment	Banking Services	Growth Rate	Technology adoption	Financial Literacy	Poverty alleviation
Leyshon (1995)	√			√	√		√	
Sinclair (2001)	√						√	√
Burgess &Pande (2005)	√							√
Honohan (2007)	√	√					√	
Brune et al. (2011)	√		√			√		√
Allen et al. (2013)	√		√	√				

Source: Authors' compilation

Many studies emphasized on financial inclusion as a measure for poverty reduction and growth. Though financial inclusion has become a global policy agenda for attaining viable development, literature on financial inclusion is silent in state. Many studies across countries were initiated in determining financial inclusion both at household and national levels, while few papers focused on the role of financial access and credit deployment in eradicating poverty and inequitable income distribution.

Section II-Financial Inclusion and Stability

In spite of remarkable efforts there still remain a variety of hindrances averting the poor from accessing financial services. From the slackness in financial inclusion experienced during the previous years it is essential to re-establish the emphasis with suitable policy reforms.

Ponce and Tubio (2010), Alawode and Al Sadek (2008) state in their research- Financial stability is knowingly more aggressive to define and measure than other traditional policy goals due to the interdependence and the multifaceted interfaces of diverse elements of the financial system. Nevertheless, based on the previous research and policy studies, few common elements are derived such as allocation of savings to productive investments.

Goldsmith (1969) study depicts that banks empower an economy to develop by providing effective markets for funds. Accessibility to formal finance results into higher penetration and usage of financial services.

Levine and Zervos (1996) enumerate the positive role of financial systems in economic growth as cited by Ndebbio (2004). Growth of financial sector directly affects the financial system as a whole which is a major driver resulting into the economic growth and development.

Demirguc-Kunt, A.L. Klapper and D.Singer (2013) study indicates reducing financial market imperfections for expanding the individual opportunities, either create positive, negative and incentive effects while lack of adequate finance will persistently result in income inequality and poverty resulting in lower growth and development.

KurincheedaranShanmugalingam (2012) paper discusses to bridge the gap through assessing the impact of financial inclusion on economic development through empirical study in OECD countries.

Anant Jayant Natu (2008) paper explores innovative way for attaining financial inclusion. Further, financial inclusion is not referred in terms of access but more emphasize is on the usage. The paper enumerates to map the potential of financial inclusion with the social security schemes in India for enabling higher outreach.

Beck et al. (2007) & Bruhn & Love (2014) study reflects that with financial inclusion will enable households who were originally disqualified from formal finance now will be able to invest in learning, savings and create new business ventures resulting in eliminating poverty and nurturing economic growth.

Han & Melecky (2013) research enumerate that individuals from low income strata have the likelihood to save for future fostering personal finance which will result in higher deposit mobilisation rendering banks more secure during the distress time period.

Khan (2011) study discusses that financial inclusion has a positive outcome on financial stability by reducing the cyclical risk. Smaller savings results in higher and steady deposit base for the banks which reduces the bankers' dependence on the non-core finance avoiding instability during crisis.

Cecchetti & Kharroubi (2012) study examine that higher penetration of financial inclusion facilitates involvement from dissimilar sectors of the economy in the formal financial system which strengthen the interest rates subject to formal credit leading to macroeconomic stability leading to economic growth.

Prasad (2010) Macroeconomic evidence indicates that well developed financial systems have a strong positive impact on economic growth over long time. Financial inclusion leads to efficiency in financial intermediation as greater domestic savings enhance the investment cycle thereby achieving greater stability.

McLean and Nocera (2010) research discuss financial crisis in developed economies which adopted aggressive financial inclusion initiatives can have negative consequences giving rise to imbalance between economicsteadiness and accessibility of finance for the households.

Mehrotra and Yetman (2015) discuss the impact of financial inclusion on the efficiency of monetary policy and financial stability, and its consequences for the central banks.

“**McKinsey** said digital finance could increase the GDP of all emerging economics by 6 percent or \$3.7 trillion by 2025...adding an economy the size of Germany, or one that’s larger than all the economies of Africa.”

According to **ChrisSkinner** (best Fintech speaker in the world),Africa is leading the world in financial innovation. The best known innovator in Africa, of course, is M-Pesa which started in Kenya through a telecom, Safaricom that introduced a way to move money with a mobile phone, and transform messages into cash at shops and mobile outlets across the country. Now a decade old, M-Pesa has spread to 10 countries with 29.5 million active users who conduct 614 million transactions per month over the network. There are at least 19 countries with more mobile money accounts than bank accounts and most are in sub-Saharan Africa.

Section III:Summary of the characteristics of Studies based on challenges of Financial Inclusion and the strategic payoffs.

Table 2 given below indicates the challenges for financial inclusion across the nations.

Authors/ Reports	Discussions	Observations
Kempson, E. and Whyley, C. (1998)	The financially excluded are Persons who belong to low income groups, ethnic minorities, immigrants, the senior citizens.	The problem still exists amongst these groups.
RBI (2003)	Distinct regional imbalance in the access to financial services in regions of eastern, central and north - eastern India	Lack of acceptable understanding about the socioeconomic characteristics of the households conditioning the use of financial services.
Moreno, L. A. (2007)	Population plays an active part in Economic process contributing towards economic stability and ownership.	Level of commitment by the population in managing their finances.
Burkett and Drew, (2008).	Low-level of education is a key contributor further living far from cities and financial centres also contributes to financial exclusion.	Level of education not defined in context of FI. Accessibility of financial services was critical factor determine FI.
FinMark Trust (2009) South Africa	Five banks collectively launched “No Frill Account” which facilitated five free transactions in a month however	Most of the accounts were inoperative. Literature does not conclude on increasing the

	the usage rate was only 58%.	frequency of transactions.
Finney and Kempson (2009) UK	People who get their social security payments through post offices are most likely to be unbanked.	Connect between social security payments and FI.
Nageswara Rao (2010)	Empowering of the whole population for inclusive growth.	Does empowerment for FI takes place uniformly across India?
Cull et al. (2012)	Importance of technology and product innovation in improving inclusion	Emphasis should be on behavioural traits of demand side
International Finance Corporation(2016) Australia	Time constraints, cost of travel, societal and cultural norms are prominent reasons for financial exclusion for women	Identification of alternate channels of financial service delivery.
Karlanet. al. (2016)	Authors emphasize the challenges of market imperfections and deviations from fully rational behaviour, in efforts to increase financial access	Institutional and resource constraints probable drivers for inequitable distribution of FI.

TABLE 2- GLOBAL CHALLENGES FOR FINANCIAL INCLUSION

Source: Authors' compilation

RESEARCH METHODOLOGY

Present study is carried out with following objectives.

- (1) To analyze the similarity and dissimilarity that exists in the financial inclusion initiatives across emerging nations.
- (2) To examine the interdependence of financial inclusion and financial stability of the economy.
- (3) To assess the payoffs of the financial inclusion interventions.

Initially Literature review was carried out to map the key concepts underpinning a research area, and to identify the unexplored areas on the key concept which has not been reviewed comprehensively before. Literature search was undertaken using single or composite key variables. The search terms included: 'Financial', 'Inclusive', 'Development', 'Financial' + 'Inclusion', 'Financial' + 'Exclusion', 'Financial' + 'Stability'. The search terms were considered sufficient in identifying the relevant literature.

The database used for search were:Elsevier, Emerald, Web of Science and Google Scholar. Overall 72 papers were selected.

Key words	No. of Papers
Financial	3
Inclusive	8
Financial Inclusion	37
Financial Exclusion	12
Financial Stability	12

TABLE 3- SUMMARY OF KEY WORDS AND PAPERS

Source: Authors' Compilation

Further, we eliminated the studies which did not address the research objectives. Figure 1 indicates the papers selected for the literature review after analyzing their suitability and relevance.

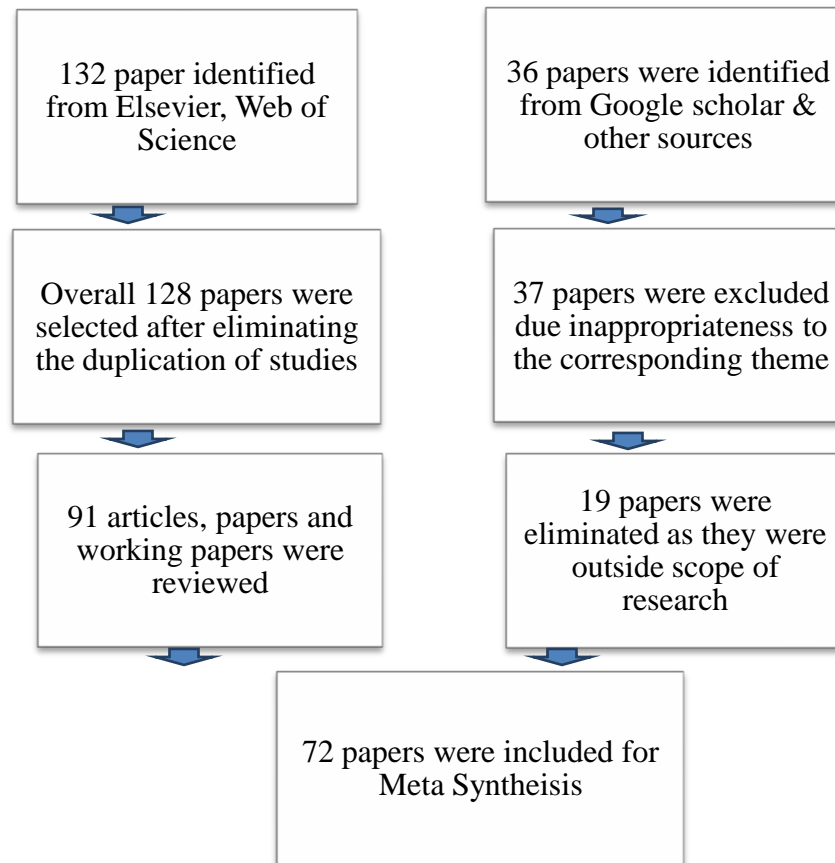


Figure 1-Flow chart

Source: Authors' deduction

For this study, a systematic review of financial inclusion strategies and practices is made. It comprises of three sections: Section I summarizes on the pragmatic and institutional studies and the paybacks of financial inclusion at a macro level. Section II outlines the uneven distribution of the concerns underlying the financial inclusion initiatives. Section III gives the summary of the characteristics of Studies based on challenges of Financial Inclusion and the strategic payoffs. Several studies are cautious about the positive impact of financial inclusion. Nonetheless, the vulnerability of excessive credit deployment cannot be overlooked. Structured regulatory reforms, risk regulation and governance are imperative for sustainable inclusive growth which varies extensively across the emerging nations. Qualitative aspects of financial inclusion initiatives are reviewed, yet growth momentum of the financial inclusion initiatives is measured in quantitative terms.

Synthesis analysis was undertaken using a predefined matrix to summarize the findings and to discuss the relevance for the current research. The proposed research was undertaken based on the secondary data available from several research papers, articles and reports, case studies from the national and international sources. Research papers were reviewed across different nations to

understand the payoffs and challenges of the financial inclusion existing in the diverse economies and to identify the probable reasons for diversity in distribution of banking services.

DISCUSSIONS AND FINDINGS

Indian Banking sector has come a long way since its inception in 18th century. The recent buzzword in the banking sector is “Digital Banking”. With the increasing internet usage and the able infrastructure India has, it’s no longer a dream to execute the idea of digital banking. Though it is still in a nascent stage in India, it is growing at a rapid pace. This is a big leap towards becoming a cashless economy.

In India, The National Mission of Financial Inclusion named as the Pradhan Mantri Jan DhanYojana seeks to integrate poor with the formal financial institutions. Banks under the scheme are to have an overdraft facility of Rs. 5,000.00 for Aadhar-linked accounts after satisfactory operation in the account for 6 months. Identification of household without any bank account is being done and providing Basic Banking Accounts with Overdraft facility and RuPay Debit Card with inbuilt accident insurance cover of Rs. 1 lakh to them is being made.

China has attained notable success in financial inclusion over the last 15 years. Traditional financial service providers have vividly augmented the reach of the formal financial sector, through the world’s largest agent banking network. China has also been a leader in the fintech revolution, with new technology-driven providers gauging the Chinese consumer’s behavioural traits for payments, borrowings, savings, investments and insurance. China’s rate of account ownership – a basic metric of financial inclusion – has increased significantly and is now at par with that of other G-20 countries.

Brazil’s banking industry has both internet banking and digital payments long history of success in the country. In 2014, Brazil (population: 210 million) was ranked the third largest non-cash transaction market in the world, after the United States (population: 326 million), and the Eurozone (population: 340 million).

“The Philippines’ central bank, Bangko Sentral ng Pilipinas (BSP), has been ahead of the curve in identifying opportunities and setting guidelines for financial inclusion. Its focus on creating a digital finance ecosystem has led to the introduction of a sound payments infrastructure that helps the various financial-sector players to reduce their costs and further their outreach,” the EIU said in its report. Under the National Retail Payment System, the BSP targets to shift cash-heavy transactions to digital avenues, which is expected to broaden access to financial services and spur economic activity. Through this system, the central bank wants to raise the share of e-payments to 20% of all transactions in the Philippines by 2020, coming from a measly one-percent share back in 2013.

The Philippines ranked fourth among 55 nations in terms of financial inclusion, according to the 2018 Global Microscope of the Economist Intelligence Unit (EIU), making the country the best in Asia together with India, which shared the same global rank. Still, Philippines saw its score slip to 72 (on a scale with 100 as best score) from 78 in 2016, when it ranked third, again together with India. Colombia, Peru and Uruguay were the top three countries for financial inclusion.

In India the financially excluded sections largely comprise of marginal farmers, urban slum dwellers, migrants, women, self-employed and senior citizens. Barriers to financial inclusion can be categorized as income insecurity, socio economic condition, financial illiteracy and technological infrastructure. Despite of noteworthy improvements and initiatives in all areas

relating to financial feasibility, productivity, competitiveness and outreach still banking services has not yet covered a measureable section of the population.

The banking products are limited and does take cognizance of the specific requirements of the rural folk thus banks lack customer centricity in the financial inclusion context. There are insufficient number of technology service providers to cover the unbanked areas as well as limited number of service centres for servicing the devices has dissuaded the banking operations in many regions of rural sections. Deficiency in accessibility to trained manpower in the villages for financial counselling and training on technology in the local language erodes the confidence of the rural households.

Nevertheless, today, there are several technologies such as Immediate Payment Service (IMPS), Unified Payment Interface (UPI) and National Unified USSD (Unstructured Supplementary Service Data) Platform (NUUP), which can enable digital transactions both online and offline to banks. NPCI (National Payments Corporation of India), a key stakeholder in the payments industry has played an instrumental role in strengthening the retail payments ecosystem through offerings such as RuPay cards, UPI, as well as the newly launched BHIM (Bharat Interface for Money) application which allows users to make transactions through UPI on their phones. However, transition from the traditional banking to technology based banking will require a formalized and well-designed financial literacy initiatives at the state level, streamlining to the Union government agenda. Reserve Bank of India licensed 11 payment banks mandated to facilitate electronic payments. The licenses were awarded to mobile networks, the national postal service and mobile wallets who were expected to leverage their wide geographical networks. RBI also licensed small finance banks that are required to provide the entire spectrum of banking services to the unbanked sector including small businesses and employees in the unorganized sector.

The similarities that are evident in the emerging market – most of the emerging economies have witnessed growth in financial inclusion in last two decades. Most of them are relying on and are committed to attain further success by using digital infrastructure.

One common challenge is that the percentage of unbanked population is high and they have to initiate correct reforms to overcome this challenge. What matters most for households is not opening deposit accounts, but access to credit and the frequency of transactions in their account which is majorly dependent on the income and savings. India's household debt-to-GDP ratio, is a 8.9%, the lowest among its Asian peers.

The Global Index of Financial Inclusion of India was 35 in 2011, 53 in 2014, and 80 in 2017 which indicates a prompt development in the financial inclusion interventions, signifying that appropriate Indian policies in the last few years have worked well. GFX 2017 stands at 80 for China, 76 for Russia, 70 for Brazil, 69 for South Africa, 96 for UK, and 93 for US. Given the constraints of poverty, illiteracy, and lack of spread of banking network, the progress under PMJDY is laudable. Greater diversification in clientele served, associated with financial inclusion might also be expected to lead to a more resilient and more stable economy.

CONCLUSION

The prime objective of commercial banks was to narrow down the gap between the demand and supply side for financial products however banks have not yet been able to cater entirely to the ever changing financial requirements of diversified customers as penetration of financial services

in rural areas is low further their mismatch exists between financial product offerings in terms of savings, insurance, payments and remittances and demanded by rural population. Major challenge faced by banks was reaching out to the remotest corner of the nation for provision of financial necessities, thus need arises for a low cost service delivery channel that offer the possibility of massive outreach to people in locations that remain underserved. The banks have shed their traditional functions and have been innovating, improving and coming out with new types of the services however there exists a large segment outside the formal banking sector. If financial inclusion initiatives are to be completely harnessed and made accelerative, the policy makers and banks efforts are to be integrated with the local government agencies for educating the masses on a large scale, emphasising on the rights and responsibilities and importance of financial decision making.

LIMITATIONS AND FUTURE SCOPE OF STUDY

This being a review paper is completely based on secondary data. Results are based on whatever has been published in public domain. Freshness of data might pose a question mark at times. Providing actual figures for all financial indicators from countries across the globe was out of scope of this paper. Future in-depth studies can be done specific to countries. Other financial indicator based studies can also be conducted such as credit deposit ratio, technology enabled services, etc.

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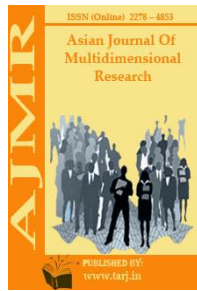
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CORPORATE SOCIAL RESPONSIBILITY PRACTICES OF RAJASTHAN ELECTRONICS AND INSTRUMENTS LIMITED (REIL), JAIPUR: A PUBLIC SECTOR UNDERTAKING

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ABSTRACT

Corporate Social Responsibility is a way to achieve sustainable development. The society is the entity to which an organization owes its existence and the local community is the resource from which every organization receives its resources and operates. The organization exists in the society because of material and human inputs it receives and sells its products and services. And, where organizations serve the society and the effects of their activities on the environment in each aspect. Any organization must give back to the community. For a Public-Sector Enterprise, the Corporate Social Responsibility practices become more important as the expectations of society are higher than from any Private Sector Enterprise. Rajasthan Electronics and Instruments Limited has a prominent position in the Rajasthan electronics industry with high ethical standards in the conduct of business and to perform expanded activities and initiatives for sustainable development of society under Corporate Social Responsibility. The study is pointed out and highlighting the extent up to what the CSR practices are trailed by the Rajasthan Electronics and Instruments Limited.

KEYWORDS: *Corporate Social Responsibility, Public Sector Undertaking, Rajasthan Electronics and Instruments Limited and Sustainable Development.*

INTRODUCTION

Background:

Corporate social responsibility is a concept that encompasses all the philanthropic activities like charity, donations, relief works etc. of the corporations taking the responsibilities of the impact of their activities on the society. Globally, all related concept such as business responsibility, corporate sustainability, shared value, strategic philanthropy, philanthropy, corporate citizenship, and triple bottom line comes under the preview of Corporate Social Responsibility. In this way, Corporate Social Responsibility (CSR) is an idea whereby organizations serve society's interests or by taking responsibility in all aspects of their operations for the impact of their activities on Stakeholders (i.e. communities, shareholders, employees, and customers) and the environment (Atale & Helge, 2014). Acknowledging their impact on society, many companies have proactively adopted CSR practices while others have done so only when forced legally. In India, the CSR concept is governed by the clause 135 of the Companies Act 2013 which applies to companies with an annual turnover of Rs.1,000 crore and more, or a net value of Rs. 500 crores and more, or a net profit of Rs.5 crore and more. The aim of clause 135 of the Act is to encourage companies to spend at least 2% of their average net profit on Corporate Social Responsibility activities in the past three years (Ministry of Corporate Affairs, 2013). According to WBCDS "CSR as the commitment of business to contribute to sustainable economic development, working with employees, their families, and the local communities" (Jamali & Mirshak, 2007; WBCSD, 2015).

In the period before the rise and dominance of the corporate form of business organization, social responsibility (SR) provides an overview of how the concept and practice of SR or CSR have grown, developed and flourished. CSR patterns and practices that social responsibility has both a moral and ethical component. CSR can only be sustainable for so long in today's world of intense global competition (Carroll, 2009). It continues to add value to corporate success. However, it must be noted that it is society or the public, that plays an increasing role in what constitutes business success, not just business executives alone, and therefore CSR has a positive future in the world of business. However, the pressure of global competition will continue to increase, which means that the business case for Corporate Social Responsibility will always be the focus. (James, Santra, & Shelvi, 2008) examine the CSR is no more notwithstanding the business it is a key differentiator of it. CSR isn't about how an organization gives away its money; it is about how it makes money. Now it is a fact that business has minimal decision to take the way of CSR in the interest of profit and sustainability. Corporate elements understand this and forcefully seek after this procedure, the happier they will be.

Corporate Social Responsibility in Rajasthan

In Rajasthan the state Government has made an institutional system for drawing in speculation, various departments/ corporations /agencies are functional in the state to promote industrial development and for facilitating establishment and expansion of small, medium and large-scale industries and meeting their various requirements, either directly or by discharging the responsibility as the strong facilitators.

Udhyog Aadhar Memorandum Acknowledgement Act, 2015 has been implemented in Rajasthan State and online Registration has been started, since 18 September 2015. Commissionerate of Industries is the nodal department with the prime motive to advance the improvement of industries and handicrafts in the State and providing the vital direction, support, and facilities for

industrial actions. Presently, 36 District Industries Centers and 8 sub-centers are working in the State for providing efforts and other services to the industrialists. (Rajras, 2018b)

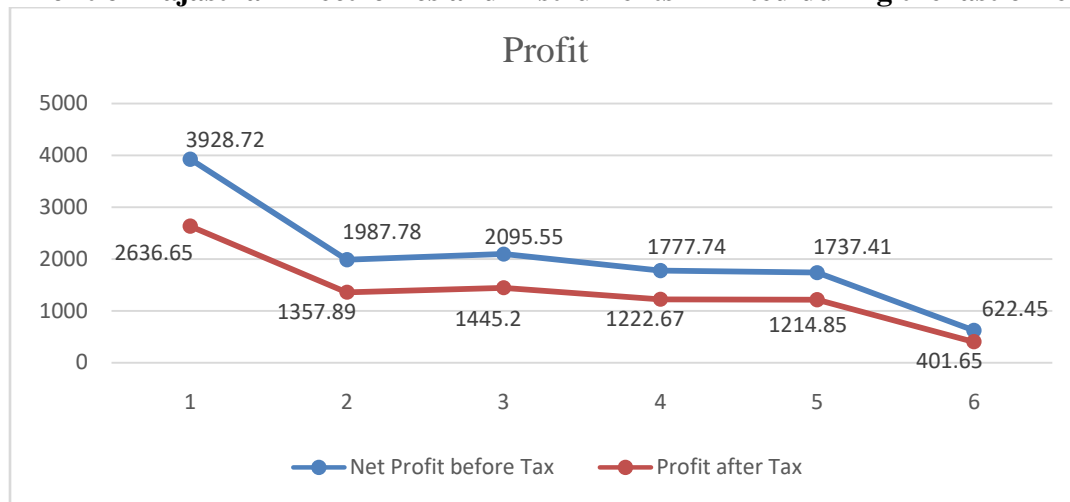
Industrialization is considered one of the important ways to stimulate the country's overall development. In addition, industry development has the enormous potential to provide substantial job and generate income and improve the standard of living and overall well-being of the people. The state had inherited poor status in the development of industries during the period of independence. Until 1960, Rajasthan had virtually no place on India's industrial map. A number of methodologies were developed to build interest in order to increase investment in public sector industries and to promote private sector investment in various districts, which led to the slow development of state-owned companies (Rajras, 2018a).

The Rajasthan industrial sector contributed 29.09 percent of the Gross Value Added at Constant Prices (2011 - 12) and 26.89 percent in 2016-17 at current costs. The industry includes mining, manufacturing, building, electricity, gas, and water. At a CAGR of 15.7%, The second fastest development of the industrial sector was reported between 2004 - 05 and 2015 - 16 (Rajras, 2018a).

REIL has a prominent position in the Rajasthan electronics industry. The company through its respective institutions is a joint project between the Indian Government and the Rajasthan Government. In 1997, the company was granted 'Mini Ratna' status by the DPEs, MoI, GoI because of its good all-round performance and excellent products. Rajasthan Electronics & Instruments Ltd. was set up to help raise the rural masses by involving them, making them confident and revising their living conditions by bringing electronics to the villages. Rajasthan Electronics and Instruments Limited (REIL) signed MoU with CONCOR for supply, Installation, and commissioning of an SPV power plant at their inland container depot (ICD), Kanakpura, Jaipur under their environmental sustainability initiatives, in line with the CSR and Sustainable guidelines of Department of Public Enterprises (Rajasthan Electronics & Instruments Limited, 2018b).

CSR can be seen to be naturally ingrained in the business activities of REIL evident from its commitment to customers and by providing products for the harmonious and sustainable development of society through Milk Analysis Instruments as well as Solar Photovoltaic Systems, leading to opportunities for livelihood and improvement in the quality of life of the community and society. It is worth mentioning that all stakeholders have been supporting REIL in this regard. Economic development is conceivable just through growth in utilization of resource which is accessible in the environment to the society. Since saddling of regular assets additionally directly affects the economy, the environment, and society REIL has been putting in efforts in this regard right from the date of its incorporation. Corporate Social Responsibility (CSR) thus happens to be a synonym to REIL's all activities (Rajasthan Electronics & Instruments Limited, 2015).

Figure 01

Profit of Rajasthan Electronics and Instruments Limited during the last 6 Years

Source: REIL, Annual Reports (Rajasthan Electronics & Instruments Limited, 2018a)

Objectives of the Study

- To study the CSR practices of Rajasthan Electronics and Instruments Limited.
- To find out the factors affecting CSR practices in Rajasthan Electronics and Instruments Limited.
- To highlight possible suggestions to improve CSR Practices of REIL.

The scope of the Study

The scope of the study is limited to studying the concept of Corporate Social Responsibility in the State of Rajasthan, how a Public Service Undertaking of Rajasthan considers and follows practices CSR for social development of Villages.

METHODOLOGY

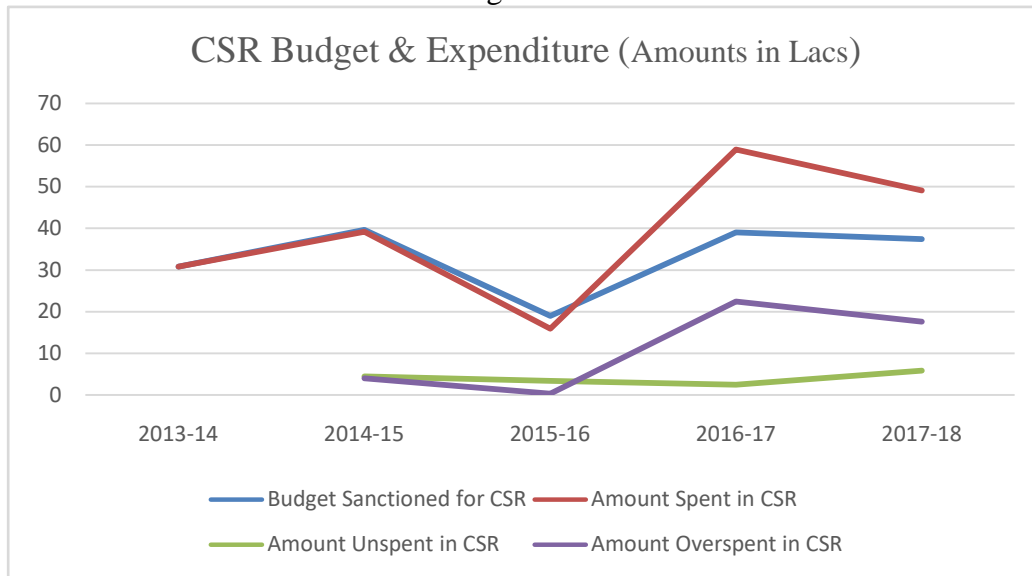
The study was conducted using mainly secondary data and information and also depends on the web or internet-based research, organization's annual reports, previous publications or review of the literature. Visiting the site to observe the CSR practice was estimated.

FINDINGS:**Overall Budget and Expenditure**

Before implementing CSR Policy Rule 2014 In the Financial year, the 2013-14 company mentioned in an annual report (2013-14) that the company used to spent Rs.30.8 Lacs in CSR Activities only there is no proper CSR reporting in the company at that time and Company has incurred CSR expenditure of Rs.58.95 Lacs against the required amount of Rs.39.00 Lacs. After adjusting carry forward balance of 2015-16 of Rs. 37.54 Lacs balance of Rs. 17.59 Lacs remains unspent due to some of the programs in healthcare, education & promoting employability are multiyear project & will be incurred in next year. After adopting the CSR Policy rules, 2014 and implementing the Companies Act 2013 Rajasthan Electronics and Instruments Limited engaged themselves in CSR activities & works in the areas of Renewable Energy (Solar), Health & Sanitation, Training & Education till 2018. In the Financial year (Financial Year) 2013-14

Rajasthan Electronics and Instruments Limited Spent (Rs. 30.80 lacs), Financial Year 2014-15 (Rs. 39.20 lacs), Financial Year 2015-16 (Rs. 53.41 lacs), Financial Year 2016-17 (Rs. 39.00 lacs) and in the Financial Year 2017-18 (Rs. 37.40 lacs) respectively.

Figure 02.



Source: REIL, Annual Reports (Rajasthan Electronics & Instruments Limited, 2018a)

Figure 02. give the description of last 05 Years CSR Budget & Expenditure of Rajasthan Electronics & Instruments Limited, Jaipur i.e. from Financial Year 2013-14 to Financial Year 2017-18. Company sanctioned Highest budget for CSR in the Financial Year 2014-15 i.e. Rs.39.6 Lacs and lowest budget sanctioned in the financial year 2015-16 i.e. Rs.18.9 Lacs. Figure 02. also represents company spent his highest amount in CSR in the Financial Year 2016-17 i.e. Rs. 58.9 Lacs and lowest amount spent in the financial year 2015-16 i.e. Rs.15.8 Lacs. In the Financial year 2013-14 company spent all the sanctioned budget for CSR activities but in the Financial Year 2014-15 company unspent Rs.4.4 lacs, Financial Year 2015-16 Rs.3.3 lacs, Financial Year 2016-17 Rs.2.4 Lacs and in Financial Year 2017-18 Rs.5.85 lacs from his Sanctioned budget for CSR and figure also represents Rs.3.9 lacs, Rs.0.3 lacs, Rs.22.39 lacs and Rs.17.59 lacs overspent in the Financial year 2014-15, 2015-16, 2016-17 and 2017-18 respectively.

Expenditure on Renewable Energy (Solar)

Rajasthan has an enormous potential for the development of solar energy, satellite climate conditions make it ideal for capturing insufficient solar rays. The solar power supply in the state is 6 to 7 KW / KM², giving the potential for 10,000 MW of solar energy in commercial production. Rajasthan has set quite good targets for electricity production from solar (Sharma, Singh, & Verma, 2014). The Rajasthan government has recently launched a new solar policy to create 25,000 MW of solar energy to achieve independence. The 2014 Rajasthan Solar Policy would extend Jawaharlal Nehru's National Solar Mission (JNNSM) and Rajasthan's Solar Energy Policy, 2011 (Kumarankandath, 2015). Rajasthan Electronics and Instruments Ltd. focused on renewable energy and works in Solar Energy. In the Financial Year 2013-14 company deployed 12 Nos. power system for running computer in schools/health centers/ post office/NGO institutions other 10 Nos. Solar Blinkers for public use in Jaipur. Financial Year 2014-15

Company deployed 14 Nos. of Solar power systems (1.12 KWP) in the various Districts of Rajasthan and Deployed 02 Nos. the solar power system (2.24KWP) in the Jhalawar district of Rajasthan and Deployed 01 No. of Solar Electronics Milk Tester (EMT) in Rajasthan. In Financial Year 2015-16 deployed 01 Nos. of Solar power systems (1.12 KWP) in the District of Jaipur Financial Year 2016-17 Company deployed 10 Nos. of Solar power systems (1.12 KWP), 01 No. of Solar power systems (120 WP) and 04 Nos. of SPV LED street lights 75 WP module 12W LED in the Various district of Jaipur, Rajasthan as well as District of Punjab, Uttar Pradesh & Gujarat, Deployed 01 No. of Solar powered water purification system in Jaipur District.

TABLE 01.

CSR Project / Activity	State / District	Budget			Spent			
		2014-15	2015-16	2016-17	2014-15	2015-16	2016-17	2017-18
Deployment of Solar Power System (1.12 KWP)	Jaipur, Sawaim adhopu r, Tonk,	31,65,000/-	2,65,000/-	23,67,000/-	27,82,747/-	2,95,686/-	24,10,865/-	12,82,600/-
Solar Power System (120WP)	Ajmer, Chinhat (UP),							
SPV LED Streetlights 75wp Module 12w LED	Mainpu ri, Agra, Kanno j, Kharad (Punjab), Anand (Gujara t), Ratana giri (Mahar ashtra)							
Deployment of Solar Power System (2.24 KWP)	Jhalawa r	5,00,000/-			8,99,898/-			
Deployment of solar Electronics Milk Tester (EMT)	Rajasth an	50,000/-			40,430/-			
Solar Power Water Purification System	Jaipur			7,00,000/-			5,87,185/-	

Deployment of Soalr Powered Water Pumping System								5,05,000/-
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Source: REIL, Annual Reports (Rajasthan Electronics & Instruments Limited, 2018a)

Expenditure on Medical/Health

The state government is directly responsible for public health is less than 2% of the state GDP is allocated to health care services, which is grossly inadequate the share of health in the state budget is just about 5% of the state budget on health services. If we see the health infrastructure of Rajasthan 15172 Sub-centres required but in present 11487 is the state of Rajasthan and if we go to the Primary Health Centre 2326 PHC required in the state of Rajasthan but now in present 1528 PHCs are in the entire state. The number of CHCs in the present is 382 but the state required 581 CHCs in the state. REIL started working in Financial Year 2013-14 company organized free medical/ Health Awareness/ Upgradation of knowledge & Skills among Users of Solar Power Camps in the Backward regions or Block in the state of Rajasthan. In Financial Year 2014-15 Organized 05 Nos. of free Medical Health Camps in the district of Jaipur, Rajasthan. In Financial Year 2015-16 organized 04 Nos of free Medical/Health Camp in the District of Rajasthan, Financial Year 2016-17 organized 05 Nos. of free medical/ Health camps in Jaipur District.

CSR Project / Activity	State / District	Budget			Spent			
		2014-15	2015-16	2016-17	2014-15	2015-16	2016-17	2017-18
Organized free Medical Health Camp	Jaipur	2,50,000/-	2,80,000/-	3,48,000/-	1,97,654/-	2,01,789/-	2,22,203/-	18,845/-

TABLE 02

Source: REIL, Annual Reports (Rajasthan Electronics & Instruments Limited, 2018a)

Expenditure on Sanitation

The Multiple Indicator Cluster (MIC) survey of 1995 found that 21% of households had a sanitary toilet. There are large disparities between the urban and the rural areas. The 1992-93 NFHS survey found that only 4% of Rural However, in urban slums toilet coverage is only 35%. The 1995 MICS survey also found that toilet coverage varied substantially between districts. A survey in 1997-98 among the urban poor in five towns found that toilet coverage varied from 32 to 73% (UNICEF, 1998). Rajasthan is all geared towards an open defecation free (ODF) status well before the October 2, 2019, national deadline. According to Resha Singh, the assistant engineer of the nagar parishad, 4.75 lakh toilets have been built since October 2, 2014, in the district of Alwar, which is about to be declared ODF (Bhaduri, 2018). REIL starts work in Financial Year 2015-16 Company constructed 14 Nos. of Toilets in the Jaipur Districts, Rajasthan. And in the Financial Year 2016-17 deployment of 12 Nos. of Stainless-Steel Hand Wash basins/shrinks, Renovation of toilets under Swachh Bharat Campaign.

TABLE 03

CSR Project / Activity	State / District	Budget		Spent		
		2015-16	2016-17	2015-16	2016-17	2017-18
Renovation of Toilets under SBA Campaign	Jaipur		1,25,000/-		1,19,179/-	
Construction of Toilets	Jaipur	11,50,479/-		8,95,304/-		
Deployment of Steel Hand Wash Basin/ Shink	Jaipur		2,60,000/-		2,69,087/-	1,48,673/-

Source: REIL, Annual Reports (Rajasthan Electronics & Instruments Limited, 2018a)

Expenditure on Education & Training

Social development and welfare are an important and vital part of a welfare state, which is also included in the Indian constitution in the guiding directive principles of state policies. The constitution states clearly. "The State shall promote with special care the educational and economical interests of the weaker sections of the people, and in particular of Scheduled Castes and Scheduled Tribes, and shall protect from social injustice and all forms of exploitation". The development suggests a social shift from the existing social structure and living conditions to a better and better social structure with equal opportunities for each portion of society. Our society consists of various castes, creeds, and categories of social and economic status. The central and state governments are determined to pay attention to the weaker sections to improve their socio-economic status (Ministry of Social Justice and Empowerment, Department of Empowerment of Person with Disabilities (Divyangjan), 2017; Social Justice and Empowerment Department, 2018). Even REIL also engaged in Financial Year 2015-16 Provide 01 No of Scholarships to the numbers of students belonging to PWD category. The Apprentices Act, 1961 was adopted with the aim of directing the training program for apprentices in the company using the facilities available in the company to provide training. Concern Ministry is responsible for the implementation of the Act. The National Policy of Skill Development and Entrepreneurship 2015, launched on 15th July 2015 by the Hon'ble Prime Minister, focuses on apprenticeship as one of India's key programs for skilled manpower. The policy proposes that professionals work effectively with industry including MSME sector, to encourage learning opportunities in the nation to increase ten times by 2020 (NAPS, 2015). In the Financial Year 2016-17 REIL Engagement of Apprenticeship program under Apprenticeship Act in the Jaipur District of Rajasthan.

TABLE 04

CSR Project / Activity	State / District	Budget			Spent		
		2015-16	2016-17	2017-18	2015-16	2016-17	2017-18
Engagement of Apprenticeship Act	Jaipur		1,00,000/-	16,65,000/-		22,86,525/-	27,25,131/-
Award Scholarship Student belonging to PWD Rs 11000/- & Set of Motivational Books @ Rs 750/- to	Jaipur	2,00,000/-			1,94,545/-		

each Student							
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Source: REIL, Annual Reports (Rajasthan Electronics & Instruments Limited, 2018a)

CONCLUSION

REIL has CSR policy that has been planned to add support to sustainable development in areas of key interest through activities organized in a way that addresses the challenges faced by the society especially in Rajasthan. Emphasis is given to execute Social Investments/CSR programmes. Essentially to support and continuously enhance the standards of Environment, Health and Sanitation through the aggregate undertaking of the organization and suitable now and again. Policies are also framed to align the Company's actions with the objective of inclusive growth and employment generation through training Apprenticeship & Scholarships. To cooperate with communities to contribute to Swachh Bharat Mission, especially in rural areas, through safe drinking water, rural electrification, and provide fellowships to the students belonging to and participating in rural capacity building programmes but the company mostly focused on Renewable Energy (Solar) every year and such other initiatives but there are so many areas are lagged and company have to do some more initiatives in these areas which are left and mentioned in the CSR policy Rules, 2014 of Ministry of Corporate Affairs, Government of India in accordance with section 135 of the Companies Act 2013 (Ministry of Corporate Affairs, 2013).

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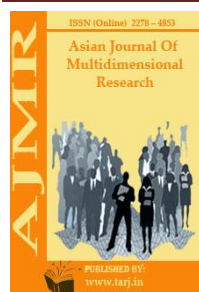
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REACHING THE UNREACHED THROUGH GEOSCIENCE AND GEOSPATIAL EDUCATION AT IGNOU FOR SOCIETAL BENEFITS

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ABSTRACT

Earth is the only known planet having the conditions necessary to support life and our survival is depended on the earth's natural resources. With increasing challenges related to natural resources, natural hazards and impact of human activities on our physical environment, planners and managers require scientific input based on knowledge of geoscience among others to maintain sustainability of resources, manage natural hazards and protect our environment. Geoscientists and geoscience educators play an important role in increasing awareness, imparting education on importance of geosciences to society and also address these problems through their research. However, there are less number of institutions in India in comparison to other disciplines which are imparting geoscience education. On the other hand, courses on geospatial technology have been included in school and higher education curriculum in a wide range of discipline because importance of geospatial technology is well recognised for decision makers. The number of institutions offering geosciences and geospatial education to take it to the

doorsteps of the learners can be counted on fingers. Indira Gandhi National Open University has been offering geoscience and geospatial education with an aim to reach the unreached for societal benefits through its vast network of regional centers and study centers in India and abroad. The paper reviews the status of geoscience and geospatial education in India. It discusses the coverage of geoscience topics at school level education and women's participation in science and presents results of a survey on the number of institutions offering geosciences education at different levels and the types of courses required. It also discusses the current Indian scenario on geospatial education and the challenges and opportunities in geoscience and geospatial education in Open and Distance Learning (ODL) mode.

KEYWORDS: *Geoscience, Geospatial, Open and Distance Education, School Curriculum, IGNOU.*

1. INTRODUCTION

Earth is the only planet known to have the conditions necessary to support life. However, to maintain sustainability of resources, manage natural hazards and protect our environment, planners and managers require scientific input based on knowledge of geoscience among others. Hence, geoscientists and geoscience educators play an important role in increasing awareness, imparting education on importance of geosciences to society. The scope of geoscience is vast as it is an integrated science that brings together biology, chemistry, mathematics and physics to the understanding of Earth (Smith, 2004). Its study gives us a new perspective on why and how things happen around us. It also attempts to find solutions for real global environmental problems in relation to place and time.

Geoscience education is essential to address problems such as sustainable use of natural resources, mitigation of natural hazards, protection of environment and restoration of ecosystem (GSA, 2016) because it ensures knowledge of the natural processes that shape the physical environment, and impact of anthropogenic activities on the Earth at different scales (Sharon et al 2012). Similarly, importance of geospatial technology is well recognised for decision makers across the disciplines. Despite recognition of such a significant role of geoscience education, there are not too many institutions in India imparting geoscience education in comparison to other disciplines. On the other hand, courses on geospatial technology have been included in school and higher education curriculum in a wide range of disciplines. The paper reviews the current status of geoscience and geospatial education in India with particular reference to Indira Gandhi National Open University that is offering quality education in a very flexible and cost effective manner for societal benefits to reaching the unreached.

The paper discusses the status of geosciences education in India with particular reference to the coverage of geoscience topics at school level education and women's participation in science. It presents geographical distribution of institutions offering geoscience education at different levels and the types of courses required based on a survey conducted. It also discusses current Indian scenario on geospatial education covering the level of courses being offered particularly in open and distance learning mode and the challenges and opportunities in geoscience and geospatial education specific to Open and Distance Learning (ODL) mode.

2. GEOSCIENCE EDUCATION IN INDIA

While, geoscientists bring critical expertise to the goal of environmental sustainability (Sharon et al 2012), an earth science literate is able to make informed and responsible decisions regarding Earth and its resources (Earth Science Literacy Initiative, 2009; Dwight, 2010). Importance of geoscience education and literacy is increasing being felt because it is being realized that earth resources are finite and our wellbeing and survival is dependent on earth system and resources. We discuss here the status of geosciences education in India under three aspects i.e. coverage of geosciences in school curriculum, institutes offering geosciences education, status of women in geosciences. We also briefly discuss and list the futuristic programmes at certificate and diploma levels related to geoscience.

2.1 COVERAGE OF GEOSCIENCES IN SCHOOL CURRICULUM

A survey of the contents of Central Board of Secondary Education (CBSC) school syllabus for primary, middle and secondary levels was carried out by Gogoi et al (2017) to understand to what extent geoscience is integrated in India. It was noted by them that currently, except geoscience all other science subjects like physics, chemistry, mathematics and biology are taught at primary and secondary levels. A survey of the school curriculum showed that out of total 30 hours of study only 4.3 hours of study is dedicated to Environmental Education/Social science subject (Fig. 1). Although geoscience is the basic element of all natural sciences, it is limited to a few chapters in the geography and environmental science books at school level in India and hence children remain largely unaware of existence of geoscience as a discipline. They found that geoscience is not receiving the required status as compared to other science subjects taught at school level. It is recommended that at school level, the students should be provided with an integrated approach regarding educating them about our earth and its surroundings.

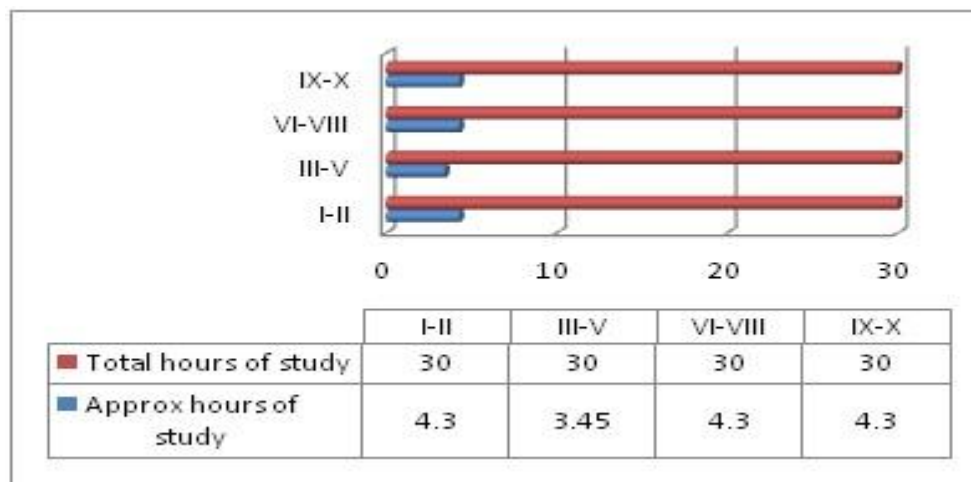


Fig.1: Approximate hours of coverage of geosciences topics in Environmental Education/Social Science Subjects taught in primary, middle and secondary school CBSC syllabus (after Gogoi et al 2017).

2.2 INSTITUTES OFFERING GEOSCIENCES EDUCATION

A survey of the institutes/universities offering geosciences programme at Bachelors and Masters levels was carried out by Gogoi et al (2016). The survey indicated that Bachelors level programmes are being offered at 147 institutes/universities whereas Masters level programme is

being offered at 135 institutes/universities (Fig.2a). It was also noted that programmes at both the levels are being offered at 75 institutes/universities across India (Fig.2a). It is to be noted that all the programmes are being offered in conventional mode and only one university, i.e. B.R. Ambedkar Open University, Hyderabad offers geosciences education in open and distance learning (ODL) mode. While most number of bachelors programmes are found being offered in the state of Maharashtra followed by the states of Chhattisgarh, West Bengal, Uttar Pradesh and Rajasthan (Fig.2b), Masters level programmes are being offered in the state of Maharashtra followed by Tamil Nadu, Madhya Pradesh, Uttar Pradesh and Rajasthan (Fig.2c). The reason behind these states having large numbers of institutes offering geosciences programmes could be the availability of rich mineral resources, qualified human resources coupled with job availability in government and private organizations directly or indirectly related to geosciences.

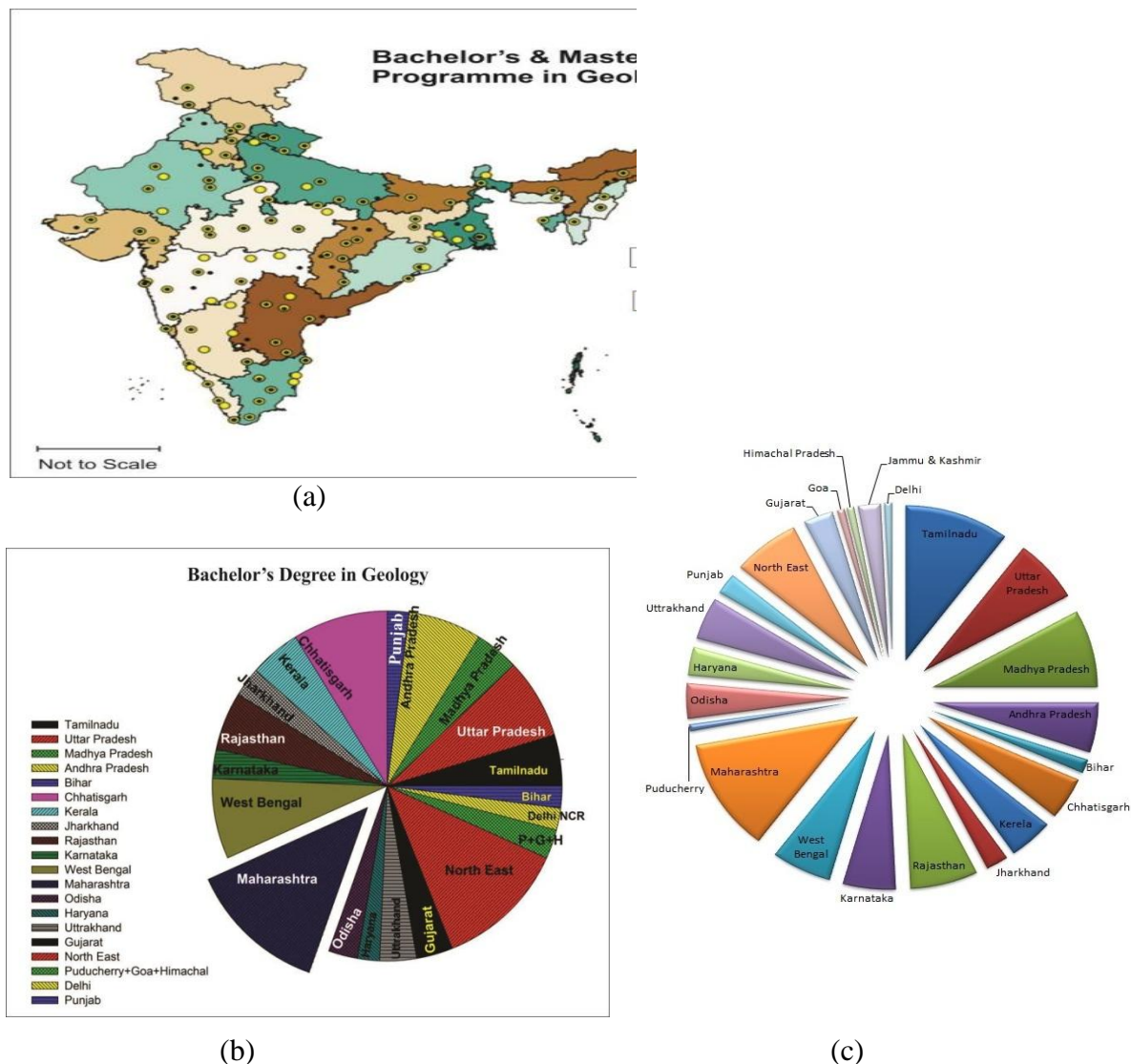


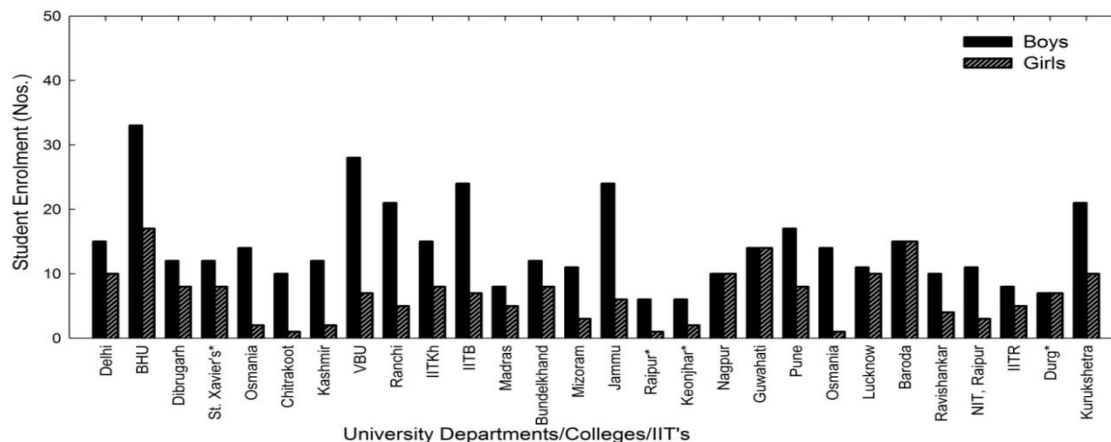
Fig. 2: (a) Spatial distribution of institutes/universities offering Bachelors and Masters level geoscience programmes in India. State wise distribution of institutions offering (b) Bachelors and (c) Masters programmes in geoscience(after Gogoi et al 2016).

2.3 STATUS OF WOMEN IN GEOSCIENCES

After discussing the status of coverage of geosciences at school and higher education in Indian institutes, we would discuss here about how women are represented in geosciences based on a survey of various institutes and also from the data collected from various government agencies such as Department of Science and Technology (DST) and University Grant Commission (UGC). UGC annual reports suggests that Indian universities have witnessed a steady rise in the proportion of men and women pursuing higher education in science, however a survey conducted on the enrollment in postgraduate departments suggests that there is still a wide gap persisting in terms of gender equity in postgraduate departments in Geology (Fig. 3a). It is observed that women are very poorly represented in the area of geosciences as compared to other branches of science in Indian context perhaps due to the (i) requirement of fieldwork during education and employment, and (ii) expectation from them to strike a balance between the professional and personal life (Mishra et al 2016). Although, greater numbers of women are acquiring higher education in science, not all of them opt for employment for different reasons. Even the ones who are employment have break in their career. DST offers a scheme namely, Women Scientist Scheme-A (WOS-A)' to encourage the women having break in their career by providing them opportunity to come back in main stream of science. However, under this scheme the Department has sanctioned only 3% projects in Earth and Atmospheric Sciences of the total projects sanctioned reflecting low representation of women in Earth science (Fig. 3b) and in the geology much lower because the Earth Sciences comprise five branches; hydrology, oceanography, meteorology, astronomy and geology.

2.4 FUTURISTIC PROGRAMMES IN GEOSCIENCE

We shall now briefly discuss about the perception of experts from academia and industry towards requirement of futuristic programmes in the field of geosciences. A questionnaire was sent to several experts who listed emerging areas in geology and the need for particularly certificate and diploma level programmes. The survey reflected seven broad emerging areas in Geology namely, Fuel Geology, Mineral Exploration and Mining Geology; Environmental Geology; Hydrogeology/Water Resources; Gemology and Economic Geology; Remote Sensing & GIS; Engineering Geology/Geotechnical Studies and Natural Hazards and Disaster Management. The survey reflected that there is a need for developing certificate and diploma level programmes in certain priority areas namely, Hydrogeology/Water resources; Fuel Geology, Mineral Exploration & Mining Geology; Environmental Geology; Remote Sensing & GIS; Engineering Geology/Geotechnical Studies; Gemology & Economic Geology; and Natural Hazards & Disaster Management.



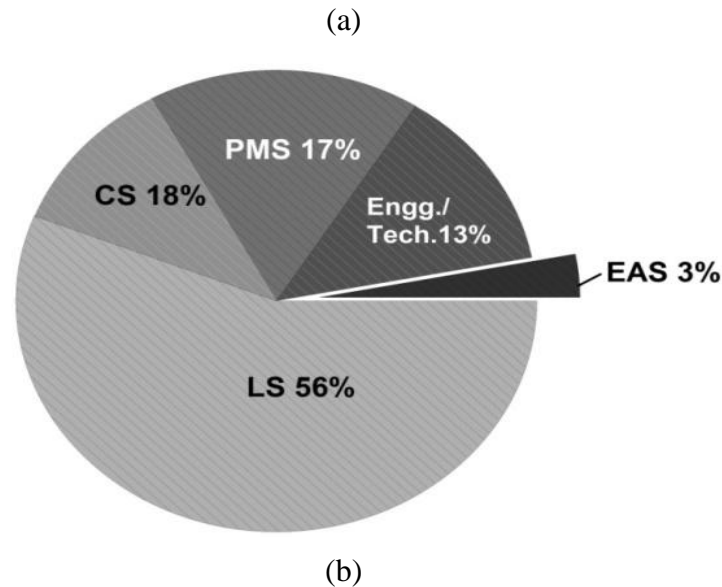


Fig. 3: (a) Enrolment of male and female students in postgraduation programmes in the Geology departments in select Indian Universities and Indian Institute of Technology (IIT). * shows geology departments in the colleges. (b) Subjectwise distribution of sanctioned projects in 2013-14 under Women Scientist Scheme-A, Department of Science and Technology (source: DST Annual Report 2013-2014). Abbreviaton used: EAS- Earth and Atmospheric science; Engg.&Tech.- Engineering and Technology; PMS- Physical and Material Science; CS-Chemical Science; LS- Life Science (after Mishra et al 2016).

3. GEOSPATIAL EDUCATION IN INDIA

Geospatial technology encompasses a broad range of disciplines including surveying and mapping, remote sensing (RS), Geographic Information System (GIS), Global Positioning System (GPS), *etc.* to create, handle and visualise geospatial data or geoinformation. Geospatial technologies have grown as a major tool for decision-makers because its application is mainly oriented to the real-world problems of management of natural and man-made environment. It is not only used as a tool for generating outputs helpful in decision making process for management but also for emergency planning, and even for analysis of genome sequences on DNA, *etc.* Government of India has included geospatial technology as an important component in many of its national level programmes (Deshmukh et al 2016). Realising the importance of skilled personnel in the field of geospatial technology, Ministry of Human Resources Development (MHRD), Government of India constituted the National Task Force on Geospatial Education in 2010 to address the issue of capacity building and geospatial education in the country. The Task Force discussed the overall issues relating to geospatial education in the country at school and university levels, requirements for training, outreach and high-end research including exploring the possibility of setting up of an institution for geospatial education (MHRD Report, 2013).

We review here the status of geospatial education in India with particular reference to open and distance learning mode. First we discuss level of courses being offered in ODL mode and then analyse profile of the learners enrolled in IGNOU's geospatial technology programme.

3.1 GEOSPATIAL COURSES BEING OFFERED IN ODL MODE

The subsection discusses current Indian scenario on geospatial education covering the level of courses being offered particularly in ODL mode. Geospatial technology has now become an integral part of higher education in a wide range of disciplines from social studies to science and technology. Considering rise in demand of geoinformatics professionals and potential future of geospatial technology many universities are offering educational programmes as part of science or engineering courses or stand alone. Apart from the separate and specific educational programme on geospatial technology, there are many universities, which are offering this component as a part of different programmes on geography, geology, botany, ecology, environmental science, civil engineering, electronics, computer science, disaster management, planning, etc. Recently, the subject has been introduced at the higher secondary level also by the CBSE and many of state school boards too. There are a large number of government and private institutes/Universities offering training courses/programmes in geospatial technology at different levels ranging from certificate to masters to Doctoral levels from few days/weeks to 2-3 years in both conventional and distance learning modes (Raju et al 2011; Deshmukh et al 2016). Duration of these programmes range from few days/weeks to 2-3 years and in both conventional and ODL modes. The programmes offered can be broadly categorised into two types namely, very short term training and short to long term education programmes. The very short term training programmes put emphasis on use of a particular software whereas the short to long term ones put more emphasis on underlying fundamental principles and applications (Deshmukh et al 2016). Certificate and diploma level programmes are more useful for new comers in the field wishing to apply this technology in their domain. For semi-skilled personnel who already have some prior experience in the field, specialised educational programme such as specific theme based training or certificates are more helpful. The subject was recently introduced in higher secondary curriculum as a vocational course by Central Board of Secondary Education (CBSE) too.

Recognising the scope of open and distance learning, the Government of India established Indira Gandhi National Open University way back in 1985. Further, it launched EDUSAT and made it available to all concerned institutes and departments to utilise it for educational purpose (Raju et al 2012). The EDUSAT facility has been utilised by national education bodies such as NCERT, AICTE, UGC and IGNOU. In the recent past, open and distance education centres/institutes and Open Universities have initiated course at graduate and post graduate levels. Apart from the conventional education programmes, there are some open institutes/universities offering programmes on geospatial technology in India in open and distance learning mode at certificate, diploma and masters levels from about three months to 2 years.

3.2 PROFILE OF THE LEARNERS ENROLLED IN IGNOU'S PROGRAMME

The subsection brings into context profile of the learners enrolled in IGNOU's programme. Considering the demand for skilled geospatial personals, Indira Gandhi National Open University is also offering a 16 credits Post Graduate Certificate programme in Geoinformatics (PGCGI) of six months duration through ODL mode since July 2014. The programme has been developed with the help of several experts across India from academia and industries to provide theoretical knowledge and hands-on training in the basics of geoinformatics technologies and acquaint learners with use of the technology in analysing spatial data and widen opportunities of learners. The programme is mainly targeted at working professionals who possess little or no

exposure to geospatial technology but are interested to initiate and develop skills in this field, and graduates desirous of developing skills in this field can also take admission. The programme comprises of three theory courses and one practical course covering aspects of geospatial data, maps and mapping, remote sensing, visual image interpretation, digital image processing, GNSS, GIS and spatial analysis. The practical course comprises set of 23 experiments grouped into three sections namely, spatial database creation, remote sensing data handling, and spatial analysis with emphasis on free and open source software so that the learners can work with the software even beyond the classroom.

Analysis of the enrollment data of the IGNOU's Post Graduate Certificate in Geoinformatics programme suggests that female comprised about 25% of the total enrollment (Fig. 4a). While understanding about their academic background, it was found that about 50% of the learners had earth science background, about 25% were from either engineering or other science streams. The minimum and maximum age of learners is 21 and 62 years, respectively across different centres (Fig. 4b). About 32% of the female learners were in the age groups of 20-24 years (Fig. 4c). It was observed that about 60% of the female learners were post graduate and about 30% were having graduation (Fig. 4d). Regarding the employment status, it was noted that about 55% of the learners were not employed. Learners ranged from fresh graduates to working professionals and among those who were employed were from School Teachers, Engineers, Law enforcement/Defence Personnel, Scientists and Technical Staff. Further, majority of the learners i.e. >72% were found to be representing general category and about 20% the OBC (non-creamy layer) and ~2.5% representing schedule cast (Fig. 4e).

4. CHALLENGES AND OPPORTUNITIES IN GEOSCIENCE AND GEOSPATIAL EDUCATION

Indira Gandhi National Open University is the second University after Dr. B.R.A. University, Hyderabad in India to offer geoscience programme in India in ODL mode. School of Sciences at IGNOU is offering doctoral programme in Geology since 2012. In addition to this, B.Sc. (Gen.) with Geology programme is on offer from July 2019 session. The courses in geology have been designed and developed as per Choice based Credit Scheme (CBCS) pattern of UGC. Before planning for developing such programmes, an extensive survey was carried out by preparing a questionnaire and sending the same to different institutes/universities as well as several government and private organisations operating in geology and related fields and employing students from geology background. It has been noted that ODL education is now being imparted by adopting different modes such as e-Learning and m-learning with interactive lecture/education materials and use of internet medium to conduct hands-on exercises along with test and exam online. Although there are challenges to offering science programme, the challenges are greater in ODL education. Through our experience of offering geosciences and geospatial education in ODL mode we identified several challenges such as (i) greater challenge in ODL mode in terms of offering practical exposure to learners, (ii) combination of contact classes for theory & practical required, (iii) motivation of the learners, (iv) the use of ICT for e-content development, content distribution, counselling, etc. The challenges are further complicated due to factors such as (i) high cost of hardware, software & teaching material, (ii) less number of study centers, (iii) dearth of counsellors, (iv) frequent updation of free software being used. Despite these challenges, ODL system has advantage that several number of experts/educators can be involved in development of SLMs. There are many choices available to

learners with respect to location of institute, cost of programme and level and mode of programme, etc. making it beneficial for learners of varied social backgrounds.

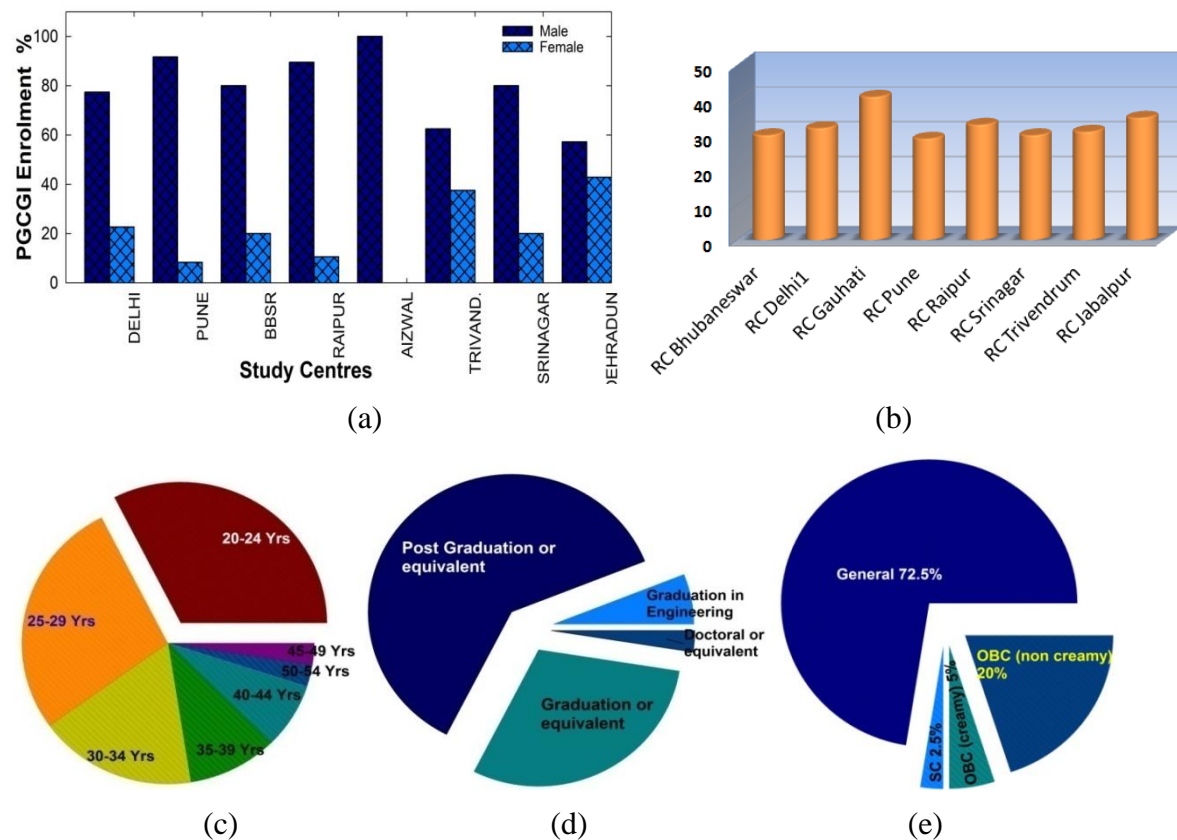


Fig. 4. Profile of learners enrolled in IGNOU's geoinformatics programme in different regional centers (RCs) across India. (a) male female ratio, (b) average age of learners (in years), (c) age groups of female learners (d) qualification of female learners, and (e) social background of the female learners.

5. CONCLUSION

The present study has important educational implications for the better future of ODL. It can be concluded as follows:

- IGNOU offers geoscience and geospatial educational programmes in ODL mode in a flexible mode. Through these flexibility the programmes are reaching the unreached for the benefits of learners from various backgrounds.
- The newer educational approaches for geospatial education are fulfilling the demands of changing education. However, conduct of practicals is a major challenge in ODL mode. It is recommended that adopting judicious mix of contact classes and use of ICT for theory and practical counselling are recommended.
- The Open and Distance Learning System should come forward to serve the country with geoscience and geospatial education.
- There is a need for developing certificate and diploma level programmes in certain priority areas namely, Hydrogeology/Water resources; Fuel Geology, Mineral Exploration & Mining Geology; Environmental Geology; Remote Sensing & GIS; Engineering

Geology/Geotechnical Studies; Gemology & Economic Geology; and Natural Hazards & Disaster Management with an aim to reach the unreached for societal benefits.

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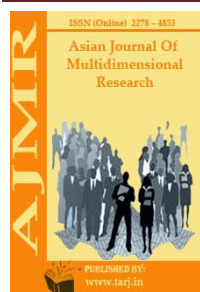
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NUTRIENT INTAKE AND PERCEIVED PSYCHOSOCIAL STRESS OF GESTATIONAL DIABETES MELLITUS MOTHERS

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ABSTRACT

*Gestational diabetes mellitus (GDM) is also defined as carbohydrate intolerance of varying severity, detected for the first time in pregnancy. About 80% of the women with gestational diabetes can be treated with Medical Nutrition Therapy (MNT) and only 20% need additional therapy. Stress will be a major factor in changes in food intake. Many researchers have been done in regards to correlation between food intake and stress factors in GDM mothers, which gave mixed results. The lack of research in the correlation between stress, nutrient intake and weight gain motivated the present study. **Aim:** To understand the effect of stress on nutrient intake and weight gain. **Methods:** Correlation study recruited 120 GDM subjects. PSS10 scale was administered to assess stress level during 1st visit (24-28 weeks) and was categorized into three groups based on their scores. Weight gain, 24 hour dietary recall was used to assess the nutrient intake during 1st (24-28 weeks) and 2nd visit (32-36 weeks). **Results:** Energy and protein intake were positively correlated with stress scores and statistically significant. Weight gain was negatively correlated with stress scores and not significant. As the stress score increased, nutrient intake also increased. **Conclusion:** Though an increase in stress scores and nutrient intake was observed, its influence was not seen in maternal weight gain during pregnancy in GDM mothers.*

KEYWORDS: Gestational Diabetes Mellitus, Perceived Stress Scale, Dietary Intake

INTRODUCTION

Gestational diabetes mellitus (GDM), defined as glucose intolerance with onset or first recognition during pregnancy, is related to a substantially increased subsequent risk of metabolic syndrome, Type 2 DM and pregnant complication [1]. About 50–70% of women with GDM will achieve their targets by combination of optimal diet and appropriate exercise. The prevalence of gestational diabetes range from 9.5% in Western India and 17.9% in Tamil Nadu. It is estimated that about 4 million women are affected by GDM in India [2]. Stress is the body's reaction to any change that requires an adjustment or response. The body reacts to some changes with physical, mental, and emotional responses. Stress that continues without relief can lead to a condition called distress – a negative stress reaction. Distress is due to emotional problems like depression, panic attacks, or other forms of anxiety [3]. Psychosocial stress during pregnancy, defined as “the imbalance that a pregnant woman feels when she cannot cope with demands which is expressed both behaviorally and physiologically”. Antenatal psychosocial stress during pregnancy is common which when becomes higher will lead to multiple maternal factors that may contribute to poor pregnancy outcomes [4]. Higher stress level will be a confounding factor in the changes in food intake [5].

The purpose of the study is to examine how stress affects the nutrient intake of GDM subjects during 24–28 weeks and modify it accordingly to achieve positive outcome. The main objective of the study is to correlate stress effects on weight gain and nutrient intake of GDM mothers.

MATERIALS AND METHODOLOGY:

Correlation study was adopted with simple random sampling technique to recruit 120 GDM subjects who visited the Tertiary Care Hospital. GDM mothers at 24–28 weeks (first visit) of gestation were recruited for the study. The recommendations by ADA for screening women at risk of diabetes is during first and subsequent trimester at 24–28 weeks and the confirmation is done during 24–28 weeks [6]. Written consent was obtained from the study participants and the details and the purpose of the study was explained. The proforma was used to collect the demographic data such as name, age, socio-economic status, literacy level. Details of anthropometric parameters such as height, current weight, pre-pregnancy weight and body mass index of the mother were documented. Obstetric history and type of diet was also noted. PSS 10 scale was used during the first visit to assess stress levels and categorize them into three groups. At first visit nutrient intake was assessed using 24-hour dietary recall method for the calorie, protein intake and percentage of energy and protein intake met was calculated based on their requirements and weight gain was also calculated. The subjects were called for second visit after two months (32–36 weeks) for calculation of energy and protein intake and weight gain. The percentage of energy, protein intake and weight gain were compared between the three groups using one way ANOVA analysis. Correlation between the PSS score and nutrient intake, weight gain was performed using Pearsons correlation.

RESULTS AND DISCUSSION:

Stress is referred as an event or situation that causes change in a person's daily life and that generally is perceived as threatening to him/her, either physically or psychologically.

Psychosocial stress during pregnancy is common, and high stress is associated with multiple maternal factors. PSS 10 scale was administered to the subjects to assess their stress levels. A total number of 120 gestational diabetes mellitus mothers were into categorized three groups based on the score obtained by administering PSS 10 as group I (n= 40) low stress score between

0-13, group II (n=40) moderate stress score between 14-26 and group III (n=40) high perceived stress score between 27-40.

DESCRIPTIVE ANALYSIS:

Descriptive analysis includes the distribution of subjects based on stress scores, gestational age, obstetric history, socio-economic status, literacy level and type of diet.

TABLE 1: COMPARISON OF DESCRIPTIVE CHARACTERISTICS BETWEEN THE THREE GROUPS

Descriptive characteristics		Low (n=40)	Moderate (n=40)	High perceived (n=40)
		Frequency (%)	Frequency (%)	Frequency (%)
Gestational Age	24 weeks (n=46)	16(40)	18(45)	12(30)
	25 weeks (n=23)	7(17.5)	3(7.5)	13(32.5)
	26 weeks (n=31)	8(20)	13(32.5)	10(25)
	27 weeks (n=7)	2(5)	2(5)	3(7.5)
	28 weeks (n=13)	7(17.5)	4(10)	2(5)
Obstetric History	Good	26(65)	29(72.5)	24(60)
	Bad	14(35)	9(22.5)	16(40)
	Primi	-	2(5)	-
Socio-economic Status	Upper class	12(30)	16(40)	16(40)
	Upper middle class	28(70)	24(60)	24(60)
Literacy level	No formal education	-	-	-
	Literate	40(100)	40(100)	40(100)
Type of diet	Vegetarian diet	11(27.5)	-	10(25)
	Mixed diet	29(72.5)	40(100)	30(75)

The subjects were recruited during 24-28 weeks of gestation since the screening and diagnosis of GDM is confirmed at that age of gestation. From the table it was found that majority of the subjects belong to moderate stress at 24 and 26 weeks of gestation, majority of the subjects belongs to high perceived stress at 25 and 27 weeks of gestation, majority of subjects belong to low stress at 28 weeks.

Obstetric history is documented during the time of recruitment to see whether obstetric history has an influence over stress. Out of 120 recruited subjects, two belonged to primi gravida. Therefore 118 subjects were observed on the basis of previous gravidum. It was found that majority of the subjects with good obstetric history had moderate stress whereas majority of the subjects with the bad obstetric history (abortion) had high perceived stress. Obstetric history may

influence psychosocial stress. Socio-economic status is interpreted using Prasad's classification to find the influence on stress. It was found that majority of the subjects in low, moderate and high perceived stress groups belong to upper middle class. Amongst pregnant women socioeconomic status has been recognized as a predictor of stress. During pregnancy, family income and spouse occupation are the most important fact that influences stress [7]. Literacy level was noted at the time of recruitment to know their educational status and to estimate their level of understanding. It was found that all the subjects are literate. Certain studies have revealed that there is a reversed correlation between perceived stress and their education level. Among the pregnant women rich and low educated women face high perceived stress than the poor and well educated women [7]. Type of diet followed by the subjects were documented at the time of recruitment to understand the dietary pattern. It was found that majority of the subjects in low, moderate and high perceived stress groups had mixed type of diet.

TABLE 2: COMPARISON OF PERCENTAGE OF NUTRIENT INTAKE BETWEEN THREE GROUPS

Parameters		Low	Moderate	High perceived	F	P
		Mean \pm SD	Mean \pm SD	Mean \pm SD		
% of Energy Intake	1 st visit	83.39 \pm 5.52	78.54 \pm 4.50	88.69 \pm 2.80	52.34	0.00*
	2 nd visit	89.67 \pm 2.19	82.76 \pm 3.49	91.07 \pm 1.18	128.92	0.00*
% of Protein Intake	1 st visit	77.60 \pm 5.36	73.24 \pm 4.50	83.94 \pm 2.90	60.28	0.00*
	2 nd visit	83.62 \pm 3.33	78.30 \pm 3.52	87.35 \pm 1.52	95.99	0.00*

1st visit:24-28weeks,2nd visit:32-36weeks);*- p<0.01

Stress is a common complication during pregnancy and it is one of the factor affecting the nutrient intake. Certain studies quote that higher stress will be a major cause for higher intake of food. Table 2 compares the nutrient intake between the three groups. It could be inferred that the percentage of energy and protein intake during both the visits were higher in high perceived stress group when compared to other two groups. The mean difference between the three groups with respect to percentage of energy and protein met during both the visits was statistically significant at p<0.05. Certain studies reported that among women, high stress will affect their dietary intake which may lead to binge-eating and intake of palatable non- nutritious foods [8].

TABLE 3: COMPARISON OF WEIGHT GAIN BETWEEN THREE GROUPS

Parameters		Low	Moderate	High perceived	F	P
		Mean \pm SD	Mean \pm SD	Mean \pm SD		
Weight Gain (kg)	1 st visit	6.85 \pm 5.52	6.66 \pm 1.52	6.45 \pm 1.20	0.83	0.43ns
	2 nd visit	5.52 \pm 1.08	5.60 \pm 1.02	5.60 \pm 0.76	0.08	0.91ns

1st visit:24-28weeks,2nd visit:32-36weeks; ns- non significant

Stress has been suggested as one environmental factor that may contribute to weight gain. Some studies convey that higher stress will be a factor for higher nutrient intake which in- turn cause increased weight gain. The above table compares the weight gain during both the visits between the three groups. The mean weight gain between the three groups during both the visits is almost similar and statistically non significant. A study examined that high stress during pregnancy, as measured by the PSS, tended to have low gestational weight gain. Conversely, two other studies,

in which the PSS and the Subjective Stress Scale were used, found that there is no association between low gestational weight gain and stress [9].

TABLE 4: CORRELATION BETWEEN THE STRESS EFFECTS ON WEIGHT GAIN AND NUTRIENT INTAKE OF GDM MOTHERS

Parameters	Weight Gain 1 st visit	Weight Gain 2 nd _{visi} t	% Energy 1 st visit	% Energy 2 nd _{visi} t	% Protein 1 st visit	% Protein 2 nd _{visit}	PSS Score
Weight Gain 1 st visit	1						
Weight Gain 2 nd _{visit}	-0.093	1					
% Energy 1 st visit	-0.023	-0.098	1				
% Energy 2 nd _{visit}	-0.012	-0.071	0.812**	1			
% Protein 1 st visit	-0.013	-0.063	0.973**	0.789**	1		
% Protein 2 nd _{visit}	-0.039	-0.062	0.882**	0.924**	0.868**	1	
PSS Score	-0.121	0.023	0.282**	0.032	0.341**	0.239**	1

1st visit:24-28weeks,2nd visit:32-36weeks; **-99% significant;

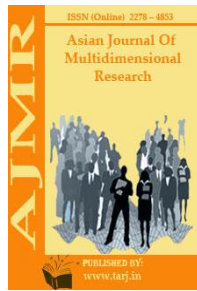
From table 4 it was found that the percentage of protein intake during both the visits were weakly positively correlated with PSS score and found to be significant at $p < 0.01$. Percentage of energy intake during first visit were weakly positively correlated with PSS score and found to be significant at $p < 0.01$. Weight gain during first visit was weakly and negatively correlated with PSS score. Weight gain during second visit is weakly positively correlated with PSS score. Though there was a weak correlation it was understood that as the stress score increases, nutrient intake also increases and was statistically significant but the correlation with weight gain was not significant. The main factor in Gestational weight gain is psychological stress. Many studies quote that there is correlation between higher stress scores and lower gestational weight gain, which is independent of their nutrient intake. Few studies conclude that food intake is not affected directly by stress but it may be affected by the utilization of calories and nutrients from the foods consumed during pregnancy [10].

CONCLUSION:

As the stress score increases, nutrient intake also increases and does not influence weight gain during pregnancy. Stress in GDM subjects affects their nutrient intake but it was found to be independent to weight gain during second and third trimesters in the current study. Nutrient intake was less than hundred percentage in all the subjects which would perhaps be due to psychosocial stress during pregnancy. Proper counselling regarding stress management and adequate nutrient intake will go hand in hand to achieve proper outcome of pregnancy in GDM mothers.SSSS

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A COMPARATIVE STUDY OF PROFITABILITY OF PUBLIC, PRIVATE AND FOREIGN BANKS IN INDIA USING CAMEL APPROACH

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ABSTRACT

The aim of the present study is to examine the impact of bank specific variables on profitability of Indian commercial banks over the time period from 2005 to 2017. The bank profitability is measured by return on assets (ROA) and return on equity (ROE) as a function of bank specific selected variables. Multiple regression analysis has been used and the results show that operating profits, capital adequacy and profit per employee have a positive and significant effect on banks' profitability. However, ratio of NPAs to total assets and net interest margin has a negative and significant impact on banks' profitability.

KEYWORDS: *Bank Profitability, Commercial Banks, Multiple regression analysis, CAMEL Approach, Return on Assets (ROA) and Return on Equity (ROE)*

INTRODUCTION

Banks play a vital role in the economic development of a country. They amass the inactive savings of the community and make them available for investment. Banking existed in its crude form in India as early as Vedic era (i.e. 2000 to 1400 BC). Till the end of 1948, the Reserve Bank of India as well as the commercial banks in India were in private sector. From the point of view of social justice, 14 major Indian banks were nationalized in 1969 and 6 banks were nationalized in 1980. After nationalization, branch expansion took place at very fast rate in rural and semi-urban areas. The fast expansion however created various problems with regard to efficient management and rising cost of operations. Further, the customer service was poor, their work technology was outdated and they were unable to meet the challenges of a competitive environment. These developments necessitated a reform agenda for the banking sector.

The first phase of reforms were introduced subsequent to the release of the Report of the Committee on Financial System under the chairmanship of Mr. Narasimham in 1992 which focused mainly on making banking system more productive and profitable. The second phase of reforms focused mainly on strengthening the Indian Financial System and makes it internationally competitive. These reforms have resulted in considerable improvements which are reflected in several parameters relating to capital adequacy, asset quality, profitability and operational efficiency of the Indian banking sector. Given the historical journey of Indian banking sector, the current study is undertaken to analyse the bank specific variables influencing the profitability of public, private and foreign sector commercial banks.

For evaluating bank profitability, financial ratios are used most frequently. The value of a specific financial ratio has limited explanatory power on its own. For qualified analysis, it is necessary to work with a time series of ratios and monitor the trends of their development over past periods of time (Tokarcikova et al., 2014). However, a time series analysis conducted in this way contains only quantitative aspects of bank performance. For objective qualitative evaluation of bank profitability, it is useful to compare these values with the values of other banks' ratios. (Libena Cernohorska, Viktor Prokop, 2015).

REVIEW OF LITERATURE

Venkatachalam (1979) give the reasons for erosion in bank profits and profitability in recent years. This study is purely based on published figures. They argued that there is a trade-off between social obligations to be performed by the banks and increasing profits.

Karkal (1982) viewed the concept of profit and profitability and techniques used in profit planning. He has suggested some measures to improve the profitability in banks through increasing the margin between lending (advances) and borrowing (deposits) rates, improving the efficiency of staff, and implementation of a uniform maximum service charge.

Nayan, K. (1982) conducted study on the performance evaluation of commercial banks and presented a performance evaluation model on the basis of important quantifiable parameters of performance. The main conclusion was that an integrated performance index needs to be developed for evaluating the performance of commercial banks.

Verghese (1983) explores the profits and profitability of Indian commercial banks in the Seventies. It is a comprehensive study on bank's profitability. It provides a useful analysis of the income statements of commercial banks during 1970-1979.

Singh (1990) has studied the productivity in the Indian Banking Industry. He has studied Intra-bank, Inter-Bank groups productivity of public sector banks and SBI group. He has analyzed branch productivity, per employee productivity, and financial parameters at constant prices. But his study does not consider nationalized banks and causes of varying productivity in banks.

Sayuri, Shirai (2002), examine the impact of reforms by in the performance of banking sector. He found that the performance of public sector bank improved in the second half of the 1990's. Profitability (measured by return on assets) of nationalized banks turned positive in 1997-2000 and that of SBI banks have steadily improved their cost efficiency over the reform period.

Libena Cernohorska, Viktor Prokop (2015) 'Profitability Analysis of Selected Czech Banks and Their Foreign Owners' tried to establish determinants of profitability for selected European banks from the years 2001–2013 . Two ratios were used for assessing bank profitability - return

on assets and return on equity and ten indicators were selected for the banks' profitability analysis.

The research gap suggests that bank group wise study to analyse the profitability of banks needs to be conducted. The present study is a bank group wise study to investigate the impact of specific selected variables on the profitability position of Indian commercial banks.

OBJECTIVE OF THE STUDY

To establish determinants of profitability for selected Indian commercial banks and subsequently compose a model of the selected banks' profitability ratios.

Unit of the study

The work is confined to Indian Scheduled Commercial Banks which consist of Nationalized banks, SBI and its associates, Private Banks (old and new) and Foreign Banks.

Period of study

The present study will cover the period from 2005-2017.

Collection of Data

The study is based on secondary data. The data relating to financial performance of the banks has been collected from various publications of Reserve Bank of India. 'Basic Statistical Returns of Scheduled Commercial Banks in India' and 'Statistical tables relating to banks in India' have been used to collect the data.

Data Analysis

Regression analysis has been used for analysis of data. Regression analysis is a statistical method whose goal is to determine a statistical relationship between one or a number of independent variables X and one dependent variable Y . The principle for conducting regression analysis is to establish the most relevant form for the regressive model and to establish specific values for the parameters β . The model's statistical significance is also checked to ensure whether the model is essentially successful at specifying the estimate of the dependent variable. The regressive model's resulting function is written as

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \epsilon_i$$

where Y is the dependent variable, $\beta_0, \beta_1, \dots, \beta_n$ are regression coefficients (also partial regression coefficients), X_1, X_2, \dots, X_n are the values of the independent variable and ϵ_i is the error term. The regression function's coefficients are established by the least squares method.

Variables used in the study

The performance of a bank can be measured by a number of indicators. Among these, profitability is the most important and reliable indicator. Return on assets and return on equity are among the most frequently used and most important ratios for measuring and evaluating bank profitability. In the present study, Bank performance is measured by the return on assets and return on equity which are expressed as a function of internal determinants. An analysis is carried out to identify the extent of influence of the factors on the profitability of the scheduled commercial banks. Two models have been developed. In Model 1, the ratio of Return on Assets is taken as dependent variable (Y) and the 7 variables, are considered as independent

variable(X). In Model 2, Return on Equity is taken as dependent variable (Y) and the 7 variables, are considered as independent variable(X). The determinants of profitability include bank-specific variables from CAMEL approach. The following ratios have been used for study.

Capital adequacy- Capital adequacy ratio (Total capital/Risk weighted assets)

Asset quality- Net NPAs/Total NPAs

Management efficiency- Operating profits/Total assets, profit per employee

Earning quality -Net interest margin, Ratio of non-interest income to total assets

Liquidity- Credit/ deposit ratio

RESULTS AND DISCUSSION

The results for the multiple regression analysis for the SBI and associates, Nationalized Banks, private sector banks and foreign banks for the period from 2005 to 2017 are given in Table 1, 2, 3 and Table 4 respectively. F statistics with p-value has been used to measure the overall significance of regression model.

TABLE 1 MULTIPLE REGRESSION ANALYSIS OF THE SELECTED VARIABLE WITH THE RATIO OF RETURN ON ASSETS AND RETURN ON EQUITY FOR SBI AND ASSOCIATE BANKS

Ratio of	MODEL 1			MODEL 2		
	Multiple Regression Co-efficient	t-value	p-value	Multiple Regression Co-efficient	t value	p-value
Multiple Regression Analysis of the Selected Variables with the ratio of Return on Assets				Multiple Regression Analysis of the Selected Variables with the ratio of Return on Equity		
Constant	.185	.374	.710	-1.11	.305	.761
Credit - Deposit Ratio	-.102	-2.026	.046	.053	1.063	.291
Net interest margin	.150	2.320	.023	-.073	-1.115	.268
Ratio of non-interest income to total assets	.051	1.096	.276	.157	3.478	.001
Ratio of operating profits to total assets	-.115	-1.428	.157	.159	1.937	.056
Profit per employee	.559	5.702	.000	.370	4.331	.000
Capital adequacy ratio	.091	2.384	.019	.008	.186	.853
Ratio of net NPA to net advances	-.446	-5.792	.000	-.542	-7.665	.000

R-squared	.909	.922
Adjusted R-squared	.901	.916
Standard error	.225	4.01
F-value	114.287**	137.672**

The following equation has been fitted to estimate the ratio of return on total assets for SBI and associate banks.

Model 1

$$Y = .185 - .102 X_1 + .150 X_2 + .051 X_3 - .115 X_4 + .559 X_5 + .091 X_6 - .446 X_7$$

Model 1 reveals that the multiple regression co-efficient of two variables with the ratio of return on total assets are significant. The calculated t values are significant for the variables :profit per employee and ratio of net NPA to net advances when the other variables are kept constant.

The following equation has been fitted to estimate the ratio of return on equity for SBI and associate banks.

Model 2

$$Y = -1.11 + .053 X_1 - .073 X_2 + .157 X_3 + .159 X_4 + .370 X_5 + .008 X_6 - .542 X_7$$

Model 2 reveals that the multiple regression co-efficient of three variables with the ratio of return on equity are significant. The calculated t values are significant for variables: ratio of non-interest income to total assets ,profit per employee and ratio of net NPA to net advances when the other variables are kept constant.

R-squared value for the regression model 1 and 2 is 0.91 and .92 respectively which indicates that explanatory variables included in this study collectively explain 91% and 92% of the variations in financial performance measure of return on assets and return on equity respectively. The remaining variation is explained by other explanatory variables which are not included in this study.

TABLE 2 MULTIPLE REGRESSION ANALYSIS OF THE SELECTED VARIABLE WITH THE RATIO OF RETURN ON ASSETS AND RETURN ON EQUITY FOR NATIONALIZED BANKS

Ratio of	MODEL 1			MODEL 2		
	Multiple Regression Co-efficient	t-value	p-value	Multiple Regression Co-efficient	t value	p-value
Constant	-.054	-.408	.684	6.143	2.457	.015
Credit - Deposit Ratio	.033	1.113	.267	-.034	-1.049	.295

Net interest margin	.076	1.487	.138	.099	1.812	.071
Ratio of non-interest income to total assets	.068	2.041	.042	.086	2.388	.018
Ratio of operating profits to total assets	.268	5.113	.000	.144	2.543	.012
Profit per employee	.211	6.174	.000	.199	5.423	.000
Capital adequacy ratio	.017	.478	.633	-.121	-3.180	.002
Ratio of net NPA to net advances	-.568	-16.416	.000	-.633	-16.967	.000
R-squared	.837			.811		
Adjusted R-squared	.833			.805		
Standard error	.236			4.5		
F-value	187.156**			155.855**		

The following equation has been fitted to estimate the ratio of return on total assets for nationalized banks.

Model 1

$$Y = -.054 + .033X_1 + .076X_2 + .068X_3 + .268X_4 + .211X_5 + .017X_6 - .568X_7$$

Model 1 reveals that the multiple regression co-efficient of three variables with the ratio of return on total assets are significant. The calculated t values are significant for the variable: ratio of operating profits to total assets, profit per employee and ratio of net NPA to net advances when the other variables are kept constant.

The following equation has been fitted to estimate the ratio of return equity for nationalized banks.

Model 2

$$Y = 6.143 - .034X_1 + .099X_2 + .086X_3 + .144X_4 + .199X_5 - .121X_6 - .633X_7$$

Model 2 reveals that the multiple regression co-efficient of three variables with the ratio of return on total assets are significant. The calculated t values are significant for the variables: profit per employee, capital adequacy ratio and ratio of net NPA to net advances when the other variables are kept constant.

R-squared value for the regression model 1 and 2 is 0.83 and .81 respectively which indicates that explanatory variables included in this study collectively explain 83% and 81% of the variations in financial performance measure of return on assets and return on equity respectively. The remaining variation is explained by other explanatory variables which are not included in this study.

TABLE 3 MULTIPLE REGRESSION ANALYSIS OF THE SELECTED VARIABLE WITH THE RATIO OF RETURN ON ASSETS AND RETURN ON EQUITY FOR PRIVATE SECTOR BANKS

	MODEL 1			MODEL 2		
Ratio of	Multiple Regression Analysis of the Selected Variables with the ratio of Return on Assets			Multiple Regression Analysis of the Selected Variables with the ratio of Return on Equity		
	Multiple Regression Co-efficient	t-value	p-value	Multiple Regression Co-efficient	t value	p-value
Constant	.134	.399	.690	11.816	2.276	.024
Credit - Deposit Ratio	.059	1.434	.153	.033	.772	.441
Net interest margin	-.146	-2.589	.010	-.224	-3.974	.000
Ratio of non-interest income to total assets	-.066	-1.417	.158	-.084	-1.747	.082
Ratio of operating profits to total assets	.559	7.931	.000	.574	7.756	.000
Profit per employee	.072	1.504	.134	.012	.000	.814
Capital adequacy ratio	.059	1.374	.170	.010	.227	.821
Ratio of net NPA to net advances	-.352	-7.602	.000	-.435	-8.956	.000
R-squared	.581			.539		
Adjusted R-squared	.571			.528		
Standard error	1.01			15.68		
F-value	56.292**			47.442**		

The following equation has been fitted to estimate the ratio of return on total assets for Private banks.

Model 1

$$Y = 0.134 + 0.059 X_1 - 0.146 X_2 - 0.066 X_3 + 0.559 X_4 + 0.072 X_5 + 0.059 X_6 - 0.352 X_7$$

Model 1 reveals that the multiple regression co-efficient of two variables with the ratio of return on total assets are significant. The calculated t values are significant for the variables: ratio of operating profits to total assets and ratio of net NPA to net advances when the other variables are kept constant.

The following equation has been fitted to estimate the ratio of return on equity for Private banks

Model 2

$$Y = 11.816 + .033 X_1 - .224 X_2 - .084 X_3 + .574 X_4 + .012 X_5 + .010 X_6 - .435 X_7$$

Model 2 reveals that the multiple regression co-efficient of three variables with the ratio of return on total assets are significant. The calculated t values are significant for the variables: ratio of operating profits to total assets, net interest margin and ratio of net NPA to net advances when the other variables are kept constant.

R-squared value for the regression model 1 and 2 is 0.58 and .54 respectively which indicates that explanatory variables included in this study collectively explain 58% and 54% of the variations in financial performance measure of return on assets and return on equity respectively. The remaining variation is explained by other explanatory variables which are not included in this study.

TABLE 4 MULTIPLE REGRESSION ANALYSIS OF THE SELECTED VARIABLE WITH THE RATIO OF RETURN ON ASSETS AND RETURN ON EQUITY FOR FOREIGN BANKS

Ratio of	MODEL 1			MODEL 2		
	Multiple Regression Analysis of the Selected Variables with the ratio of Return on Assets			Multiple Regression Analysis of the Selected Variables with the ratio of Return on Equity		
	Multiple Regression Co-efficient	t value	p-value	Multiple Regression Co-efficient	t value	p-value
Constant	-.483	-2.841	.005	2.677	3.162	.002
Credit - Deposit Ratio	.024	.990	.323	-.010	-.257	.797
Net interest margin	-.122	-4.466	.000	-.073	-1.802	.072
Ratio of non-interest income to total assets	-.140	-5.165	.000	-.133	-3.287	.001
Ratio of operating profits to total assets	.882	29.643	.000	.583	13.078	.000
Profit per employee	.109	4.263	.000	.119	3.115	.002
Capital adequacy ratio	.051	2.016	.044	-.101	-2.670	.008
Ratio of net NPA to net advances	-.068	-2.839	.005	-.126	-3.519	.000
R-squared	.737			.408		
Adjusted R-squared	.733			.400		
Standard error	1.32			6.64		
F-value	187.741**			46.366**		

The following equation has been fitted to estimate the ratio of return on total assets for foreign banks.

Model 1

$$Y = -.483 + .024 X_1 - .122 X_2 - .140 X_3 + .882 X_4 + .109 X_5 + .051 X_6 - .068 X_7$$

Model 1 reveals that the multiple regression co-efficient of three variables :ratio of non-interest income to total assets ratio of operating profits to total assets and profit per employee with the ratio of return on total assets are significant when the other variables are kept constant.

The following equation has been fitted to estimate the ratio of return on equity for foreign banks.

Model 2

$$Y = 2.677 - .010 X_1 - .073 X_2 - .133 X_3 + .583 X_4 + .119 X_5 - .101 X_6 - .126 X_7$$

Model 2 reveals that the multiple regression co-efficient of four variables with the ratio of return on total assets are significant. The calculated t values are significant for the variables: ratio of non-interest income to total assets, ratio of operating profits to total assets, profit per employee and ratio of net NPA to net advances when the other variables are kept constant.

R-squared value for the regression model 1 and 2 is 0.74 and .41 respectively which indicates that explanatory variables included in this study collectively explain 74 % and 41 % of the variations in financial performance measure of return on assets and return on equity respectively. The remaining variation is explained by other explanatory variables which are not included in this study.

Results of regression analysis between variables and discussion

The results of the regression analysis for different bank groups have been discussed in detail so far. Some of the variables are having positive relationship with profitability ratios and some are having negative relationship.

- Operating profit to total assets ratio has a positive influence on profitability in all bank groups and in both the models except SBI and associate banks (in returns on assets model).
- Net NPAs to net advances ratio has a negative influence on profitability in all bank groups in both the models .An increase in this ratio will adversely affect the profits.
- Profit per employee has a positive influence on profitability in all bank groups in both the models.
- Capital adequacy ratio has positive influence on profitability in all bank groups in both the models except returns on equity model in both Nationalised and Foreign banks.
- Non-interest income to total assets has positive influence on profitability in all bank groups in both the models except private banks (returns on assets model) and foreign banks in both the models which may be due to restrictions imposed on foreign banks for expanding services and competition faced by them.
- Net interest margin ratio has positive influence on profitability in both the models in nationalized banks and SBI and Associate banks (returns on equity model).All the private and foreign banks are exhibiting a negative relation with profitability. Private and Foreign banks need to manage their interest margins to have a positive impact on profitability.

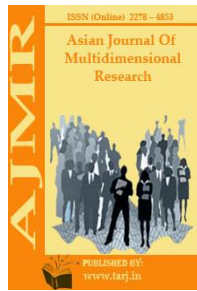
- Credit deposit ratio ratio has positive influence on profitability in returns on assets model in nationalized and Foreign banks , SBI and Associate banks (returns on equity model) and Private sector banks (model 1 and 2).

CONCLUSION

The study reveals that the level of Non Performing Assets has a significant negative influence on the profitability of all the bank groups. It is a critical variable that not only affects the profitability of the banks but also can undermine the very existence of the banking sector. Prudential measures should be taken to avert the accumulation of NPA in the banking sector and this is more so for the Nationalised banks, SBI and Associate banks and even private sector banks as the NPA level is higher in these bank groups as compared to foreign banks. The bank's profitability measured by accounting method (ROA and ROE) is proved to be positively supported by the Non-Interest Income. Therefore, the existence and development of Non-Interest Income in the banking sector has its supportive reason. The difference between banks' interest income and interest expense need to be managed as net interest margin is having negative relation with profitability in private and foreign banks .Banks need to adopt aggressive asset structure which can lead to greater interest revenue. Profitability of the banks can be improved by lowering the NPA ratio,by maintaining an optimum level of credit deposit ratio and a higher capital adequacy ratio. Moreover banks by managing the operating cost and improving the interest revenue can enhance the profitability.

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A STUDY ON THE PROBLEM AND CHALLENGES OF MICRO, SMALL AND MEDIUM ENTERPRISES IN KALUNGA REGION OF SUNDARGARH DISTRICT, ODISHA

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ABSTRACT

Micro, Small, and Medium Enterprises (MSMEs) are the backbone of Indian industrial growth. Their contribution to the total manufacturing output, exports, creation of employment opportunities as well as GDP is widely recognized. However, the growth of MSMEs and their role in creating an equitable employment scenario is hindered by several socio-economic and financial problems. Emphasizing on the problems and potentials of the MSMEs of Kalunga region, this paper advances insights into the micro problems as well as policy measures MSME units of Odisha. Underlying the challenges of MSMEs are the difficulty in the procurement of raw materials, marketing of produced goods, insufficient demand and delayed payments, training and development of entrepreneurs and labourers, utilization of capacity and many more.

The major finding of the paper is that the growth and the employment elasticity of MSMEs has improved tremendously over the past decade. The results of the paper are based on a detailed survey and reports on the Kalunga region of the Sundargarh district.

JEL CODE: O14, L60

KEYWORDS: MSMEs, Employment, Socio-Economic, Financial Problems

INTRODUCTION

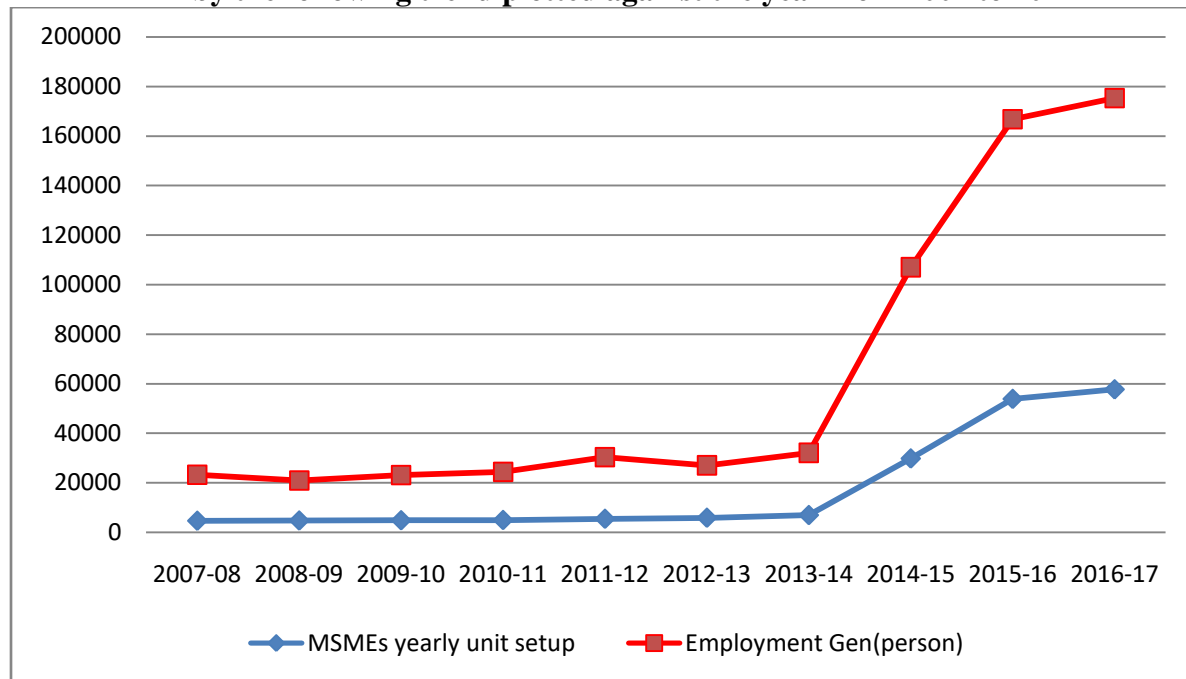
Micro, Small, and Medium Enterprises (MSMEs) over the past five decades has achieved immense feat in India. Its contribution to the country's total exports, manufacturing output and GDP is widely acknowledged. During the period 2015-16, there were 633.88 lakh unincorporated non-agriculture MSMEs engaged in different economic activities, which contributed to about 28.77 percent of the GDP and 31.60 percent of the total GVA of the country (MMSME, 2017-18). The same survey reveals that the MSME sector created a total of 11.10 crore jobs in 2015-16 in the rural and urban areas across the country.

As per the amendment to the Micro, Small and Medium Enterprises Development (MSMED) Act, 2006, there has been a shift in the basis of classifying MSMEs from 'investment in plant & machinery/equipment' to 'annual turnover' (MMSME, 2018). More specifically, Section 7 of the MSMED ACT classified micro, small, and medium enterprises as follows:

- (i) A micro enterprise will be defined as a unit where the annual turnover does not exceed five croorerupees;
- (ii) A small enterprise will be defined as a unit where the annual turnover is more than five crorerupees but does not exceed Rs 75 crore;
- (iii) A medium enterprise will be defined as a unit where the annual turnover is more than seventy-fivecrore rupees but does not exceed Rs 250 crore.

In Odisha, MSMEs are assuming an essential place in furthering financial advancement of the state by tending to three impediments of modern center points, i.e., joblessness, neediness and, uprooting. The MSMEs have delivered phenomenal results in terms of generation of investment and employment in the state. Firstly, an analysis of year wise MSMEs unit set up and the corresponding generation of employment highlights two facts: (a) general improvement in the MSME units and (b) a sharp increase in the employment generation levels (see figure 1). Secondly, the district-wise investment and employment generation scenario of Odisha reveals that Sundargarh with 4844 units has the highest number of MSMEs, which provides employment to a total of 15466 people. Therefore, Sundargarh district is the major industrial hub in the state of Odisha which employs a large number of unskilled and semi-skilled workers. (Odisha Economic Survey, 2017-18).

Figure 1: The year wise MSMEs unit setup and the employment generation can be depicted by the following trend plotted against the year from 2007 to 2017



Source: Odisha Economic Survey 2012-13 & 2017-18 and Author's compilation

OBJECTIVES OF THE STUDY

The chief objectives of this study are as follows:

- To study the socio-economic status of the entrepreneurs and labourers of the sample MSME units.
- To analyze the financial and employment structure of the MSMEs sample units.
- To highlight the problems and the challenges of the MSMEs units.

DATA AND METHODOLOGY

The present study is a hybrid of primary and secondary data. The sample area for this study is Kalunga, which is a preferred industrial area in the district of Sundergarh. This region offers the highest total land area among the major industrial areas making Kalunga an appropriate site for our study. The micro level study has been conducted on 10 small scale units, taking 4 as a sample from each of the selected 10 small scale units. Some of the main data collection techniques used in the study include interviews, questionnaire, surveys, observations. Besides, descriptive statistics such as sum, averages, percentages, and charts such as pie charts, histograms, etc. have been included. As far as secondary data is concerned, most of the data is collected from the Directorate of Industries, Ministry of Micro, Small and Medium Enterprises, Odisha Economic Survey.

LITERATURE REVIEW

Lahiri R. (2011) in his paper titled "Problem and Prospects of MSMEs in India in the era of Globalisation" probed the changing definition of MSMEs along with analysing the performance of MSMEs during the period from pre-liberalization i.e., starting from 1973-74 to post-

liberalization i.e., till 2009-10. He has used Annual Aggregate Growth Rate (AAGR) as the tool to analyze the performance of MSMEs based on four economic parameters i.e., Number of Units established, Production of goods, Employment of labour and Exports. The significant changes that occurred after liberalization is that SSI name was changed to MSMEs. A new act namely MSMED Act, 2006 was introduced which classified MSMEs into manufacturing and service enterprises. The performance in pre-liberalization period is much better than performance in post-liberalization period is concerned other than the growth in employment, which rose in post-liberalization period but by a small extent. The final remarks can be that after globalization the performance of MSMEs was not up to the mark.

Chandraiah M. and Vani R. (2014) studied the definition of MSMEs along with the problems faced by them, their performance in the Indian economy and the government initiative toward them. The result shows an upward trend in all number of units, employment, production, and investment throughout the study. As far as government initiative are concerned, after 1991 in the era of Globalisation the government has removed many protective measures and has introduced various policies to increase competitiveness in the sector. They are facing numerous problems of infrastructure, finance, credit, marketing, availability of raw material, etc. due to which they are falling sick and are compelled to shut down.

Nayak S.S. and Mahapatra B. (2016) investigated the performance of MSMEs in increasing the socio-economic condition of rural poor in Odisha followed by an analysis of a number of units established, production, employment, exports. And also, to provide a valuable suggestion for the same. They have used various statistical tools like ANOVA, percentage, ratio, etc. The result depicts an increasing growth of MSMEs in Odisha during the study period, along with an increase in investment as well as employment. As far as government initiatives are concerned, Govt. of Odisha has given higher priority to this sector and are taking considerable steps for the same. But still, there are many challenges faced by them like limited capital as well as knowledge, lower production, competition from big firms, etc. In order to achieve socio-economic growth in the Odisha state, the major focus should now be on entrepreneurship development.

Dey S.K. (2014) analyzed the performance of MSMEs in Odisha while comparing it with India followed by functioning, challenges as well as prospects of MSMEs in Odisha. For this, 12 years are taken as study period from 2000-2012. The result shows that no. of units, employment as well as investment is increasing in both India as well as Odisha. Shortage of skilled workforce, storage deficiency, etc. are the major challenges faced by the MSMEs.

ANALYSIS OF DATA

The present study has taken 10 sample industrial units and studied their outputs, variables on average quantitative production, cost of production, profit or loss, financial and employment structure, etc. of the sample small-scale industrial units.

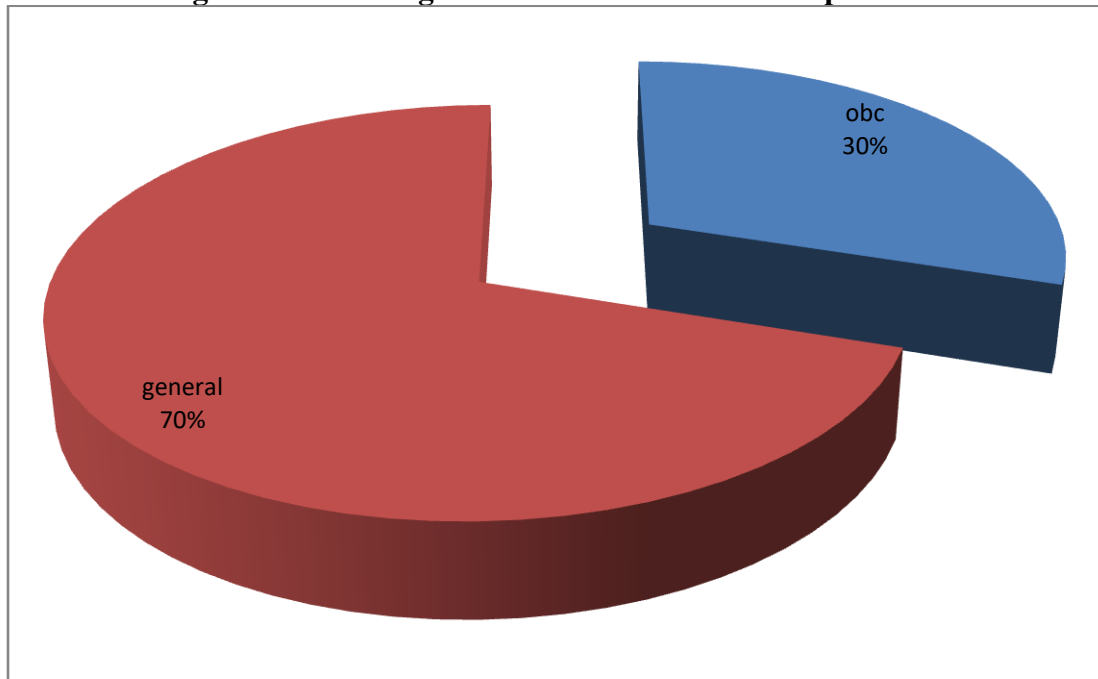
(A) Socio-economic status of entrepreneurs

The minimum and maximum age of 10 entrepreneurs are found to be 45 and 58 years respectively. This implies that all the sampled Small-Scale industries are managed by experienced entrepreneurs. As far as the social category of studied entrepreneurs is concerned, it was found that 30% of the entrepreneurs belongs to the OBC category, whereas 70% are from the General Category. Interestingly, all the entrepreneurs in the sample industrial units are

Male. Out of 10 entrepreneurs only 3 (30%) have joint families and the rest 7 (70%) live in nuclear families. All the entrepreneurs have educational qualification of ITI, Diploma course of respective branches, and graduation which helps them in understanding the technical aspects of their manufacturing unit.

The income level of all the entrepreneurs is above 6 lakhs, which makes them capable of being self-employed and enable them to employ various people under them. Lastly, it is worth noting that all the 10 entrepreneurs in the sample units have their own house, which is pucca in nature.

Figure 2: Percentage of General and OBC Entrepreneurs



Source: Field Survey

Therefore, we can conclude that the entrepreneurs have a decent and sound socio-economic background.

(B) Socio-economic profile of the labourers

To study the socio-economic background of the labourers a total of 4 labourers from each of the sample industrial units have been taken for the analysis. It was found that out of aggregate 40 labourers, the total number of skilled, semi-skilled and unskilled labourers were 11, 13 and 16 respectively. The number of unskilled workers is more in number implying that the sample industrial units welcomes the unskilled workers without any prior experience and gives them the opportunity to learn the skills of the work and earn a living. Secondly, the number of male workers out of 40 labourers was 30 and that of female workers was 10, implying 75% of labourers are male and the rest 25% labourers are the female. The number of Hindu and Christian labourers are 29 and 11 respectively, implying approximately 72% of the engaged labourers are Hindus and the rest 28% are the Christian labourers.

Figure 3: The number of skilled, semi-skilled and unskilled labourers of sample industrial units



Source: Field Survey

Lastly, the wages per month differ according to the skills of labourers, i.e., the skilled, semi-skilled, and unskilled labourers earn Rs. 9280, Rs.8320 and Rs.7280 respectively. The wages per day of the skilled, semi-skilled, and unskilled labourers are approximately Rs.370/day, Rs.320/day and Rs.280/day respectively.

(C) Production levels of the sample MSME units

Most of the units deal with the fabrication or steel and iron-related products except the Srinivasa Industry and Blue Bird, which deals with the carton packaging and the manufacture of the electronics item respectively. The nature of operation of all the 10 units are manufacturing, and the factors which influenced for choice or setup of the unit are mostly common i.e., availability of market, skills, and assistance. Srinivasa Industry (44740 units) has the highest average annual output, followed by Jagganath Engineers (3000 units) and Janapriya Engineers (2000 units). The ascendancy of Srinivasa Industry over other industrial units can be attributed to the production of carton packaging, which is not produced by other industrial units of the area. It is also noteworthy that the industrial units share a cordial relationship among themselves and share orders with its nearby units in order to fend off outside players.

TABLE 1: THE TYPES OF PRODUCTS, ANNUAL AVERAGE OUTPUT, AND FACTORS FOR THE CHOICE OF UNITS

SL No.	Name of the SSI unit	Product	Annual average output (in units of pcs)	Factors for the choice of the unit
1	Udra Electronics	Resistance box, Current collector, Dual desk-cum-bench, fabrication, casting	1270	Availability of market & skills
2	Blue Bird	Inverter, Transformer, Stabilizer	245	Availability of skills
3	Roshan	Solar pump, Control panel	1200	Availability of

	Engineers	equipment		assistance & market
4	Janapriya Engineers	Fabrication	2000	Availability of skills & market
5	Jagganath Engineers	Fabrication	3000	Availability of assistance & market
6	JG Industry	Non-ferrous casting	1110	Availability of market & skills
7	Srinivas Industry	Carton packaging	44740	Availability of market & skills
8	Orianta Furnishers	Interior fittings, Dual desk-cum –bench	1580	Availability of assistance & market
9	Charchika Enterprise	Dual desk-cum-bench, Fabrication	950	Availability of assistance & market
10	Pioneer Fabrications	Fabrication	1590	Availability of assistance & market

Source: Field Survey

(D) Financial and Employment structure of MSMEs

Jagganath Engineers has the highest initial fixed capital as well as institutional source, whereas Srinivasa Industry has the highest own capital (see table 2).Jagganath Engineers has the highest number of employees, followed by Udra Electronics and Blue Bird.The status of various sample units may differ due to its year of establishment because the value of land and other investment, including the value of currency differs with the passage of years.

TABLE 2: FINANCIAL AND EMPLOYMENT STRUCTURE OF THE MSMES

Sl no	Name of the Unit	Initial Fixed Capital	Present employment	Own capital	Institutional source
1	Udra Electronics	5500000	12	500000	400000
2	Blue Bird	6300000	11	100000	4500000
3	Roshan Engineers	3300000	9	1500000	4000000
4	Janapriya Engineers	4000000	8	600000	3000000
5	Jagganath Engineers	7000000	15	2000000	5000000
6	JG Industry	2800000	5	1000000	3300000
7	Srinivas Industry	4500000	10	2500000	4800000
8	Orianta Furnishers	4700000	9	800000	3000000
9	Charchika Enterprise	5000000	7	1000000	3500000
10	Pioneer Fabrications	5200000	10	700000	700000

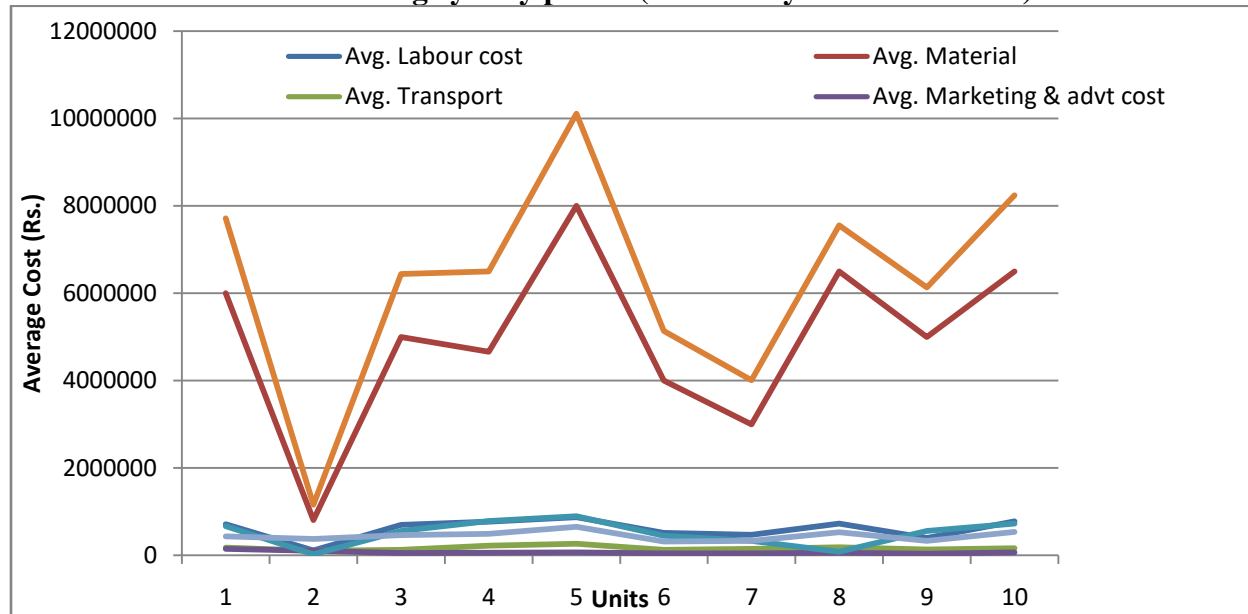
Source: Field Survey

(E) The cost of production and the level of profit of the MSMEs

Among the 10 sample industrial units Jagganath Engineers has the highest amount of average labour cost, average material cost, average transport, average marketing & advertisement cost, average interest and the average profit which is Rs.874000, Rs.8000000, Rs.268000, Rs.72000, Rs.896000, and Rs.654000 respectively.The average labour cost of all the units is 606600 and

that of material, transport, marketing & advertisement, interest, and profit being 4947000, 166500, 72220, 509149.6 and 446200 respectively.

Figure 4: The annual average cost incurred in the production process of the sample units and its average yearly profit. (From the year 2003 to 2018)



Source: Field Survey

The average material cost and the average total cost follows a similar trend. The raw material cost frames the major part of the average total cost and plays the central role in the various cost incurred in the process of production. The average material cost occupies 78%, followed by the average labour cost which is 10%, average interest is 8%, average transport cost is 3%, and average marketing and advertisement cost is 1%.

THE PROBLEMS AND CHALLENGES OF MSMES

Based on the field visit and data analysis, the problems associated with MSMEs can be classified mainly in four categories. These are as follows:

- 1. Procurement of raw materials:** As discussed, the industrial units under study are engaged in the production of a variety of goods. This necessarily entails the procurement of raw materials from a variety of sources. It was found that although the majority of the sample has adequate access to raw materials, two units namely, Blue Bird and Srinivasa Industry faced enormous difficulty procuring raw materials. The inability to make bulk purchases and government restrictions were the two factors contributing to these procurement difficulties.
- 2. Marketing:** All the sample industrial units face the problem of marketing. The units attributed these difficulties to the insufficient demand, delayed payments, and competition from other industries.
- 3. Training and Development:** A major challenge faced by entrepreneurs as well as the labourers is insufficient training and development. As envisaged in many government reports, more skill development programs are necessary to improve the entrepreneurial skills as well as the labour productivity of the industries.

4. Utilization of Capital: Lastly, the non-availability of working capital on time and the lack of updated technology has been a significant hindrance on the path of full capacity utilization of the sample industrial units.

Despite the points as mentioned above, the selected industrial units do not suffer from the issues such as availability of labour or their management, which is usually found in other SSI units.

FINDINGS OF THE STUDY:

Several significant findings come to the fore from the analysis of the data collected from field survey and government reports. Firstly, the employment elasticity of MSME sector has improved in both India and Odisha. A review of reports of Odisha Economic Survey reveals that the level of investment has increased manifold in the past decade from 295.51 crores in 2007-08 to 3034.64 crore in 2016-17. The number of jobs created between the same period has also gone up from 23301 persons in 2007-08 to 175221 persons in 2016-17. Also, it is apparent from our study that the MSMEs not only employ the skilled labourers but also provide employment opportunities to a large number of semi-skilled and unskilled labourers. Secondly, there has been a spurt in the number of MSMEs over the years in Odisha. It has increased from 4710 units in 2007-08 to 154509 units in 2016-17. Thirdly, the lack of adequate finance is the primary cause of sickness in MSME sectors. In Odisha, most of the MSMEs are closed down due to lack of funding. Therefore, more support is needed for MSMEs from the government in the form of priority sector lending, government procurement programme, credit and performance rating, and marketing support. MSMEs need credit support not only to run the enterprise but also for diversification, modernization, capacity expansion, etc. Fourthly, MSMEs investment and employment generation in Odisha is high in repairing and services sector followed by food and allied industries. Fifthly, small scale entrepreneurs and labourers demand more training programmes to improve their technical know-how and skills. Lastly, it was found that Sundergarh district is a major industrial hub in Odisha having the highest number of MSMEs and generating a huge number of employment in the state, making it a preferred site to set up new SSI units.

POLICY RECOMMENDATIONS

Based on the field visit and annual reports of MSMEs, the following policy recommendations can be made to help realize the MSME sector its true potential:

1. The small entrepreneur should undertake only such projects which are technically, operationally, economically, and financially viable.
2. Banks should also provide consultancy services and professional guidance at the time of setting up of the units for considering the long-term and short-term financial requirements of small units.
3. Public sector banks should develop a flexible system and procedures for dealing with the MSMEs customers and thereby act as facilitators for enhancing the growth of these enterprises.
4. The central, as well as the state governments should create awareness about the promotional facilities for the MSMEs through the channels of NGOs.
5. Reorientation programmes, workshops, and seminars should be organized at district levels to provide information regarding the latest development in the technology to small entrepreneurs.

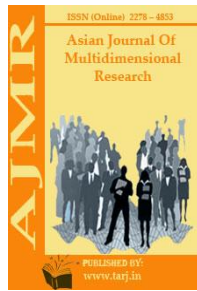
CONCLUSION

MSMEs sectors are facing a lot of problems and not performing according to their actual potentialities. Hence, the MSMEs should be given priority and should be taken care of as they create employment opportunities for the unskilled or semi-skilled labourers and gives them the chance of earning which in turns eliminates poverty and improves the standard of living of the place. In our study, the micro level challenges and difficulties have been assessed and several policy recommendations have been provided, which needs to be taken care of by the government.

The present study is a preliminary effort to comprehend the micro-level problems of MSMEs in the Kalunga region of Sundargarh. The study is not without limitations and proper care should be taken while interpreting the results to understand the overall scenario of the state and that of the nation. Moreover, the size of the sample is not high enough to represent the whole population. Therefore, further studies are required to assess the financial and investment requirements in MSME sector to resolve the problems enveloping the industries.

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**ANALYTICAL STUDY OF CAPITAL BUDGETING TECHNIQUES
(ONLY AUTOMOBILES COMPANIES)**

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ABSTRACT

Finance is the backbone of every business. No organization can run without finance. So, major financial decisions are always taken by the top management authorities. There are various Capital Budgeting techniques used by the experts to analysis the investment decisions. Through these techniques experts can explore the various alternatives of investment and choose the best alternative which will give maximum profits with maximum efficiency.

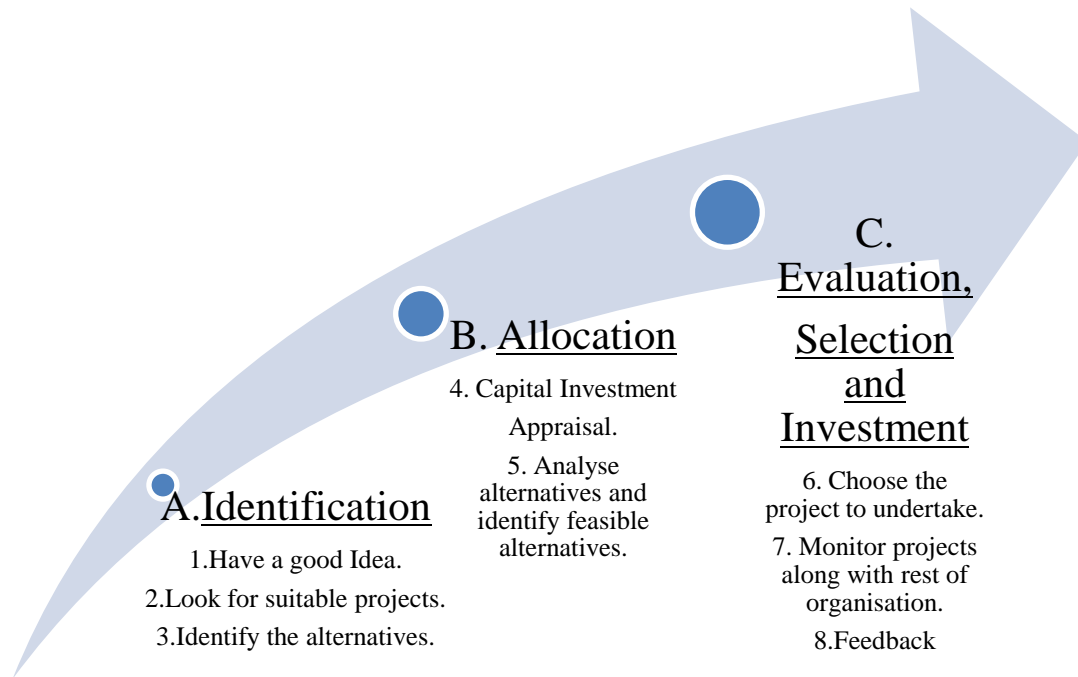
KEYWORDS: NPV, IRR, PBP

INTRODUCTION

Meaning:

Capital Budgeting techniques are used to evaluate the various investment proposals. Capital budgeting is the process in which a business determines and evaluates projected investments that are large in nature. There are various traditional and modern techniques which are used by the experts to evaluate the investment decisions.

Capital Budgeting Decisions through Eight Steps:



There are number of **evaluation techniques** which may be recommended for evaluating the capital investment proposals. These methods can be classified into the following categories:

I. Traditional Techniques:

Traditional techniques are grouped in to the following:

- (1) Pay-back period method.
- (2) Improvement of Traditional Approach to Pay-back Period Method.
 - (a) Post Pay-back profitability Method.
 - (b) Reciprocal Pay-back Period Method.
- (3) Rate of Return Method or Accounting Rate of Return Method.

II. Time Adjusted Technique or Discounted Cash Flow Techniques

Time Adjusted Method further classified into:

- (1) Net Present Value Method.
- (2) Internal Rate of Return Method. (IRR)
- (3) Profitability Index Method.
- (4) Modified Internal Rate of Return (MIRR)
- (5) Hurdle Rate
- (6) Earnings Multiple Approach
- (7) Adjusted Present Value (APV)
- (8) Discounted Payback-Period

INTRODUCTION OF AUTOMOBILIE COMPANIES:

The **automotive industry in India** is one of the largest in the world with an annual production of 23.37 million vehicles in FY 2015-16, following a growth of 8.68 per cent over the last year. The automobile industry accounts for 7.1 per cent of the country's gross domestic product (GDP). The Two Wheelers segment, with 81 per cent market share, is the leader of the Indian Automobile market, owing to a growing middle class and a young population. Moreover, the growing interest of companies in exploring the rural markets further aided the growth of the sector. The overall Passenger Vehicle (PV) segment has 13 per cent market share.

REVIEW OF LITERATURE:

Jog and Srivastava (1991) surveyed the large Canadian corporations and provide direct empirical evidence on the capital budgeting process. They found many critical issues viz., cash flow forecasting methods, methods used to estimate the cost of capital and the cost of equity and the use of capital budgeting techniques risk analysis techniques. He concluded that most of the firms used multiple capital budgeting methods to evaluate capital investments however DCF methods were employed by more than 80% of our respondents to evaluate projects such as foreign operations and leasing, expansion-new operations and expansion-existing operations.

Block Stanley (2000) has surveyed the capital budgeting policies and procedures of 150 multinational companies in light of current financial theory. He had examined that some of the policies that MNCs used for the capital budgeting decisions are the logical extensions of domestic practices into the international area, while others appear to be misguided changes to normal capital budgeting procedures. According to his study, there are a number of misapplications such as applying corporate wide weighted average cost of capital to foreign affiliate cash flows rather than to cash flows actually remitted to the corporations. Also, risk is frequently measured on a local project basis (in a foreign country) rather than considering the multiple effect on the total corporations. Of the 150 survey respondents in this study, 69.7% believe that international investments increase the risk exposure of the firm and establish policies on that premise. Finally, he has shown that the survey respondents hedge against the uncertainty of the procedures by adding an importance to the weighted average cost of capital as computed by financial analysts given the inconsistent procedures that are often utilized in going from domestic to international capital budgeting.

Ryan Patricia A and Ryan Glenn P. (2002) had evaluated the capital budgeting decision methods used by the 800 manufacturing companies. According to him, most of the most of the companies preferred NPV as capital budgeting tool, which represents alignment between corporate theory and practice. Firms with larger capital investment budgets tend to favor NPV and IRR. PBP is used at least half of the time by 73.7% of the respondents. Fourth in popularity was the discounted payback model used at least half of the time by 58.9% of the companies. Finally at least half time usage was reported for the three models as follows. PI ranks fifth at 43.9%, followed by ARR at 32.3% and finally, IRR at 24.7%.

Gupta Sanjeev, Batra Roopali and Sharma Manisha (2007) had made an attempt to find out which capital budgeting techniques is used by manufacturing industries in Punjab, and the influence of factors such as size of capital budget, age and nature of the company, and education, gender and experience of the CEO in capital budgeting decisions. They conducted a primary survey of 40 companies in Punjab. Almost one-third of the companies had capital budget exceeding Rs. 150million. Majority of the sample companies still use non-discounted cash flow

techniques like PBP and ARR. Only a few companies use DCF, and among them very less number use NPV technique to evaluate a new project. The most preferred discount rate is WACC.

Klammer, Thomas P. (2008) took a sample of 348 firms in France from the 2001 listing of manufacturing firms that appeared in significant industry groups and invest at least \$1 million of capital expenditures in each of the five years 2001-2006. He concluded that Present value method was most popular among the various manufacturing companies.

Pettway (2010) surveyed a random sample of 310 business firms. Questionnaire were sent to companies through mail engaged in retailing, manufacturing transportation, land development, entertainment and public utilities to study the capital budgeting process and the methods used to adjust for risk. He concluded that firms considered the Internal Rate of Return technique to be the most important technique for decision-making. He also conclude that the most of firms enhanced their profitability requirements to adjust for risk and uncertainty in the given project and determining the future cash flow projections as the most important and most difficult stage of the capital budgeting process.

Lawrence G. and Forrester (2012) analyzed the responses of 125 manufacturing firms that reported as having the greatest stock price growth over the 2004-2009 periods. The survey containing questions related to techniques used in capital budgeting process, the division of responsibility for capital budgeting decisions, the most important and most various difficulties faced in implementation of capital budgeting techniques, the cutoff rate and the various methods used to evaluate the risk factor. They reported that the DCF techniques were the most popular methods for evaluating projects, especially the IRR. However, many firms still used the PBP method as a backup or secondary approach. The most of the companies that responded to the survey indicated that the Research and Development and Finance Department were responsible for evaluating the capital budgeting projects. They conclude that most of the respondent found difficulty in the project definition and cash flow estimation and they considered these as most critical stage of the capital budgeting process. The most of the firms had a cutoff rate between 11% to 16%, and they most often adjusted for risk by increasing the minimum acceptable rate of return on capital projects.

Brighman (2014) conducted the research study of the capital budgeting projects of 15 large manufacturing firms, he found that although techniques that smaller firms prefer PBP method to evaluate the investment proposal but large manufacturing firms most relied on discounted cash flow techniques. Moreover these manufacturing firms assumed some variable constant when discounted cash flow techniques were used. For example, some firms' simplifying assumptions include the use of the same economic life and same cash inflows for all projects even though the actual lives and actual cash flows might be different. Further, firms often did not make any adjustment regarding analysis for risk. This survey indicated the result that most of firms preferred discounted techniques.

Adeniyi (2016) asserted that in spite of the theoretical limitations of the payback period method, it is the one that is most widely used in practice. He offered the following reasons for its usage: it is easily understood by all levels of management; it provides an insight on how quickly the initial can be recouped; most managers see risk as time-related i.e. the longer the period, the greater the chance of failure; where a firm faces liquidity constraints and requires a fast repayment of investments, the pay-back period is more useful; it is appropriate in situations where risky

investments are made in uncertain markets that are subject to fast design and product changes or where future cash flows are particularly difficult to predict.

Meigs, et al (2017) a business may benefit from good capital budgeting decisions and suffer from poor ones for many years. Many non-financial factors are also considered in making capital budgeting decisions. For example, many companies give high priority to creating new jobs and avoiding layoffs. However, it is also essential that investments in plant assets earn a satisfactory return on the funds available to finance the project and the company will not be able to generate sufficient funds for future investment projects. The capital budgeting techniques are classified into two -non discounted cash flow and discounted cash flow techniques.

Masa, Imegi and Akenbor (2018), investment decisions relate to the corporate decision to invest its resources in the most efficient manner in business activity with the hope that the activity will, in turn, generate a stream of future returns over time. It asks the question; into what uses do we put the available funds of the business such that we become better in the future? It is the responsibility of the financial experts in collaboration with the accountants to analyse and decide on the type of asset to commit a firm's funds in anticipation of future returns.

Statement of the Problem:

Capital budgeting is concerned with allocation of the firm's scarce financial resources among the available favorable circumstances. The return of investment opportunities involves the comparison of the expected future returns from a project with immediate and subsequent return for it. The problems in capital budgeting decisions may be **Future uncertainty, Time Element, Difficulty in Quantification of impact etc.**

Since we all know that automobiles companies requires large investment. So In this research, Researcher would like to study the impact of various capital budgeting techniques on the financial variables of the selected companies. There is very less study done in India regarding the same. So, there is a need to study the various issues involve in Capital Budgeting Practices in India.

Objectives

1. To study the challenges and problems in estimation of operating cash flows.
2. To study the method adopted for Capital Budgeting in selecting companies.

Target Population

In this study the researcher take 40 automobile companies which are registered in stock exchange (as per NSE as on 31st March 2016) and financial statements from 2005-06 to 2016-17 of these companies also taken in order to study the concerned objective of the research.

Data Collection Tools

Both primary and secondary data is collected for addressing the research problem and fulfilling the objectives of the study. The questionnaire was comprised of 23 questions which were mainly close ended. All the questions were dichotomous, multiple choice questions based on Likert scale. The primary data were analyzed by applying tabular and chi-square analysis using SPSS rigorously.

Data Analysis:**TABLE-1. COMPANIES PREFER CAPITAL BUDGETING TECHNIQUES**

Particular	Frequency	%age
Prefer (Yes)	37	92.5
Not prefer (No)	03	7.5

The results of TableNo-1 Shows that out of 40 companies 37 companies (i.e. 92.5%) prefer to use capital budgeting techniques to evaluate their long term investment decisions.

TABLE-2 SIZE OF ANNUAL CAPITAL BUDGET

Average Size of Capital (In Lakhs)	Frequency	%age
Less than or equal to 2000	2	5.405
2001-3000	6	16.22
3001-4000	8	21.62
4001-5000	9	24.32
Above 5000	12	32.43
Total	37	100

All the companies responded to the survey indicated that they are using capital budgeting methods have specific amount of average size of annual capital budget. The results are summarized in the above **Table 2**. The median size of annual capital budget of Indian firms is Rs. 1222.72 Lakhs.

TABLE -3 PROJECT SIZE REQUIRES A FORMAL QUANTITATIVE ANALYSIS

Amount	Frequency	%age
0-50000	1	2.703
50001-100000	6	16.22
100001-500000	6	16.22
500001-1000000	7	18.92
1000001-5000000	9	24.32
Above 5000000	8	21.62
Total	37	100

The researcher also wanted to know the project size that requires a formal quantitative analysis in the Indian firms. As one can observe in **Table -3**, all project size requires a formal quantitative analysis. However, as per the opinion of some respondents, the use of capital budgeting techniques for evaluating capital expenditure projects depends on the nature and size of the particular projects. The median size of the project requiring formal quantitative analysis is Rs. 500000.5

One of the objectives of this study is to determine which of the quantitative evaluation techniques are currently used by firms operating in India. Therefore, the researcher wants to know whether the firms are using theoretically sound investment appraisal techniques. There are mainly two types of techniques used in evaluating projects viz., discounted cash flow/Time-adjusted techniques like NPV, IRR and PI which takes into account the time value of money and

Non-discounted cash flow/Traditional techniques like PBP, ARR. The firms were asked to indicate the relative importance of each of quantitative techniques on a Likert Scale of 1 to 5 (where 1 = not used, 2=unimportant, 3=somewhat important, 4=important and

5=very important). This approach not only reveals which of the techniques are used, it also provides information on the relative importance of each technique in decision-making.

TABLE -4 IMPORTANCE OF QUANTITATIVE TECHNIQUES

Evaluation Technique	1	2	3	4	5
Internal Rate of Return (IRR)	9.8%	19.6%	9.75%	25.8%	35.05%
Payback Period (PBP)	5%	0%	10%	30%	55%
Net Present Value (NPV)	4%	5%	8%	29.5%	53.5%
Accounting Rate of Return (ARR)	62.8%	6.3%	12.4%	8%	10.5%
Profitability Index (PI)	54.85%	18.65%	15.75%	6.25%	4.5%
Modified Internal Rate of Return (MIRR)	70.65%	5.65%	12%	2.35%	9.32%

The results are shown in **Table-4** ranked according to perceived importance. The responding firms ranked PBP (55%), NPV (53.5%) and IRR (35.05%) and as the most important techniques respectively. Among these techniques PBP is getting highest rating even though it ignores time value of money and it also ignores cash flow beyond payback period. It seems as it is easy to calculate and understand, PBP is still a very popular technique. Although it is not directly comparable, these results are consistent with the findings of Wong, Farragher and Leung (1987), who found that payback, IRR and ARR were equally the most popular techniques. However, NPV is ranked second and IRR is ranked third as the most important but 35.05 % consider it as most important technique in this survey. Surprisingly, only 10.5% consider ARR as most important technique, in fact 62.8% respondents are not using this technique at all.

TABLE -5 TECHNIQUES USED FOR EVALUATING VARIOUS INVESTMENT DECISIONS

S.NO.	Investment Decision	IRR	PBP	NPV	ARR	PI	MIRR	Any other
1	New Project	21.5	78.8	40.8	-	4.4%	-	-
2	Expansion of existing operation	28.5	85.4	19.8	3.8	-	4.85%	-
3	Merger / Acquisition	14.45	64.5	50.65	2.4%	3.9%	-	-
4	Replacement of Assets	12.63	49.85	25.85	12.85%	1.6%	-	-
5	Leasing of Assets	18.67	52.67	30.45	1.75%	2.65%	2.75%	-
6	Modernization	20.65	62.85	32.89	4.79%	3.89%	-	-
7	Process or Product improvement	12.63	42.65	29.85	3.96	-	-	-
8	Any other (please specify)	-	-	-	-	-	-	-

As there are multiple responses the total per cent may exceed 100 %.

One can observe that PBP (78.8%), NPV (40.8%) and IRR (21.5%) respectively are the most preferred techniques for evaluating new capital budgeting projects. PBP is most preferred method used in various investment decisions. The respondents prefer even NPV in the second preference in various decisions. However the %age of ARR,PI and MIRR is very low.

TABLE -6 RANKING OF DISCOUNT RATE (COST OF CAPITAL)

S.NO	Particulars	%AGE
1.	Weighted Average Cost Of Capital (WACC)	47.5%
2	Cost of Debt	14.5%
3	Cost of Retained Earning	6.75%
4	Historical rate of return	2.65%
5	Cost of New Equity	7.75%
6	Bank Rate	13.5%
7	Term lending rate	4.85%
8	Arbitrary cut off rate	2.5%

The results summarized in the above **Table-6** indicates that the 47.5% respondents are using WACC as the discount rate which assumes that proposed projects are having same degree of average risk and investment projects are financed out of pool of funds. However, very few firms (2.5%) are using arbitrary cut-off rate fixed by the management. The results of the study are consistent with the results of the study by Jog and Srivastava (1995) who found out that WACC was used by 37.85% of the Canadian firms for calculating cost of capital which corresponds to the theory that considers WACC as the sound method for determining cost of capital.

One of the very important components for determining WACC for any firm is to estimate the cost of equity and cost of retained earnings. This question was asked to finance officers of the surveyed firms who were using WACC as the discount rate for evaluating their capital budgeting projects. At the same time some companies also used cost of debt (14.5%) and bank rate (13.5%).

TABLE -7 RANKING THE FACTORS THAT AFFECT CAPITAL BUDGETING TECHNIQUES

S.NO	Particulars	%AGE
1.	Finance Theory	12.36%
2	Experience and Competency	42.49%
3	Informal Rule of Thumb	NIL
4	Importance of Project	22.50%
5	Easy Understandability	10.65%
6	Familiarity of Top Management with Method	12%

There are a number of factors deciding capital budgeting methods in a company. As shown in the Table 7 experience and competency (42.49%) is considered as the most important factor influencing the decision of selecting capital budgeting method. The importance of the project is also considered as an important factor (22.5%). The finance theory has also got some weight age

in selecting methods which may be due to academic background of the finance decision-makers. One note worthy point here is no firms prefer informal rule of thumb for investment appraisal.

TABLE-8 PERCEIVED RISK IN INVESTMENT

S.NO	Particulars	%AGE
1.	Fluctuation in expected return	20.42%
2	Non-Recoverable investment	14.02%
3	Fear of obsolescence	65.56%

Automobile industries involve usage of latest technology and high level of inventions. So among the automobiles company the most perceived risk is fear of obsolescence (65.56%). It means that more than half of the companies have risk of obsolescence.

TABLE-9 DIFFERENT SOURCE OF RISK

S.NO.	Sources of Risk	MI	I	Can't say	UI	MUI
A)	Project specific risk: like quality of management, shortage of raw material, skilled labour /infrastructure/electricity/power.	48.25%	20.65%	4.1%	1.25%	NIL
B)	Competitive risk: affected by unanticipated actions of Competitors	58.85%	41.15	Nil	Nil	Nil
C)	Industry specific risk: unexpected technological developments ,regulatory changes, govt. policy changes	47.52%	30.58%	11.89%	8.11%	1.9%
D)	Market risk: changes in macro economic factors like GDP growth rate ,fluctuations in demand, interest rate, inflation rate	28.28%	26.42%	15.48%	24.52%	5.3%
E)	International risk: in case of foreign project, earnings and cash flows may be different than expected due to exchange rate risk or political risk.	69.75%	21.97%	5.64%	2.64%	.25%
F)	Retaining Human resources/manpower	48.62%	23.67%	11.66%	5.63%	10.42%

Table-9 explains the percentage of different sources of risk in a particular project. In case of project specific risk most of the companies (48.25%) perceived it most important source of risk. It is important to note that not even a single company considers it as most unimportant. At the same time more than half of the companies (58.85%) perceived competitive risk as the most important risk and 41.15% respondents consider it as an important risk. Again no company agrees that it is unimportant or most unimportant source of risk. Industry specific risk, market

risk, international risk and retaining human resources all are the most important risk for automobiles companies.

TABLE-10 DIFFERENT RISK FACTOR IN INVESTMENT DECISIONS

S.NO.	Risk Factors	MI	I	Can't say	UI	MUI
A)	Product price risk	38.53%	28.42%	12.58%	17.42%	8.95%
B)	Risk of unexpected inflation	60.65%	28.95%	5.4%	1.8%	3.2%
C)	Company Size (small firms being riskier)	70.45%	20.45%	4.2%	4.8%	.1%
D)	Interest rate risk (change in general level of interest)	48.23%	29.67%	15.85%	2.75%	3.5%
E)	Distress risk (probability of bankruptcy)	30.25%	20.06%	14.69%	29.34%	5.67%
F)	Momentum (recent stock price performance)	53.85%	29.36%	11.36%	2.76%	2.67%
G)	Foreign exchange risk	47.63%	29.8%	6.68%	10.2%	5.69%
H)	“Market-to-book” ratio	42.65%	30.5%	1.65%	19.67%	5.53%
I)	GDP or business cycle risk	78.67%	14.25%	2.75%	2%	2.33%
J)	Term structure risk	27.65%	22.75%	7.51%	15.42%	28.67%

In every long term investment there are various types of risks. Some are systematic and some are non- systematic risk. **Table-10** reveals the various risk factors in capital investment decisions. According to respondents every type of risk listed in above table is most important. The basic reason of their viewpoint is involvement of huge capital investment in new projects. Therefore every automobile company wants to reduce every type of risk in earlier stage.

FINDINGS AND CONCLUSION:

1. The hierarchical level of personnel involved in taking capital budgeting decisions, in majority of the companies, is the senior level management. These companies consider it as a higher level decision which is taken primarily at the senior level of management.
2. Almost four-fifth of the sampled companies reported Expansion of existing business as the investment project in which they invested.
3. The survey revealed that among the traditional methods, Payback period and, in the discounted category IRR and NPV are the most preferred ones by the companies in Indian corporate sector.
4. The survey reveals that the main reasons for non usage of DCF techniques (though by a few companies) are its ‘non-suitability of these techniques as per the business condition’, ‘high level of complexity and difficulty of these techniques’ and ‘unwillingness of top management to implement’ these techniques.
5. Our survey reveals that, in practice WACC is the most preferred discount rate which supports the academic theory also. This is so because it reflects the weighted average cost of all different sources of funds used by a company in one percentage figure.
6. Majority Indian companies use quantitative methods for estimation of cash flows. This is so because the mathematical or quantitative procedures give more accurate estimates than subjective estimates.

7. Further, majority of Indian companies make an adjustment in cash flows for incentive, subsidies and rebates availed from the Government.
8. Project Definition and Cash Flow Estimation was obviously ranked third in risk perception and the Project Review was considered the least risky of all. Thus, in the Indian corporate sector Financial Analysis and Project Selection along with the Project Implementation stage was considered to be still relatively more risky
9. Our survey reveals that majority of Indian companies perceive 'fluctuation in expected return' as a risk followed by 'non-recoverability of investment'. However, Information, Communication and Technology sector is an exception where 'fear of obsolescence' is also perceived as a prime risk.
10. 'Competitor risk', 'Market risk' and 'Project specific risk' are rated as the most important among the different sources of risk in a project by Indian companies.
11. Our survey revealed that the most popular techniques among Indian companies for incorporation of risk are Sensitivity analysis followed by shorter payback period, Scenario analysis and Conservative estimates of cash flows. Risk adjusted discount rates and Judgment evaluation is also used though not much.
12. Our survey reveals that qualitative or nonfinancial criteria play a major and significant role in investment decisions. Indian Companies give due importance not only to financial analysis but also to multiple non financial considerations while selecting an investment proposal. 'SWOT analysis to fit corporate objectives and strategy' and 'Customer market in case of new product/demand analysis' are found to be highly important non financial criteria before selecting an investment.

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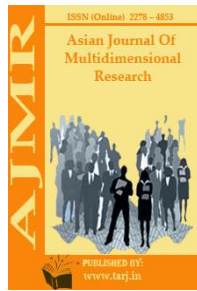
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**TRANSITION FROM HIGH SCHOOL TO HIGHER EDUCATION –
CHALLENGES FACED BY ADOLESCENTS WITH VISUAL
IMPAIRMENTS**

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ABSTRACT

A study on challenges faced by the adolescents during transition from high school to higher education was carried out with 17 visually impaired. The samples were selected by using purposive sampling method. Checklists were prepared with 4 domains with 7 statements each. The statements were arranged in simple to complex order. Interview method was followed to collect the data. The results revealed that the adolescents faced problems in almost all the three domains except the domain “Dressing”. However, teens need to know how to express themselves in a positive way and training in each and every zone is needed for them to become a self-reliant personality.

KEYWORDS: *Transition, Academic, Mealtime Adjustment, Dressing, Mobility.*

INTRODUCTION:

“College isn’t anything like High School!”

This is the common thing for a range of student with Visual Impairments while thinking about further study after high school. In college, the teacher of student with visual impairment will not

adapt all the materials like Braille Books, Audio Format Materials to interact with the students. So in the case of Transition, they will face many problems.

The word “transition” literally means the process of moving from one place to another; but for the student with visual impairments, it is the specific period when the teenagers are preparing themselves during the high school. So, number of activities needed to be learnt during this transition period. If the students with visual impairment were provided with the ample opportunities to rehearse the skills essential in day-to-day life, academics, mobility and work independently; it will allow them to participate actively in all aspects of school, family and community life.

The adolescents with visual impairments may experience difficulties in various area. This made the investigator to find out the issues related to transition with the following objectives –

- * Identify the students enrolled at the Higher Secondary level.
- * Develop a checklist to collect data on major domains in which they experience challenges.
- * Use the developed checklist to collect the data.

METHODOLOGY:

Seventeen visually impaired adolescents enrolled in the Higher Secondary were selected from two special residential schools situated at Kolkata to find out the challenges faced by them regarding Transition from High School to Higher Education. Interview method was followed to collect the data. Purposeful sampling method was used for the selection of samples. The dependent variables were the four domains regarding transition such as Academics, Mealtime Adjustment, Dressing and Travel and the independent variable was the Adolescents with Visual Impairment. Checklist was prepared with 4 domains each with 7 statements containing two options namely Yes (%) and No (%). The statements were arranged in simple to complex order that reflects the challenges faced by the Adolescents with visually impaired during Transition. The responses were recorded and analyzed to identify the challenges faced by the Adolescents with Visually Impaired regarding Transition.

RESULT AND DISCUSSION:

TABLE 1: CHALLENGES FACED BY ADOLESCENTS WITH VISUAL IMPAIRMENT IN ACADEMICS.

S. no.	STATEMENTS	Yes		No	
		number	%	number	%
1	Want to earn and support parents.	15	88	2	12
2	Favourite subject – Arts group.	7	42	10	58
3	Favourite subject – Science group.	12	70	5	30
4	Subject easy to learn – Arts.	12	70	5	30
5	Want to admitted in Academic course after school.	11	65	6	35
6	Want admitted in Vocational training course after school.	6	35	11	65
7	Like to get a job in IT sector.	7	42	10	58

With due respect towards the challenges faced in Academics, 88% of the Adolescents with visual impairment wants to earn and support their parents. It was surprise to note that 70% of them

forced to take up arts subjects since it is easy to learn, even though Science is their favourite subject. Sixty-five percent of them wanted to be admitted in Academic course but they were forced to get admitted in Vocational Training course since they will be able to get job easily. Hence it may be concluded that they need support in terms of Academics to choose their own career.

TABLE 2: CHALLENGES FACED BY ADOLESCENTS WITH VISUAL IMPAIRMENT IN MEALTIME ADJUSTMENT

S. no.	STATEMENTS	Yes		No	
		number	%	number	%
1	Like homemade food.	13	76	4	24
2	Buy vegetable at home.	6	35	11	65
3	Help mother at home in cooking.	3	17	14	83
4	Aware things about kitchen.	9	53	8	47
5	Will prefer canteen in college.	12	70	5	30
6	Able to reach canteen alone.	9	53	8	47
7	Will help peers in preparing snacks at hostel.	12	70	5	30

In terms of challenges faced in Mealtime Adjustment, cent percent of the students faced major problems in cooking and 83% of them did not help their mothers at home during cooking. Seventy-six percent of the adolescents with visual impairment preferred homemade food. Seventy percent of them preferred to eat in the college canteen and wanted to help their peers in preparing food at hostel. Hence it may be concluded that they need training in cooking skills.

TABLE 3: CHALLENGES FACED BY ADOLESCENTS WITH VISUAL IMPAIRMENT IN DRESSING

S. no.	STATEMENTS	Yes		No	
		number	%	number	%
1	Need help in dressing.	0	0	17	100
2	Usually buy own dress.	3	17	14	83
3	Find out outfits with its color.	9	53	8	47
4	Find out outfits with its fabric.	14	83	3	17
5	Use any clue to find out any particular outfit.	8	47	9	53
6	Wash own clothes.	14	83	3	17
7	Able to find out own clothes among various clothes of peers.	11	65	6	35

As shown in the table, cent percent of the Adolescents with Visual Impairment faced no difficulties in dressing skills. Eighty-three percent students washed their own clothes and can easily hand-pick or had some techniques to choose the fabric as against they didn't purchased their own clothes. Fifty-three percent of them used the clues to find out their dress. Sixty-five of them can find out their own clothes among the various clothes of peers. It may be concluded that, there is no need for any specific training in the dressing skills.

TABLE 4: CHALLENGES FACED BY ADOLESCENTS WITH VISUAL IMPAIRMENT IN TRAVEL

S. no.	STATEMENTS	Yes		No	
		number	%	number	%
1	After examination go to home alone.	9	53	8	47
2	Able to travel in unfamiliar routes.	3	17	14	83
3	Move in unfamiliar places without help.	4	24	13	76
4	Can reach college by town bus independently.	5	30	12	70
5	Able to board the proper bus for college.	13	76	42	24
6	Expect help from normal peers to reach college bus stop.	10	59	7	41
7	Can reach own department without help.	9	53	8	47

The challenges faced in travel which is evident from the above table that 83% of adolescents faced discomfort in travelling to unfamiliar route. It also indicates that 76% of them faced problem in travelling alone to the unfamiliar places but they can board the bus to go to the college. Seventy percent students couldn't reach the college by town bus without any assistance from the public whereas 53% students can reach their own department without any help. So, it may be concluded that, the adolescents need training in Orientation and Mobility to more independent travel.

CONCLUSION:

The present study attempts to know the challenges faced by the adolescents with visual impairment during transition in Academics, Mealtime Adjustment, Dressing and Travel. The survey results show that the visual impaired adolescents preferred more academic related course to Vocational Training. Almost all of them were not informed with the various career options available. They didn't have cooking experience which necessary for independent living. Though they didn't feel much difficulties in dressing but faced problems in independent travel was revealed. The adolescents needed proper guidance and training to overcome these challenges in future.

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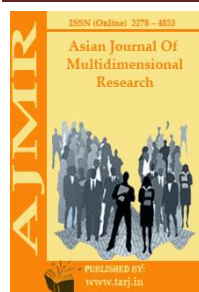
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ISOLATION, PURIFICATION AND CHARACTERIZATION OF PHB PRODUCING ORGANISMS FROM SAGO INDUSTRY EFFLUENT

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ABSTRACT

Polyhydroxybutyrate (PHB) is a biodegradable thermo polyester which is synthesised by many bacteria under stress conditions they are reported to produce biopolymers, which can be produced intracellularly as carbon and energy reserves. In this present study, sixteen bacterial isolates isolated from sugar industry effluent collected from Sugar Industry, Perambalur. However, only one bacterial isolate (SAB4) is selected based on high PHB production 14.4±1.01mg/L. All the 12 bacterial isolates were characterised by morphological and biochemical test. Optimisation of culture conditions such as pH, temperature and incubation time was carried out for the isolate (SAB4). The maximum PHB yield was recorded under dry weight basis in minimal agar media as glucose as the sole carbon source at pH 7 and temperature 40°C for 48 hours.

KEYWORDS: *Polyhydroxy butyrate, Sago industry effluent.*

INTRODUCTION

During the last decade environmental pollution and exhaustion of non-renewable sources have created much interest in neutral materials like poly- β -hydroxybutyrate as a biodegradable (Howells, 1982). Food web contamination from potentially risky chemicals added to plastics during their manufacture (like bisphenol-A, phthalates and nonylphenols) is a parallel concern (Howells, 1982). Buildup of plastics in the marine environment is particularly worrisome.

Conventional plastics do not biodegrade because it is gigantic, making them extra difficult to digest. Bioplastics considered as good substitutes for petroleum derived synthetic plastics because of their similar physical and chemical properties such as polypropylene (Doiet *al.*, 1990; Steinbuchel and Hein, 2001 and Mercanet *al.*, 2002). Bioplastics are simply plastics derived from renewable biomass sources, like plants and micro-organisms, whereas conventional plastics are synthesized from non-renewable fossil fuels, either petroleum or natural gas.

Polyhydroxyalkanoates (PHAs) are biodegradable monomers, naturally made by bacteria during fermentation of sugar, which can be combined to make high molecular weight polymers suitable for plastics. The biopolymer accumulated as storage material under stress condition (Barnard and Sander, 1989; Sudeshet *al.*, 2000; Chen *et al.*, 2001; Kadouriet *al.*, 2005; Berlangaet *al.*, 2006; Lafferty *et al.*, 1988 and Huismanet *al.*, 1989). The most widely produced microbiablioplastics are polyhydroxyalkanoates (PHAs) and their derivatives (Madison and Huisman, 1999; Witholt and Kessler, 2002 and Kim and Lenz, 2001). Plastics produced from PHAs have been reported to be truly biodegradable in both aerobic and anaerobic environments (Page, 1995 and Cappuccino and Sherman, 1992).

MATERIALS AND METHODS

Isolation and Maintenance of Indigenous Heterotrophic Bacteria

Effluent sample was collected in sterile bottle from effluent discharge unit at Sugar Industry, Perambalur. One ml of effluent sample is dispensed in 10 ml of sterile distilled water. This is mixed vigorously and 1ml from this is taken and added to another tube with 9 ml sterile distilled water to get a dilution of 10^{-1} . This serial dilution is repeated to get dilutions of 10^{-2} , 10^{-3} , 10^{-4} , 10^{-5} , 10^{-6} , 10^{-7} , 10^{-8} and 10^{-9} . For the isolation of organisms, 0.1 ml of each dilution was plated onto a nutrient rich medium by spread plate method for the propagation of microbial growth. The plates were incubated at 37°C for 48 hours. The isolated colonies were selected and sub cultured on nutrient agar medium for further studies (17). The isolated organisms were maintained at 4°C on slants of nutrient agar medium. The isolated organisms were given code number based on the source of isolation.

Morphological characterisation

Morphological characters such as form, shape, size, colour and texture of the selected isolates were investigated according to Bergey's manual of Determinative Bacteriology¹⁷.

Biochemical characterization

Different biochemical tests were carried out includes IMVIC tests, catalase test, and urease test and starch hydrolysis.

Qualitative Screening of Bacterial isolates for PHB production by Sudan Black B staining

The isolated bacterial strains were subcultured on minimal agar medium for PHB production. As a preliminary step, screening of PHB producers was carried out using viable colony staining technique. The cultures were grown on minimal media supplemented with glucose (2%) as a sole carbon source, incubated at 40°C for 48 hrs. after incubation, the plates were flooded with Sudan black B solution (0.3g in 95% ethanol) for the detection of microbial intracellular lipid granules and kept undisturbed for 20 minutes. The excess of Sudan black B was drained off. They were washed with 96 per cent ethanol to remove excess stain from the colonies. The dark blue coloured colonies were taken as positive for PHB production. Viable colony staining

technique was selected in order to reveal the different pattern of sudan black B absorption seen on the agar plates such as maximum, moderate and minimum absorption.

Quantitative screening of Bacterial Isolates

The bacterial isolates which shows maximum sudan Black B absorption from qualitative screening and two standard strains were subjected to quantitative screening. The selected strains were grown on minimal broth (pH) under standard culture conditions and incubated at 37°C. During incubation, samples were retrieved after every 24 hrs for 4 days, to quantify the production of PHB (mg/ml) by chloroform extraction method. About 10 ml of bacterial cultures (24 – 96 hrs) grown in minimal broth was retrieved at an interval of 24 hrs and centrifuged at 10,000 rpm for 10 minutes. The supernatant was discarded and the pellet was suspended with 2.5 ml of 4 per cent sodium hypochlorite solution and 2.5ml of chloroform. The pellet suspension was incubated at 30°C for 1hr. After incubation the suspension was centrifuged at 1500 rpm for 10 minutes. After centrifugation three phases were obtained. The upper phase consisted of hypochlorite solution which was removed and the middle phase (chloroform containing undisturbed cells) was separated by filtration from the bottom phase (chloroform with PHB). The extracted chloroform phase was used to quantify the production of PHB by measuring the absorbance at 230 nm (18)

RESULTS

The results and discussion commenced on screening of isolates from effluent sample, proceeded for standardised production of PHB by quantitative analysis. The discussion extended for the extracted PHB powder under physical optimised conditions and proceeded for partial purification.

Isolation of Bacteria from sugar industry effluent samples

The aerobic heterotrophic bacterial isolates from the samples, when subjected to the purification, yielded bacterial colonies with different size and color such as bluish green, white, greyish white and creamy. Based on the colony size and color, sixteen bacterial isolates from from sago industry effluent (SAIE) (**Table 1**) could be recognised and were given code name based on the site of sample collection.

TABLE 1. COLONY CHARACTERS OF BACTERIAL ISOLATES FROM SAGO INDUSTRY EFFLUENT

Culture code	Size	Shape	Color	Margin	Elevation	Opacity	Shape of the Cell	Arrangement of the Cell
SAB1	1-2mm	Rod	Greyish white	Entire	Flat	Smooth	Rod	Long chain
SAB2	2mm	Circular	Milky white	Regular	Slight Convex	Opaque	Short rod	Long chain
SAB3	<1mm	Round	Dirty white	Regular	Convex	Opaque	Long rod	Long chain
SAB4	<1mm	Round	Dirty white	Regular	Convex	Opaque	Long rod	Long chain

SAB5	2mm	Circular	White	Entire	Concave	Transparen	Cocci	Single
SAB6	1.5mm	Circular	Milky white	Regular		Opaque	Rod	Single
SAB7	1mm	Circular	Milky white	Regular	Convex	Opaque	Rod	Single
SAB8	1mm	Circular	Greyish white	Regular	Convex	Opaque	Rod	Single
SAB9	1mm	Circular	Greyish white	Regular	Convex	Opaque	Rod	Single
SAB10	1mm	Circular	Greyish white	Regular	Convex	Opaque	Rod	Single
SAB11	1mm	Circular	Milky white	Regular	Convex	Opaque	Rod	Single
SAB12	1mm	Circular	Milky white	Regular	Convex	Opaque	Rod	Single

Biochemical Characterisation of bacterial isolates from SAIE

The biochemical characteristics of bacterial isolates are summarised in Table 12. All the isolates tested positive for catalase. With regard to other biochemical tests, the response was not uniform. Among the twelve isolates variable response was reported by nine isolates to nitrate reduction test, three to indole production and methyl red test, five to VP test. With regard to catalase production, all the isolates showed positive response except SAB1. Six isolates showed positive response to oxidase and urease test, three isolates showed positive result to casein hydrolysis test, four isolates to gelatin liquefaction test. Based on characterisation (both morphological and biochemical) the isolates were tentatively identified and the details provided in Table 13. Of the twelve isolates, three isolates belonging to *Pseudomonas* sp (of which SAB3 was identified as *Pseudomonas aeruginosa*, SAB4 was identified as *Pseudomonas syringae*, SAB5 was identified as *Pseudomonas fragai*. SAB1 was identified as *Lactobacillus bulgaricus*, SAB2 was identified as *Proteus mirabilis*, SAB6 was identified as *Salmonella enterica*, SAB7 was identified as *Shigella* sp, SAB8 was identified as *Klebsiella oxytoca*, SAB9 was identified as *Pasturella haemolytica*, SAB10 was identified as *Paenibacillus polymyxa*. SAB11 was identified as *Bacillus cereus* and SAB12 was identified as *Staphylococcus aureus* (Table 2).

TABLE 2. BIOCHEMICAL CHARACTERISTICS OF BACTERIAL ISOLATES FROM SAGO INDUSTRY

Culture code	Indole	Methyl Red	Voges-Proskauer	Citrate	Catalase	Oxidase	Urease	Starch Hydrolysis	Carbohydrate	Nitrate	Casein Hydrolysis	Coagulase	Gelatin	ONPG	Esculin	Motility	Sporulation	L-Phenylalanine	Gram Staining
SAB1	-	-	+	+	-	-	-	-	-	-	+	-	+	-	-	+	+	-	+
SAB2	+	-	+	+	+	+	+	+	-	+	-	-	+	+/-	-	+	-	-	-
SAB3	-	-	-	+	+	+	+	-	-	+	-	-	-	-	-	+	-	+	-
SAB4	-	-	-	+	+	-	+	-	-	+	-	-	-	-	-	+	-	+	-
SAB5	-	-	-	+	+	-	+	-	-	+	-	-	-	-	-	+	-	+	-
SAB6	-	+	+	+	+	-	+	-	-	+	-	-	-	-	-	+	-	+	-
SAB7	+	+	+	+	+	+	+	-	-	+	-	-	-	-	-	+	-	+	-
SAB8	-	-	-	+	+	+	+	-	+	-	-	-	-	+	+	+	-	-	-
SAB9	+	+	-	+	+	+	+ / -	+	+	+	+	-	-	+	+	+	-	-	-
SAB10	-	-	-	-	+	-	+	+	-	+	-	-	+	+/-	-	+	-	-	-
SAB11	-	-	-	+	+	-	-	-	-	-	-	-	-	+	-	+	-	+	+
SAB12	-	-	+	-	+	+	-	+	-	+	-	+/-	-	+	-	+	-	+	+

+ : Positive; - : Negative; ± : Variable;

Qualitative Screening of Bacterial isolates for PHB production by Sudan Black B staining

All the sixteen isolates showed different Sudan Black B absorption pattern were viewed from viable colony staining technique and reported in Table 3. The isolates showed positive for the presence of lipophilic PHB granules observed as dark grey colour. Three isolates SAB4 and SAB8 was showing maximum Sudan Black absorption pattern (+++) as shown in Table 3. Three isolates (SAB6, SAB9 and SAB10) were showed moderate Sudan Black absorption pattern (++) . Growth pattern (+) showed by isolates SAB1, SAB2, SAB3, SAB5, SAB7, SAB11 and SAB12 based on Sudan Black absorption. The efficient PHB producing strain was selected based on qualitative screening and the consolidated results are present in (Table 3).

TABLE 3. QUALITATIVE SCREENING OF BACTERIAL ISOLATES FOR PHB PRODUCTION BY SUDAN BLACK B STAINING

S.No	Isolate name	Growth pattern on minimal agar plate
1	SAB1	+
2	SAB2	+
3	SAB3	+
4	SAB4	+++
5	SAB5	+
6	SAB6	++
7	SAB7	+
8	SAB8	+++
9	SAB9	++
10	SAB10	++

11	SAB11	+
12	SAB12	+

Growth pattern “+++” denotes maximum Sudan Black absorption, “++” denotes moderate Sudan Black absorption and “+” denotes minimum Sudan Black absorption

Quantitative screening of Bacterial Isolates

Quantitative screening for PHB production by chloroform extraction, under standard temperature and pH for (24 – 96 hrs) was performed. Moderate and maximum sudan Black B absorbing strains were selected and subjected for quantitative screening. The result are given in the **Table 3**.

TABLE 3. QUANTITATIVE SCREENING FOR PHB PRODUCING ISOLATES (SAB4 , SAB6, SAB8, SAB9 AND SAB10)

Isolate	24hrs	48 hrs	72 hrs	96 hrs
SAB4	1.8±0.69 ^e	17.5±0.69 ^a	5.3±0.59 ^b	4.8±0.36 ^b
SAB6	7.2±0.71 ^a	14.4±0.42 ^a	13.5±1.41 ^a	11.8±1.98 ^a
SAB8	6.1±0.26 ^b	16.4±0.71 ^c	12.2±1.41 ^a	7.8±1.23 ^b
SAB9	1.0±0.19 ^c	2.3±0.51 ^d	6.6±0.76 ^c	4.3±0.26 ^c
SAB10	1.3±0.5 ^c	2.2±0.31 ^d	4.3±0.6 ^d	4.9±0.31 ^c

Data are the mean±standard error of three replicates. Values in the column superscripted by different letters are significantly ($P < 0.05$) different from each other (Duncan Multiple Range Test). Separate analysis was done for each Column

DISCUSSION

Waste water act as a best source for production of PHB, inturn it reduces the cost of raw materials. Various effluents such as municipal sewage (19,20,21) effluent from food processing plant[24,25] effluent from brewery industry, effluent from paper mill²⁶ have tested for PHB biosynthesis. In most of cases, the organic carbon sources are converted into volatile fatty acid in aerobic activated sludge in the first step, and then converted into the PHAs by mixing cell cultures in the second step. Although the final PHAs concentrations are still low at the current investigated conditions, PHAs could accumulate to around or even over 50% of the cell dry weight in some cases. In PHAs production using wastewater as starting materials, microorganism consortium is more preferable than pure cell culture due to economic concerns.

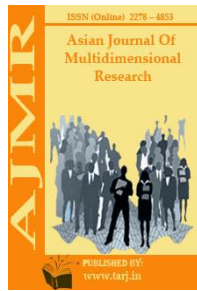
CONCLUSION

The main aim of this present study was to isolate the PHB producing bacteria from sagi industry effluent sample. Nowadays researchers are focusing on biopolymer producing microorganisms for developing biodegradable plastics. The medium used for the PHB isolates was simple medium and less cost effective and the PHB yield from these isolates was high compared with the earlier reports. Among twelve isolates only one isolate SAB4 showing high PHB production..

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MEASURING THE PERCEPTION OF CO-WORKER'S SYCOPHANTIC BEHAVIOR: AN EMPIRICAL STUDY OF HOSPITALITY SECTOR

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ABSTRACT

The paper aim to determine the factors of sycophantic behavior of employees' that adopted in the today's world and it is scattering like cancer in the organization that affecting performance of those employees' who are well deserving and giving the opportunities to those who are least deserving. It is a descriptive study and well structured questionnaire has been used for data collection. The data has been collected from the employees' who are working in the four-star and three-star hotels in Amritsar, Punjab. We distributed 200 questionnaires, but only 131 questionnaires were returned which were used for further investigation. Exploratory factor analysis has applied by using Principle Component Analysis and five factors were extracted from the results.

KEYWORDS: *Sycophancy behavior, Hospitality culture, Co-workers Perception.*

INTRODUCTION OF TYPES OF HOTELS IN INDIA

Hospitality Industry is a key economic sector in India for decades. It generates tremendous employment opportunities and contributes as a biggest resource in foreign exchange for India (Sharma & Kalotra, 2016). Indian tourism and hospitality sector played an important role in the materialized growth of Indian service sector. According to the Indian Brand Equity Foundation (IBEF), in December 2016, Indian tourism and hospitality industry emerged together and become the key driver of the growth of the economy among the service industry in India. The significant potential of Tourism in India is because of its rich cultural, historical heritage, terrains and many natural parks across the country. Hotels in India, shows the great variety such as business, suites, resorts, airports, extended stay, apartment, timeshare, casino, convention

centers, and conference centers, etc. It is categorized on the basis of size, level of service, location, ownership, length of stay, and on the basis of clientele (<http://travelsdocbox.com/Hotels/66485517-Chapter-iv-crm-and-star-hotels-in-karnataka.html>). Below are the descriptions:-

Hotels on the basis of size

There are six types of hotels on the basis of size. Size refers to the number of rooms.

Small - hotel: Small hotels are those which have 25 or less rooms.

Average - hotel: Average hotels are those which have 26 to 99 rooms.

Above average - hotel: Above average hotels are those hotels which should have 100 to 299 rooms.

Large - hotel: Large hotels are those which have more than 300 rooms.

Mega - hotel: Mega hotels are those which have more than 1000 rooms.

Chain - hotel: A group of hotels that has hotels in many numbers of different locations in India and also in international venues.

Hotels on the basis level of services:

Level of services includes star system which is given by the committee called “Hotels and Restaurants Approval and Classification Committee (HRACC)”.

One-star hotel: These are small hotels specially built for families. Services provided by these hotels are very limited as compared to other star hotels. The basic services provided by the owner are on an informal basis. There is less variety of meals. All other facilities like bedrooms, shower rooms, maintenance, cleanliness and comfort provided are of average standard (<http://tourism.gov.in/hotels-restaurants>).

Two-star hotel: These are medium size hotels along with more facilities than one star hotel. Two star hotels can be family basis and also, business hotel with comfortable, well equipped, and accommodation. The workings of these hotels are in a more professional way as compared to one star hotel (<http://tourism.gov.in/hotels-restaurants>).

Three-star hotel: The size of these hotels is bigger than lower star hotels and smaller than upper star hotels. They provide greater quality of services and facilities to their guests. All other facilities like bedrooms, shower rooms, maintenance, cleanliness, and comfort are provided with good standard along with high comfort (<http://tourism.gov.in/hotels-restaurants>).

Four-star hotel: Degree of luxury is very vast as compared to other lower star hotels. Size of rooms and bathrooms has more space than a lower star hotels and less than upper star hotels.

Five-star hotel: Degree of luxury of these hotels is far better than a lower star hotel. It matches their standards with best international standards. High level of technical skill, professionalism, knowledgeable, and helpful staff members are present in the five star hotels.

On the basis of location

Hotels which are situated at different locations and categorized according to the places belong to this category such as:

Commercial hotel: A commercial hotel is also known as suburban hotels or city center hotels. Commercial hotel is situated either in the heart of the city or in a busy commercial area. This type of hotel is mostly comprised of one or two blocks of the building. Only few of them provide garden or landscape facility.

Airport hotel: Hotels that are near to the airport premises. These hotels provide temporary food and accommodation for layover passengers, crew members, and visitors who are travelling to their destinations. All airport hotels are called transit hotels, but all transit hotels are not airport hotels.

Motels: These hotels are located on highways or in the main cities along with the parking and gas station facilities. It provides breakfast package with room facility and not have more than two storeys.

Resort hotel: A resort is either independent individual bungalows or small blocks of houses which are for relaxation and comfort. The resort is centered in the specific geographic areas like hill stations where people go for relaxation and enjoy their holidays like foot hill, mountainous area, beaches, etc.

Rotels: A rotel is a hotel on wheels. It is also known as motel on wheels (<http://tourism.gov.in/hotels-restaurants>). Such as "Deccan Odyssey" trains which provide a luxurious hotel atmosphere in it.

Boatels: These hotels are the luxurious one which is away from the mainland, such as luxury cruise liners; hotels, which are built in the middle of the sea.

On the basis of ownership:

Hotels which are on the basis of ownership are described below:

Timeshare: Time sharing hotels are also known as vacation ownership or holiday ownership hotels. This is a new concept in India, but growing very fast. In this individual hire an accommodation for weeks or month in advance. The price to purchase a particular property depends on the trend going in that particular area or hill stations. An individual who rented the property is also liable to pay maintenance, electricity, gas, water, safety, and insurance etc.

Condominium hotel: This concept is almost similar like a time share, but the only difference is joint ownership and each owner can sale their unit independently. There are certain rules and regulation made by the management that each of the owners has to follow and also share common costs that includes taxes, security and maintenance expenses.

Chain hotel: Chain hotels are a number of hotels in different locations, but have the same rules, policies, and procedures. It can be categorized as follows:

Affiliation: Two or more operations belonging to a corporation like Hilton Corp, Holiday Inn, Hyatt.

Multi- Unit Company: These are the hotels which have a head office and a number of branch offices in the country and also outside the country.

Franchisee: An established company grants a particular pattern or format for doing business with another entity. It must adopt the particular pattern of business of the franchiser in all aspects. This standardization enables franchise chains to expand while maintaining a quality of services they offers.

Management contract: These hotels having different owners, but all hotels operates under a single management company. The management company operates the property and gets a pre agreed fee from the owner.

Referral Groups: Referral hotels are also called as independent hotels. These hotels offer reasonable quality of operating procedure for each hotel within the ‘referral chain’ to satisfy customer needs. The best example of referral hotels are Best Western Group of Hotels.

On the basis of length of stay: These are categorized as follows:

Transit hotel: A transit hotel is situated near the airport or at a point of its entry. These are mainly for layover passengers who are in the process of traveling and have not yet reached to their final destination.

Transient hotel: These are the hotels which provide only short term stay only such as guest houses and government guest houses. The price of these hotels is very economic with limited facilities. Mostly government employees get more benefits of these types of hotel.

Residential hotel: Residential hotels are also known as apartment hotels. These hotels are used for long stay usually for weeks or months with kitchen facilities. These types of hotels are sold a on long term basis.

Semi residential hotel: These hotels are similar as residential hotels, but only difference is that it can be used in day to day basis as well as for a long term basis.

On the basis of clientele: Hotels which are on the basis of the clientele are as follows:

Heritage hotel: The historical places that built prior to 1950 such as palaces, forts, castles, havelies, hunting lodges, and residences. Government of India preserves these buildings to boost tourism sector and provide five star deluxe facilities to each and every guest. The Heritage Grant hotel is one of the best examples of heritage hotel which is 100 years old.

Boutique hotel: These types of hotels are small in size but exclusive hotel. Every room is distinctive. It comes in the list of very expensive hotel with personalized services. If we compare the services with other hotels these hotels provide very best services with exceptionally high quality.

Ecotels: These kinds of hotels have strict standards that pertain to the preservation of the ecological system.

Spa hotel: These are the hotel which provides therapeutic bath and massage along with the luxurious facilities. Ananda spa in the Himalaya is the most popular Spa hotel.

Sycophantic behavior used by employees in the hospitality sector

To do Oiling and battering to their bosses to get promotion and getting a higher place in the organization is known as sycophantic behavior. According to Ekong and Essien (2012), the sycophantic groups are those who involve more in intrigues, lying about others to cause confusion-official liar and those who pretend to be the adviser to the political leader. But due to their false praise, the performance of employees and outputs of the organization may vary that could be harmful. These issues can be seen in the private sector as well as in public or government sector now a day. As Jhatial *et al.* found in his study that 80% of respondents in government sector agreed that connection or sifarish, references, sycophancy, and cronyism play

a significant role in the HRM decision making process, whereas only 20% of respondents found that it have done on merit based decision.

Origin of Sycophancy

Origin of sycophancy was Classical, Latin ‘*sycophant*’ from Classical Greek word ‘*sykophantia*’. *In the sixteenth century, firstly sycophant introduced in English which having an original meaning ‘informer’ but after a short period of time the meaning changes its sense and gave the definition as “A mean, servile, cringing, or abject flatterer; a parasite, toady, lickspittle”.*

Sycophancy man’s flattery that is very obedient, or it is an indication of deference to another to gain advantage, and to an excessive or servile degree. A person or employee or co-worker having sycophancy behavior is referred to as a sycophant. A sycophant is a person who tries to win favor of wealthy or influential people by flattering them only to gain self- advantage. Sycophantic person acts towards like powerful to another to gain advantage either in the form of promotion or good rewards in the organization. Sycophant is a servile self-seeker who attempts to win favor by flattering influential people. A person who fawns, deferential and grovelling, abject, adulatory, boot licking, bowing, brown nosing, compliant, cowering, crawling, cringing, flattering, humble, ingratiating, kowtowing, mealy-mouthed, obsequious, parasitic, prostrate, scraping, servile, slavish, spineless, submissive and subservient. According to Ekong and Essien (2012) sycophantic groups often feed political class with information, often distorted, garnished with lies and unfounded optimism, from the polity. Ayodele, 1988 believed that Sycophancy has a degree or level. It also has a magnitude, direction and effect.

Earlier sycophantic behavior begins with the educational system, but criticism is never supported by institutions from the starting. There are various factors’ helps in reducing or tolerating criticisms like perks, benefits and privileges of power, etc. People, who criticize, are most often disparaged, as they are called as complainers. Therefore, intolerant views of others are the indicators of sycophancy. Henry, 2009 when an adult takes his/her place in an organization, the human interaction and reaction begins that is based on human biases or mistakes which they do often on fairness, the merit and objectivity. The expression, used by many Americans, which are unsaid national slogan for them is “going along to get along”. A sycophant is “the one who always seeks favor by flattering and praising people of wealth or influence them” according to *Webster’s New World Dictionary*. Hence, it is clear that Sycophants do not make any kind of waves or criticisms.

How sycophantic behavior influences the culture

As judge, & Bretz, 1994 found that influencing behavior effect career success and they found the positive effect on career growth. Previous researchers examined that trust is an important factor that influence another person to gain advantage and to build trust, communication found crucial between them to avoid confusion. The study suggested sycophantic behavior is required at the present time somehow, otherwise colleagues would take advantage or your junior worker take the advantage if you don’t take a chance, so everyone should have this art. Dibakar pal did comparison between Sycophantic behavior of co-workers with machines. He said, as after a period of time machines required oiling to work properly. Similarly time to time co-workers also oil their superiors. By adopting sycophantic behavior, individuals could take number of advantages just by putting a little effort like oiling their superiors, presenting themselves more efficient, and by showing more committed to an organization, sometimes even they take credit for another co-worker’s work. They do such things only to make their position secure in the

organization. Every sycophantic person has two faces, they never say no to their superiors, and always yes to opinions even if that opinion is wrong.

After reviewing literature, the researchers Judge and Bretz, 1994 also examined that if the employees get career success, then they must be committed to an organization. Drane, 2006 also discussed that sycophantic does have a positive influence on career growth and also, discussed that, if proper communication and trust factor is present, which directly or indirectly lined with organizational culture and their effect can be seen on outcomes. As a Cook and Wall, 1980 in their study examined that trust is one of the factors between individual or group which highly responsible for employee work stability for long term of the organization.. The study suggested, if a person is trustworthy, has sycophantic behavior, and uses it in the right way, then there is no harm to carry such kind of attitude.

If we talk about communication it is a process to convey messages or information by two ways, i.e. in written and verbal form, but if the flow of communication is right, only then it will create motivation among employee's to retain in the industry for long. If trust and communication the factors present in the service industry that resulted in less turnover, more satisfaction, increase productivity, and commitment. If these factors are present in the Organization, then it will also reduce the company cost, time, and every employee's work as a family to achieve company objectives. As we all know that most of the companies which are into services, included hotel industry have long working hours and shifts. So, if they do not get friendly working environment at work place, it's become difficult to work so long. It resulted employee turnover, less committed, and less satisfaction. Employees of that organization always look for another opportunity. Ultimately, it would be a loss of the organization. The advice for top management is that they should have to be active to look at the situation to resolve actual faults. In case of ignorance these organizations will not survive long in the market. Otherwise, the organization will suffer with the crisis.

PURPOSE OF THE STUDY

In today's competitive world, sycophantic behavior plays significant role in every organization. A culture of the service sector is also influenced by this behavior. If we go into a deep discussion, we can notice that, sycophantic behavior of co-workers is very crucial variable that impact hospitality, culture, but negligible importance has been given, only a few studies put stress and said that co-workers get a competitive advantage for personal growth by using sycophantic behavior with superiors. It is also observed that, the performance of an organization depends upon the surrounding as we read in many HRM books that "Good culture at work place leads to good performance of any companies". Service industry required team spirit for increasing performance level and for that sycophantic behavior generally been adopted by a co-worker's to please their superiors. This article puts some efforts to explain the factors that influence the co-worker's behavior in the hospitality sector.

LITERATURE REVIEW

Chandra B. P. Singh (1987) proposed a study of the unilateral structure of power and explained how controlled mechanism used by subordinates to influence their supervisors. Also, study investigated the effect of sectorial and groups power of influence strategies. For survey, 196 managers were selected from department wise and level wise except top two levels in the pyramidal structure. Factor analysis was performed and eight factors were extracted. Result

explored various power strategies employed by managers for their superiors. Also, power strategies can be used as a parameter to evaluate the organizational performance.

Judge and Bretz (1994) examined the effect of sycophantic behavior that influenced the career success and results showed that sycophantic behavior had a positive effect on career growth. The comparison of sycophancy behavior and career success was done in this study. 651 sample size was taken from Midwestern University, from the graduate of the industrial relations program. Findings revealed that “apple polishing seems to be a better means of getting ahead than blowing one’s own horn” positive effect of sycophantic behavior on successful career.

Thacker & Wayne (1995) purposed a study of subordinate influence tactics of sycophantic behavior and individual differences on perceptions of supervisor’s promo ability. Sycophantic tactics taken in the study were *ingratiation, reasoning, assertiveness, and self-reports*. A survey was done on both supervisors as well as on subordinates and the relationship among influence tactics and promo ability were examined. Findings revealed that assertively was not a good tactic for any employee to engage in and supervisors feel that assertive employees are trying to take control. “Reasoning” is a subtler approach of sycophantic behavior and most persuasive influence tactic. Reasoning involved the subordinate working with the supervisor and providing detailed action plans, logical arguments, facts and careful explanations.

Drane (2006) conducted a study to find out their relationship among sycophantic behavior, supervisor-subordinate communication, co-worker relationships, and trust. “sycophantic behavior” with relation to promotion in an organization as well as the best sycophantic influence style, relationship of “supervisor-subordinate communication” was studied and their effect on job satisfaction and employee motivation and the final variable “Trust” have been discussed to examine the benefits of trust to the organization’s longevity, productivity and efficiency. The study revealed that the relationships developed between the supervisors and subordinates through different communication behaviors such as immediacy, reciprocity and accommodation was found positive work environment for both the supervisor and subordinate. The second variable showed that good co-worker relationships lead to job satisfaction and finally concluded that trust among employees was related to their job satisfaction, therefore it improves the organization’s longevity, productivity and efficiency.

Umeogu, b., (2012) conducted a study on Nigerian media and focused on sycophancy and objective journalism. He evaluated the elements of sycophancy, ethics, objectivity, objectivity journal, and looked at the reasons that effect on the public, media house, individuals, and the government. In this study causes of sycophancy and its dangerous effects on entire professions was discussed. The study concluded that objectivity in journalism was attainable and relative to those journalists who were more to be ethical or not willing to face the challenges. Finally study discussed the various causes of Sycophancy i.e. Lack of experience on the part of Political leaders, Poverty, Environmental contingencies, Lack of professional education or training of journalists.

Mangi, et Al., (2012) investigated the role of sycophancy or connection and nepotism. It was found that these were critical factors in HRM functioning. The study also investigated that sifarish or connection affects the decisions like recruitment, selection, and promotions while developing functions of HRM in the private sector. Results revealed that cultural factor influenced HRM Functioning’s. Collectivism, sifarish, cronyism, and sycophancy strongly influenced factors on HRM practices in the private organizations.

Ekong and Essien, (2012) conducted a study to unveil the surrounded operational forces, compelling of gangsterism, and sycophancy in Nigerian politics. He examined the level of influence of the politic decision by economic factors. The study has developed a model to analyze gang and sycophantic politics in Nigeria. The study revealed that gang, to a large extent, influence the appointment of political office holders such as ministers, commissioners, advisors, etc. study also discussed various characteristics of gang and sycophantic groups in Nigeria such as suspicion, strong capacity to convince the leaders, attractiveness, flexibility, sycophantic, blackmail and lies, diabolical and deceitfulness. Results suggested that influence and patronizing role of gangs and sycophant must equally be discouraged, which intern downplay the power and influence the money politic in the nation.

Chahal,& Poonam, (2015) conducted a conceptual study in which they discussed about the impact of employee sycophantic behavior on organizational culture. While telling the advantages of this behavior they said this behavior has greater impact on career growth, such as promotion, Transformation, recruitment and selection, and also, in decision making. This study also puts emphases on government sector as, “Jhatial found in his study that 80% of respondents in government sector agreed that connection or sifarish, references, sycophancy, and cronyism play significant role in the HRM decision making process whereas only 20% of respondents found that it have done on merit based decision.”

Musaddiq, et. Al., (2016) study examined the effect of ingratiation and helping behavior of employees on supervisor satisfaction at work. A study conducted on the Pakistan hospitality sector and data was collected from front line employee and their supervisor, how has direct interaction with customers. Results revealed that there was an insignificant relation between ingratiation and helping behavior at lower levels. But, have a significant relationship at supervisory level in the hospitality industry.

Objective of the study

To determine the factors of sycophantic behavior of employees in the hospitality, sector.

METHODOLOGY

Universe of study

The study was conducted in a hospitality sector at Amritsar city. Two Hotel categories, i.e. three star hotel and four star hotels where the universe of population the present study. Employees how are working in four departments such as Front desk, Food and Beverage services, F & B production, and Housekeeping department employee were contacted for the survey.

Simple

A stratified random simple technique has been used in which we divide the population into four strata such as F&B services, Housekeeping, F&B production and Front disk from the eleven strata have chosen.

Total 200 questionnaires were distributed among employees randomly and returned rate was 171 in which 131 was useful for further analysis.

Questionnaire Design

The questionnaire consisted of two parts; first part consists of 22 statements related to sycophantic behavior of employees. Each question was asked by used 5-point Likert scale.

Second part contained questions regarding the demographic profile of the respondents, each question was presented with multiple choices. Questions related to demographic profile was Gender, age, marital status, education, language, city and nation.

The main purpose of asking these sorts of question were to know closely sample representative of hotel employees in Amritsar city.

Data analysis

SPSS package was used to check the reliability of the scale Cronbach Alpha value of the items was calculated. The items with high standard deviation were excluded and the remaining items were calculated. The Cronbach's Alpha value is 0.796 which is greater than 0.05. This shows that data is perfectly fine for further investigation.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized items	N of Items
0.796	0.809	22

Findings of factor analysis

Factor Analysis is applied on 22 statements to determine the factors of sycophantic behavior of employees in the hospitality sector.

Number of Factors Extracted

Factor analysis was done by using the Principal Component Analysis followed by Varimax with Kaiser Normalization. The value of Kaiser-Meyer-Olkin, is equal to 0.777, that showed data is appropriate to apply the Factor analysis. The value of chi square is 2728.417, that is significant at $p=0.000$. Total variance explained by all factors 75.040.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.777
Approx. Chi-Square		2728.417
Bartlett's Test of Sphericity	Df	231
	Sig.	.000

From the above fig., results showed that the data is fit for the factor analysis

The factor analysis gave rise to five factors having egen value more than one. Following table showed the factors variance, alpha coefficient, and eigenvalue.

Factor 1	Factor Loading	Variance Explained	Alpha Coefficient	Eigen Value
S14	.963	23.242	0.796	5.461
S11	.931			
S13	.929			
S9	.910			
S10	.891			

S12	.876			
Factor 2				
S5	.965	18.879	0.796	4.289
S1	.903			
S4	.901			
S3	.874			
S2	.831			
Factor 3				
S16	.938	17.292	0.796	3.801
S15	.928			
S18	.906			
S19	.824			
S17	.705			
Factor 4				
S8	.800	9.140	0.796	1.656
S6	.780			
S7	.652			
Factor 5				
S21	.706	6.487	0.796	1.297
S20	.658			
S22	.644			
Total variance explained				75.040%

Naming and Inter- correlations among factors

Exemplification

The name of the first factor (S14, S11, S13, S9, S10 and S12) is exemplified in which co-worker try to convince other while giving his own examples such as I keep my desk arranged to show that work is being done, I work late in organization so that others can see me. Variance explain by this factor is 23.242 percent of the total variance. All statements showed the employees pretend to show they are dedicated, obedient, and busy even if they donot have these qualities in actual.

Dependence

The second factor (S5, S1, S4, S3 and S2) named as dependence in which co-workers try to show that without superiors help they cannot perform any task like I generally depend upon my superior's suggestions, I can create an impression that I am dependable on them. The variance explained by this factor is 18.879 percent of the total variance. This factor showed that they are dependable on superiors.

Ingratiation

The third factor (S16, S15, S18, S19 and S17) named as Ingratiation, in which co-workers try to adopt flattery behavior to praise their superiors such as I praise my superior for their accomplishments, I agree with their major idea or belief. The variance explained by this factor is 17.292 percent of the total variance. This factor explained how co-workers do personal favors, compliment on superiors dress, to offer volunteer help even if superiors don't ask for it.

Manipulation

The fourth factor (S8, S6 and S7) named as manipulation in which co-workers see for personalized help from superiors, they try to show utmost respect for superiors and choose the right words while talking to their superiors. The variance explained by this factor is 9.140 percent of the total variance. This factor explained that how co-workers use the words and show the respect while talking to their superior even if they actually do not do.

Self- Representation

Last but not the least factor (S21, S20 and S22) called as self representation in that co-workers try to represent their self that they are very much talented and qualified and they have no competition such as I make myself superior aware about my talents, I act like a figure head for others, etc. The variance explained by this factor is 6.487 percent of the total variance. This factor showed that how co-workers promote themselves and show that only they have vast knowledge about their work than another.

The explored factors, namely, Dependency and Manipulation are congruent with factors explored in the study conducted by Singh, 1987.

CONCLUSION

This study comes up with the new idea and succeeded in exploring the various factors of sycophantic behavior of co-workers that they use with their immediate superiors as resulted it has affected the hospitality culture as well. This becomes the hurdle for the growth in the market. Present paper basically explained five factors which are mainly issued in today's world. With the help of previous studies, the study tries to explain how employee's use sycophantic behavior to gain competitive advantage and various advantages at work. With the help of empirical study, factors explained that how it's affecting influence tactics in the organization. This paper also discussed that how trust and communication is crucial in today's competitive environment to compete in the market and also discussed the various advantages. As proper communication resulted, job satisfaction, Long term commitment, Increase productivity, and efficiency, reduces turnover, absenteeism, and increase the commitment of the employees.

RECOMMENDATIONS

- 1) There are various other factors which also influence sycophantic behavior of co-workers and their impact can be seen on Organisational culture as well as on performance. This will be considered in future research.
- 2) In future, the research could be conducted with a bigger sample size and in the wider area. A combination of more than one variable can also be tested on different cultures within the boundaries of the country.

LIMITATION OF STUDY

- 1) The sample size was small it was difficult to generalize the results.
- 2) The factors may vary if there is large.
- 3) Time constraints.
- 4) There might be difference in actual feedback and given responses.

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HOPE SCALE – DEVELOPMENT, TRANSLATION AND VALIDATION

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ABSTRACT

Hope is one of the cornerstones of positive psychology. Different psychologists have given various differing definitions of hope and have developed measures to quantify hope. However, the concept still has a lot of unexplored dimensions. Different cultures have different interpretations of hope and different ways of enhancing it. The current paper is one such attempt to develop a separate scale to measure hope, different from the existing ones to make it more culture sensitive.

KEYWORDS: *Hope, Hope scale, Instrument.*

INTRODUCTION

“Hope is being able to see that there is light despite all of the darkness”

Desmund Tutu

In the ancient era, hope was often seen as something negative and ones who harbor hope were thought to have a poorer understanding of their state (Bloeser& Titus, 2017). Over the years this idea has changed and today, the concept has evolved into something drastically different. Hope is one of the major and basic concepts in positive psychology. The positive effects of hope on mental and physical health are researched upon diversely and immensely (Wonghongkul et al., (2000); Seligman & Csikszentmihalyi (2000); Rust, G. (2017)). Techniques and therapies are developed and implemented by researchers and psychologists to enhance one’s hope, realizing its potential benefits. However the definition of hope is still elusive. The cultural, linguistic and religious effects are evident while examining the different interpretations or meanings of the

term 'hope' provided by different people from different backgrounds. One of the most widely accepted and recognized definition of hope defines it as "a positive motivational state that is based on an interactively derived sense of successful (a) agency (goal-directed energy), and (b) pathways (planning to meet goals)" (Snyder, et al, 1991). The hope scale developed by Snyder based on this cognitive model of hope is a widely used instrument, worldwide. However, the authors felt a need for a different scale to measure hope in their cultural context.

DEVELOPMENT OF THE SCALE

For the development of the current scale, the authors decided to have a different definition. For this purpose, a survey was conducted among 127 random people of different age groups and backgrounds to understand what the term 'hope' means to them and what were the factors influencing their hope levels. Each and every person had a different meaning and very personal concept about what hope was. The 'future' was a common concept across all interpretations. Achieving goals important to oneself, the abilities to reach these goals and a general optimistic expectation one held about the future were the other recurring concepts. Surprisingly, no interpretation dwelled upon the cognitive aspects as suggested by Snyder, but had relationships with a significant other or others, mostly with close family members, as a defining factor of hope. Considering the cultural context where the survey was conducted, this was only a normal response as close ties are typical of Indian families and they exert a strong influence on all the aspects of the life of the individuals involved.

After analyzing these responses, the authors identified 3 definite concepts viz., a). the future, b).the self and c). family/relationships with family, which were the most important defining factors of hope. Based on these concepts, hope has been operationally defined by the authors as “*the positive expectations of a person about self, factors relating to self like family, and the future in general which motivates the person to move on.*”

Based on these three themes, 60 statements were prepared, combining some items from Adult Hope Scale (Snyder et al 1991) – 20 items for each factor. These items were given to experts for validation. 2 psychologists and 2 English teachers validated the 60 item scale and suggested some changes. Based on these expert opinions, 4 items were dropped and 12 items reframed to avoid ambiguity.

All of these item had 5 options, totally agree, agree, undecided, disagree and totally disagree.

This scale with 56 items (appendix I) was then administered to 200 randomly selected subjects. The items were scored as: the positive items were scored as *totally agree-5, agree-4, undecided-3, disagree-2, totally disagree-1*. And the negative items follow reverse scoring.

Once the data were collected, item analysis was carried out to finalize the scale. On the basis of the total score of the subjects, the response sheets were arranged in decreasing order. And the upper 27% and lower 27% were selected for item analysis. The 't' score of this upper group and lower group was found for all the items. The items which were significant at 0.05 level were retained.

THE FINAL SCALE

The final scale has 15 items- 7 on future, 5 on self and 3 on family. There are 6 negative items(2,3,6,7,11,12) and 9 positive items(1,4,5,8,9,10,13,14,15). Scoring for these items is as mentioned above.

The higher the score on this scale, higher the hopefulness of the person. To be more precise,

- <30 - very low on hopefulness,
- 31-50 - low level of hope,
- 51-60 - moderate level of hope,
- 60< - high level of hope

VALIDITY

The final hope scale was validated with Snyder's hope scale to ascertain concurrent validity. The Cronbach's alpha for all the items were above .60, which is a good measure of validity. All individual items were significantly correlated with their corresponding domain scores ($p < 0.05$), implying good convergent validity. Eleven items had Spearman's rho coefficient exceeding 0.60 and 8 of 15 items had Spearman's rho coefficient exceeding 0.75.

RELIABILITY

The reliability of the scale was established through test-retest method. The scale was administered to a sample of 20 randomly selected individuals with a time gap of 2 weeks. The correlation between the test-retest scores was .82, which is good enough to ascertain reliability of the scale.

S.no	Items	TA	A	UD	DA	TDA
1	I have the strength to face any problem					
2	I am a burden for my family					
3	There is no point in expecting good in the future					
4	I have many more goals to achieve in the future					
5	Good things will happen more than the bad					
6	I pose a financial threat to my family					
7	Life is meaningless					
8	I have a lot more to do for my family					
9	Any tough time is temporary and it will pass					
10	Any problem can be solved					
11	Failures affect me severely					
12	I am worried about my health					
13	I am hopeful about my life					
14	My family supports me during difficult times					
15	Future will be happier than the present					

TRANSLATION OF THE SCALE

The original questionnaires in English were given to six persons who were bilingual (two of them were experienced translators) and good at both languages for translation to the local language - Malayalam, in the first stage. From all the translations, sentences which occurred more frequently were retained. In cases where 2 terms occurred with same frequency, both terms were retained. This first draft of the translation was then evaluated by three psychologists. After

their approval, feedback on the translated Hope Scale was obtained from volunteers. After scrutinizing all the translations and suggestions, the final questionnaires were prepared.

VALIDATION

For validating, the final translated questionnaire was translated back to English, which yielded more than 90% accuracy. Further the original version was administered to a group of 20 persons, who could read and understand English. After a time gap of one week, the translated version was given to the same 20 persons to get it answered. The scores on both questionnaires were correlated. Hence the validity of hope scale was found to be 0.73.

Please choose one of the options (*totally agree (TA)*, *agree (A)*, *undecided (UD)*, *disagree (DA)* or *totally disagree (TDA)*) for the following statements which describes your believes the most.

Please choose one of the options (*totally agree (TA)*, *agree (A)*, *undecided (UD)*, *disagree (DA)* or *totally*

Disagree (TDA)) for the following statements which describes your believes the most.

Items	TA	A	UD	DA	TDA
1. I am worried about my health					
2. I have the strength to face any problem					
3. I am easily downed in an argument					
4. I easily lose hope					
5. I can do a lot more in life than what I have been doing so far					
6. Failures affect me severely					
7. I have been successful in my life					
8. I usually meet the goal I set for myself					
9. I am worth less					
10. I have no meaning for my life					
11. I am a burden for others					
12. I have confidence in my abilities					
13. I think I am liked by most people					
14. I am satisfied with the things I do					
15. Even when others get discouraged, I know I can find a way to solve the problem					
16. I will be successful in my life					
17. My past experiences have prepared me well for my future					
18. My family supports me during my difficult times					
19. My opinions are valued by the family					
20. I am a burden for my family					
21. People in my family are highly supportive					
22. I pose a financial threat to my family					
23. My family members are highly helpful					
24. My family members like me					
25. I help my family in many ways					
26. I cannot think of a life without my family					
27. I have support from others during difficult times					
28. The society I live in is very acceptive					

29. I am a burden for my friends					
30. I am of no use to the society					
31. My friends like to be around me					
32. My opinions are valued by my friends					
33. I will be of use to my friends					
34. I enjoy my life with my friends					
35. There will be a happier time for me in the future					
36. I have expectations in my life					
37. The difficulties I am going through will decrease or reduce in time					
38. Present tough time is just a test and it will pass					
39. Life is hopeless					
40. Any problem can be solved					
41. Good things will happen more than the bad					
42. I am always worried about what may happen to me in the future					
43. I have many more goals to achieve in the future					
44. There are lots of ways around any problem					
45. I have many things to do for my family					
46. There is no point in expecting good in the future					
47. World will become a better place to live					
48. Future will be happier than the present					
49. I am physically strong					
50. I usually meet my goals					
51. There is solution for any problem					
52. I have a lot more to do for my family					
53. Life is meaningless					
54. I look forward to a better life					
55. I often feel worried about the future					
56. I am content with my life					

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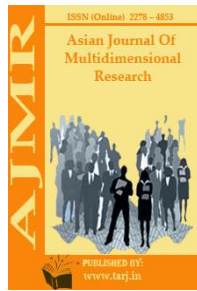
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PROBLEM SOLVING FOR TODAY AND TOMORROW

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ABSTRACT

India will participate in 2021 the Programme for International Student Assessment (PISA). It is intended to evaluate worldwide education system by measuring 15-year-old school students' scholastic performance on mathematics, science and reading and collaborative problem solving. In the year 2012 a problem-solving assessment was introduced in the Indian central board (CBSE) schools to prepare the students on the lines of PISA. The test was designed for class IX and Class X students and the skills assessed were critical thinking, decision making and communication. As India is gearing to participate in PISA 2021 what strategies should be adopted by the Indian schools? Problem solving is considered as a hallmark of intelligence as well as an essential skill for personal and professional success. The present research paper includes discussion on different models of PS and the empirical studies on problem solving among school students and Educational implications. A simplified model to initiate problem solving techniques at school level to hone these skills among the school students is suggested.

KEYWORDS: *Problem, problem solving, PISA, problem solving theory, problem based learning.*

INTRODUCTION

“Today's 15-year-olds with poor problem-solving skills will become tomorrow's adults struggling to find or keep a good job. Policy makers and educators should reshape their school systems and curricula to help students develop their problem-solving skills which are

increasingly needed in today's economies", said Andreas Schleicher, acting Director of Education and Skills at the Organization for Economical Cooperation and development.

(OECD) ¹ The Programme for International Student Assessment (PISA) ² is an international assessment conducted by OECD. PISA measures 15 year old students' reading, mathematics, science literacy every three years. First conducted in 2000, PISA also includes measures of general or cross-curricular competencies such as problem solving. India took part in 2009 and bagged 72th rank among 74 countries. The India decided to stay out of PISA 2012 as the content of the test items were found ³ and the students were not prepared for the test. The Indian 15 year old students were found to be 200 points behind the global topper. The result on problem solving assessment indicated that most of the students could solve familiar problems, a few could solve medium difficulty problems and a very few could solve complicated problems.

Problem-solving tasks and measurement scale

The test identified four aspects of individual problem solving -exploring and understanding, representing and formulating, planning and executing, and monitoring and reflecting and three collaborative problem-solving competencies -establishing and maintaining shared understanding, taking appropriate action to solve the problem, and establishing and maintaining team organization. In the year 2012 the problems were static, while in the year 2015 it was dynamic and now it consists of collaborative problem solving. Computer based collaborative problem solving measures students' ability to work together with two or more people to reach a solution by pooling their knowledge, skills and efforts.

TABLE NO.1 COMPARATIVE PICTURE OF COMPONENTS OF PROBLEM SOLVING IN PISA 2003 & PISA 2021

PISA 2003	PISA 2021
Static, Paper-pencil test	Interactive
Problem Types: 1. Decision making 2. System analysis and design 3. Trouble shooting	Problem Context: 1. Tecnological or not 2. Personal or social
Problem-solving situation: 1. Personal life 2. Work and leisure 3. Community and society	Nature of problem-solving situation 1. Interactive 2. Static
Problem Solving Process 1. Understanding 2. Representing 3. Characterising	Problem Solving Process 1. Exploring and Understanding 2. Representing and formulating 3. Planning and Executing 4. Monitoring and Reflecting

The test items are designed to evaluate 21st century skills like creative thinking, decision making, critical thinking, problem solving and communication. The assessment is done to improve generic and higher order skills. Students ability to process, interpret and use information rather than assess student's prior knowledge. Quantitative domain would emphasize logical and numerical reasoning and use of basic mathematical knowledge. In the year 2012 a problem-

solving assessment (PSA) was introduced in the Indian Central Board (CBSE) schools to prepare the students on the lines of PISA. Indian students from central government run school affiliated to CBSE – like Kendriya Vidyalayas, Navodaya Vidyalayas would be taking part in PISA 2012. OECD would conduct a preliminary test to these schools in 2019 to familiarize them with testing pattern.

TABLE NO 2 CBSE PSA (2012) FRAME WORK

	Section	Subjects
1	Qualitative reasoning	Humanities, Art and Social Studies
2	Quantitative reasoning	Mathematics, Science And technology
3	Language convention	Grammar and usage, vocabulary

DEFINITIONS OF PROBLEM SOLVING

Problem solving is seen as cross curricular competence as per the societal as well as educational perspective. Problems are situations with no obvious solution. A problem is a situation in which person is trying to reach some goal and must find a means for at arriving it.(Chi & Glaser, 1985).⁴ Problem solving requires thinking and learning in action. Problem solving involves identification and recognition of problem on the basis of hunches and feeling, interaction with the environment to clarify the nature of problem and potential solutions. “Problem solver can learn more about the nature of the problem and the effectiveness of their strategies, modify their behaviour and launch a further round of experimental interactions with the environment” (Raven,2000,p.54)⁵

Problem has three components, given, goal and operations. Given are the facts, information presented to describe a problem. Goals are desired end state of the problem. Operations are the actions to be performed in reaching the desired goal. The problems are classified as well-defined problems if start state and the goal is known or ill define problems if the start state and the goal state are partially known. Reitman (1965)⁶ has analyzed four categories of problems according to how well the given state and goal state are stated. First, there is well defined given state as well as well-defined goal state. Second, there is a well-defined given state but poorly defined goal state. Third, the problem may be presented as poorly defined given state and a well-defined goal state. Fourth category involves poorly defined given state as well as poorly defined goal state.

Problem solving requires two kinds of knowledge i.e., declarative and procedural. Declarative knowledge is facts, theories, events and objects. Procedural knowledge tells how to do something; it includes motor skills, cognitive skills and cognitive strategies.

According to the behaviorist theory PS mechanism develops through positive and negative reinforcement. Cognitive theory asserts PS includes introspection, observation and the development of heuristics. Information processing theory view PS as general PS skills and artificial intelligence.(Best, 1995)⁷

Problem solving theories

Wallas (1926)⁸ was first to propose the problem-solving strategies. It includes four phases:

1. Preparation: Gathers information and preliminary attempts to solve it.
2. Incubation: Puts the problem aside for a while but works at subconscious level.
3. Illumination: Gets insight and brings answer to the surface of consciousness.
4. Verification: checks to make sure the insight works.

Poyla (1957)⁹ introduced four steps similar to Wallas based on empirical results. Newell and Simon (1972)¹⁰ proposed a more elaborate theory of PS. This information Processing theory begins with the concept of internal and external representation of a problem that allows the solver to manipulate symbols, switch methods and representations and make decisions as the scheme requires. Information processing system is not very complex as most people use similar strategies. A few basic and general heuristics are enough to solve simple problems.

Greeno (1978)¹¹ has suggested three- part typology of problems. Each of these three basic forms can be associated with a particular cognitive operation or skill necessary to solve a problem. Problems of inducing structure requires understanding the relationship among several elements or discover the rule or pattern involved like in the analogy problems $A : B :: C : D$. The problems of transformation involve finding the sequence of operation that transforms the initial state into a goal state. The classic example is Tower of Hanoi and the cognitive skill required is means-end analysis (Newell & Simon,1972). Lastly the problems of arrangement in which the element should be rearranged according to certain criteria. The typical example is the anagram and the cognitive function required is constructive research.

In real life situation some problems might be a combination of these classifications. Social problem-solving theory (Dzurilla, Nezu)¹² enlists two elements of problem solving- problem orientation and problem-solving styles. Problem orientations include positive problem orientation and negative problem orientation. Problem solving styles are Avoidant problem solving, impulsive problem solving and rational problem-solving style. positive problem orientation leads to rational problem solving, while negative problem orientation leads to avoidant or impulsive problem-solving style.

The Schools focuses on acquisition and mastery of basic concepts, facts, procedure and reasoning. PS requires understanding the real-world situations and using higher order thinking to transfer the knowledge to solve the problems. There are two sub skills required to solve these problems: Knowledge acquisition and knowledge utilization. In exploring and understanding a problem student uses knowledge acquisition skills. The students generate the information, refine and their mental representation of the problem space. While representing and formulating students generate new knowledge, they are quick learners, inquisitive thinking questioning their own knowledge and challenging their own assumptions. In monitoring and reflecting the students use abstract information processing to generate and experiment with the alternatives. Planning and execution demand students to be goal driven and persistent in using the knowledge. In knowledge utilization phase the goal is to solve the concrete problem by moving from abstract to concrete, from knowledge to action. However, in real problem solving several processes occur simultaneously or in succession. The proficient problem solvers are good at all the sort of tasks.

TABLE 3. SKILLS USED AT EACH STEP OF PS.

1	Exploring and Understanding	Knowledge acquisition
2	Representing and formulating	Generating new knowledge
3	Monitoring and reflecting	Abstract information processing
4	Planning and execution	knowledge utilization

Problem Based learning

Problem based learning (PBL) is teaching concepts and fact by using real world problems.

PBL can be incorporated in any subject; it promotes development of critical thinking problem solving and communication skills making students lifelong learners. (DUCH et al, 2001)¹³ The problems can be chosen from any source like newspaper, magazine, journals, books, textbooks, televisions/movies with little editing and rewriting.

Story telling as instructional method can stimulate problem solving. Teacher narrates a story and pauses with a problem student conclude the story or suggest alternative ending. Open ended questions like ‘what if’ triggers imagination and improves ideational fluency and logical reasoning. Storyboard was adopted for problem solving in 1970, This idea generation tool is either static or interactive storyboards on computer. It is best way to generate creative ideas. As the storyboard is flexible, it can be used in all stages of problem solving. It solves complex problem effectively, raises levels of creativity, improve planning, communication and increases participation.

The decision-making tools can also be adapted to teach problem solving. A problematic situation is posed the students should list out options or solution to overcome the problem by stating advantages and disadvantages of each option. .SODAS--stands for situation, options, disadvantages, advantages and solution. It is a simple problem-solving method to train middle school students. It can also be used to improve decision making skills. A similar problem-solving model is IDEAL. The IDEAL is an acronym for Identify the problem, define the problem well, Evaluate the alternative solutions, apply the best solution and look back and check. Another variant of this strategy is SWOT analysis an effective technique to for self-evaluation as well problem solving and decision making. S-Strength W-weakness. O-Opportunities due to strength T-Threats owing to weakness; How to convert weakness into strength.

Transaction analysis was founded by Eric Berne¹⁴ to improve communication as well as behaviour modification therapy. This theory allows students to enrich their dealings with people and understand themselves. There are three ego states: Parent- is out’ taught; concept of life; adult- is ‘thought’ concept of our life and child- is our ‘felt’ concept of life. It is required for collaborative problem solving.

One more cooperative PS method is Six thinking hats by Edward DeBono¹⁵.It is a tool used for group discussion as well individual thinking using six colors. This tool helps students to look at a problem from different point of views by considering one point at a time to avoid confusion and confrontations. It improves focus thinking, creative thinking and communication skills. PS solving is not one-time event it is a lifelong process, To internalize PSS, the principle of Steven Covey’s Seven Habits of Highly Effective People (SCSH)¹⁶ is integrates in the curriculum across the world with great success. The habits like ‘Think win -win, synergy, seek first to understand are explicitly useful for collaborative PS.

TABLE NO 4 SIMPLIFIED MODEL ON APPROACHES TO TEACH PROBLEM SOLVING IN SCHOOL

Pre-Primary	Primary
1. Story Completion	1. Storyboard
2. What if game	2. SODAS (Situation-Options-Advantages-disadvantages-

		Select)
Middle School		High School
1. IDEAL		1. Six thinking hats
2. Problem Based learning		2 Transactional analysis
3. SWOT analysis		3. Stephen Covey's 7 Habits

-Educational implications:

The facts and figures, rules and procedures taught at School help the students to solve routine textbook problems. The non-routine problems are complex and cannot be solved by simple rules alone. A lot of exposure to real world problems is required to improve proficiency and flexibility. The curricular should be redesigning to encompass the rapidly changing knowledge-based society.

Develop a framework to learn critical thinking, problem solving and decision making as key cross curricular component. (Albert Ed, 2013)¹⁷ to instill confidence and skills to solve novel, ill-defined tasks related to personal and professional life. Multiple approaches to transfer knowledge and expression generated in past to solve future problems. Explicit focus on integrating these skills across the subjects and a proper teaching learning and assessment of PS skills. Prepare guidelines to apply Mathematics model and thinking to real world context. Scientific inquiry should enable the learner to investigate a scientific phenomenon and draw inferences. Social studies should reinforce inquiry mind to examine evidence to support point of views. Collectively these skills will enable the students to think creatively and critically when dealing unfamiliar problems.

Students who attend a vocational study program perform better than the students who are in general study, (Malaysia, Shanghai-China and Turkey,)The boys on an average perform better in PS than the girls.(Wüstenberg et al., 2014)¹⁸. For every three top performing boys there are two top performing girls. Girls are deft in planning execution but weaker in representation and formulating. Girls outperform boys in reading while boys outperform girls in mathematics. It indicated that mathematics helps in developing PSS. tasks that measure knowledge-utilization processes appear to be a strong point for girls, while the more abstract “representing and formulating” tasks, which relate to knowledge-acquisition processes, appear to be a weak point for girls. (Halpern and LaMay, 2000)¹⁹ to transform a visual-spatial image in working memory.

Affective domain like general drive and motivation can help in PS. The students who are familiar with interactive computer technology (ICT) are better quipped at problem solving. There is a strong correlation between academic proficiency and PS. In general, the students who excel in mathematics, science and reading also excel in PS. The problem-solving difficulties are associated to poor mathematical skills. It also depends on school's emphases on and approaches towards fostering PSS (Best,1995) This metacognitive reflection might support students' own reflection, and expand their repertoire of generic principles applicable to different. While teaching social studies and science if systematic exploration strategy is used then the students can to apply it in a new context. PSS can the transferred from familiar to unfamiliar situation by using meaningful context. Research has indicated that PSS cannot be taught by training in only enhancing intelligence, working memory or brain capacity. The most important skill in PSS is

ability to monitor and regulate ones thinking and learning. Metacognition thinking about and regulating thinking is a cognitive process that can be taught through cooperative. Learning. Studies have shown that metacognitive pedagogies can be applied across all the classes right from kindergarten to higher educations.

The habits of mind used in visual art classrooms boost the PSS. (Slayton et al., 2010)²⁰ Envision the process and product of art work, observe with new eyes, reflect, think aloud and explain what works and what does not work, Engage and persist under pressure with inner directness and work through frustrations stretch and explore new things and take risks.

The researcher Van Deur P (2001)²¹ recommends explicit students problem solving skills can be improved by discussion of the process of problem solving which could improve the students' knowledge and use of problem solving terms by acting as motivation for PS and effort orientation in their PS. Case DJ (1996)²² in the study titled A comparative study of creative problem solving and traditional skill-based methods of instruction in Queensland technology classrooms indicated that there is significant gain in creativity in the treatment group.

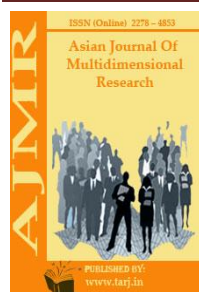
CONCLUDING

All the subjects should include application of knowledge through observation and experimentation. Problem based learning can be successfully implemented in elementary and secondary school. Allen S (2001)²³ While solving an unfamiliar problem students should be open to novelty and uncertainty and use hunches and feeling to initiate solution tolerate doubt. To improve the performance in knowledge acquisition on phase that required processing abstract information by provision opportunities to develop reasoning skills and habits of self-directed learning. Stephen Covey's 7 habits are adopted in school to bring about leadership, emotional intelligence and problem solving skills among the school students. Leader in me book²⁴ professes the successful implementation of 7 habits in schools across the globe. The curriculum and instructional practices within each programme should borrow the best elements from other programmes. There is no reference book in which one can find the solution to life's perplexing problems but a proactive approach by schools will a long way in improving the Problem solving skills.

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FACTOR DETERMINING THE LEVEL OF OUTPUT IN ORGANIC AND INORGANIC FARMING IN NAGAPATTINAM DISTRICT

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ABSTRACT

This paper makes an attempt to analyse the factors determining per acre value of output under organic and conventional farming in Nagapattinam district. Further, it has taken into account the organic and inorganic farming under different sizes of land holdings viz., Marginal, Small, Medium and Large farms. Regarding selection of farm households, about 200 farm households have been selected and interviewed for the present study. Among them, 100 farm households are organic farming and the remaining 100 are inorganic farmers. It could be brought out from the conclusion of the study that, it may be brought out the major factors determining the per acre value of output under organic farming are animal labour, electricity, farmyard manure, panchakavya, amirtha karaisal, neem cake, neem oil green manure, and vermi compost. It showed that even one percent increase in use of these inputs lead to increase in per acre value of output under organic farming. Regarding inorganic farming, it could be revealed that human labour, animal labour, electricity, seed, farmyard manure, potassium and neem cake are the major factors determining the increase in per acre value of output in the study region.

KEYWORDS: *Organic farming, Conventional farming, per acre value of Output.*

INTRODUCTION AND BACKGROUND

Green Revolution introduced in Indian agriculture in the mid sixties paved way for important technological changes and led to an unprecedented rise in crop yields and land productivity in several parts of the country. At the same time, it resulted in over application of inorganic inputs such as fertilizer and plant protection chemicals. As a whole, the post-green revolution period is threatening the sustainability of Indian agriculture and raising a serious concern about receding ground water level in many agriculturally important areas, deterioration of soil fertility, decline

in factor productivity, low diversity of production system and increasing cost of production (Amit Vikram, et al. 2008). More specifically, these problems altogether are leaving agriculture as an economically unviable enterprise for farmers. It is pertinent to point out that indiscriminate use of chemical pesticides to control various insect pests and crop diseases over the years has destroyed many naturally occurring effective biological control agents with an increase in resistance of insect pests towards as a result of over use of the chemical pesticides (Chandra, et al., 2003). The occurrence of multi-nutrient deficiencies and overall decline in the productive capacity of the soil have been widely reported due to non-judicious use of fertilizer. A very sharp observation which is to be made here is that by adopting the New Agricultural Technology, the Indian farmers are not only experiencing loss in agricultural production and productivity but also they have lost the traditional natural eco-friendly knowledge of cultivation practice. In view of these concerns and problems, the modern-day agriculture gave birth to organic farming. It is a farming system 'which avoids using synthetic chemical fertilizer, pesticides and solely depends on the use of on-farm and off-farm crop residues, organic wastes, animal manures, green manures and crop rotations. It mainly incorporates legumes and is highly helpful for biological pest control to maintain soil productivity (Bisoyi, R.N., 2003). It is a means of giving back to nature as what has been taken from it. By and large, the term organic refers to the farm as living organisms.

It is noticed that at global level, 24 million hectares are under organic farming. Presently, a major part of this area is located in Australia containing 10 million hectares under organic farming, followed by Argentina 3 million hectares and 1, 2 million hectares are under organic farming in Italy. In the case of Asia, the countries like China, India and Japan are the largest organic producers. As far as Indian experience in organic farming is concerned, there are 37050 hectares under organic farming and the land area under organic farming is currently increasing (Rajesh Kumar and Kamta Prasad, 2008). It may be seen that India produces a wide variety of organic crops such as grains, tea, coffee, soy, honey, spices, cereals, fruits and vegetables. Similarly, it is seen that Tamil Nadu is one of the agriculturally prosperous states and it has encouraging agro-climatic conditions. The practice of organic farming is also coming up in the state, as an alternate to New Agricultural Technology.

Further, it is seen that various organic' inputs are used in the practice of organic farming viz., farmyard manure, vermin compost, green leaves, green manures, neem cake, cow dung, poultry manure, wood ashes, groundnut husk, paddy husk, sugarcane trash, molassis, cluster bean, oil cake, press and other natural manures (Ganesh Sharma, et al. 2008). In view of this, it could be noticed that a large number of studies are emerging in the area of organic farming taking value addition to organic produce (Borkas, P.A., 2008) future prospects of organic farming (Tatatchar, et al., 2008), strategies for organic farming (Mangala Rai, 2007), scope of organic farming in India (Bhattacharyya and Krishna Bihari, 2003), technical efficiency of organic farming (Madav, A., 2007); feasibility of organic farming in Indian context (Ramesh, P., et al., 2007), the relevance of organic farming and cost and return structure of organic farming in Indian context (Siva Murugan, C., and Anbumani, V. 2007). In this context, the present study deviates from previous studies in the domain of organic farming by making a comparative economic analysis of organic farming and inorganic farming under different sizes of land holdings in Sirkazhi block of Nagapattinam District of Tamil Nadu.

II. Objectives

1. To identify the factors determining per acre value of output among the different sizes of land holdings under organic farming and inorganic farming.
2. To suggest suitable policies for the development of organic farming in Nagapattinam District.

METHODOLOGY

This study is based on both primary and secondary data. The primary data relating to the pattern organic and inorganic input use in agricultural production, organic resource availability and constraints experienced by the farm households have been collected by using a well-structured interview schedule from the study region. In addition to primary data, the secondary data have also been collected from the records available in the District Statistical Office of the Nagapattinam district. It has covered the agro-economic profile of the study area.

As far as the survey design of the study is concerned, it is based on four stage sampling incorporated at four different stages, so as to acquire accurate information by the field of enquiry in Tamil Nadu viz., selection of a district in Tamil Nadu State, selection of blocks in the selected district, selection of a few villages from the blocks selected and selection of organic and inorganic farm households from the selected villages by using random sampling method. In selection of the district, the number of organic farmers will be considered as a prominent indicator. The same indicator has been used to select the blocks from the district. The crucial stage in the sampling process is the selection of farm households in the villages selected from the selected blocks. About 200 farm households have been selected and interviewed for the present study. Among them, 100 farm households are organic and the remaining 100 are inorganic farm households. An important observation, which is to be made here, is that the selection of organic farm households in Sirkazhi block is supported by the institutions which are supporting and disseminating the Organic farming practice and they are experimental group in the study. More importantly, by recalling method what has been observed is that they are practising the organic farming method for more than five years. In addition, they are employing Nammazhvar approach in their organic farming method. In regard to the period of the study, it will cover one agricultural year starting from 1st July 2010 to 30th June 2011.

V. RESULTS AND DISCUSSIONS

This section brings out the major factors determining the per acre value of output under different sizes of land holdings in organic farming and inorganic farming.

TABLE-1: LOG LINEAR MULTIPLE REGRESSION MODEL – ORGANIC

SI.NO	Source	Marginal	Small	Medium	Large	Pooled Farms
1.	Constant	5.98*(5.71)	4.57*(4.02)	6.41*(2.97)	14.46*(8.74)	8.42*(-0.42)
2.	Human Labour	0.49((-3.42)	-0.79(2.62)	0.82*(5.42)	0.64*(4.93)	-0.24(1.82)
3.	Arimal Labour	0.42**(-2.64)	0.**(04.36)	0.34***(3.06)	0.49(4.34)	0.09***(2.46)
4.	Electricity	0.33***(3.22)	0.22***(2.33)	0.44***(3.66)	0.49***(4.21)	0.66***(3.11)
5.	Seed	0.42***(3.09)	0.93***(8.42)	0.67(3.42)	0.26(2.93)	-0.31(3.06)
6.	Farmyard manure	0.42***(2.75)	0.29***(3.72)	0.24*(4.62)	0.49*(3.93)	0.34***(2.92)

7.	Natural Panchagava	1.62*(10.36)	0.11(2.02)	0.19(0.92)	0.24(1.33)	0.28(1.27)
8.	Amirthakarsal	0.42*(7.53)	0.59*(6.06)	0.82**(2.83)	1.24*(5.92)	0.34**(3.06)
9.	Machine ry	0.22(3.43)	0.48(3.85)	0.63*(10.42)	-0.22**(8.42)	-0.25**(2.92)
10.	Neem cake	0.24*(6.38)	0.65*(5.22)	0.81**(3.422)	0.19**(3.72)	0.34**(3.44)
11.	Neem Oil	0.15(1.34)	0.24**(2.92)	0.06(0.43)	0.12(1.26)	0.18**(1.00)
12.	Green manure	0.38*(7.93)	0.42*(3.42)	0.24*(7.62)	0.29*(5.55)	0.88**(12.63)
13.	Vermic compostic	0.62*(-5.42)	0.26*(3.46)	0.11*(3.02)	0.24(0.24)	0.66**(0.82)
14.	Adj R square	0.62	0.45	0.84	0.34	0.48
15.	F	14.62**	18.34*	48.63*	1.42*	38.34*

Source: Computed

*: Significant 1%

** : Significant 5%

Frame Work of Analysis

In order to examine the inputs, which cause variation in per acre value of output among the different sizes of land holdings in organic farming and inorganic farming, the log-linear multiple regression has been employed

$$\log Y = a_0 + \sum_{i=1}^{11} \log X_i + \epsilon$$

Where for organic farming

Y= per acre value of output.

X1= Human labour

X2= Animal labour

X3= Electricity

X4= Seed

X5= Farmyard and manure

X6= Natural Panchagavya

X7= Amirthakaraisal

X8= Machinery

X9= Neem cake

X10= Neem Oil

X11= Green manure

X12= Vermi Compost

ε 's are normally, identically and independently distributed with mean '0' (zero) and variance $\beta_1, \beta_2, \beta_3$, are the parameters to be estimated.

The above model has been estimated separately for marginal, small, medium and large farms by the method of least squares.

The results of log-linear model on organic farming under different sizes of land holdings are shown in Table 4.21. The value of co-efficient of determination (R^2) indicates that all the organic inputs here jointly explain 84 percent of variations in the per acre value of output for the medium farms. It is followed by marginal farms 62 per cent, small farms 45 per cent and it is least in the case of large farms at 34 per cent. The value of R^2 for the pooled organic farms indicates 48 percent. It is implied that out of 100 percent variation of per acre value of output, the given 12 independent inputs contribute maximum to the true of 84 per cent in the case of medium farms, 62 per cent for medium farms, 45 per cent for small farms and it is the least in the case of large farms at 34 per cent. Similarly, the pooled organic farms that is different sizes of land holdings marginal farms, small farms, medium farms, and large farms contribute 48 per cent co-efficient of determination.

It implies that out of 100% per acre value of output variation, about 48 per cent is attributed to the given 11 independent organic inputs, the balance 52 per cent is explained by the factors other than the specified one. The 'F' ratios are found to be statistically significant, which are based on R^2 in each size of land holding classes as well as pooled organic farms. Thus, all the models are suitable irrespective of the size holding classes as well as the pooled organic farms.

Out of 12 independent organic inputs, animal labour, electricity, farmyard manure, Natural Panchakavya, Amirtha Karaisal, Neem cake, Neem oil, green manure and Vermi compost have been statistically significant at 5 percent level for the pooled organic farms. Further, all these above mentioned organic inputs have been positively related to the per acre value of out-put in the case of pooled organic inputs. It showed that one per cent increase in the variables could increase the per acre value of output by 0.09 per cent for animal labour, 0.66 for electricity, 0.34 for farmyard manure, 0.28 for nature panchakavya, 0.34 percent for amirtha karaisal, 0.34 per cent for neem cake, 0.18 per cent for neem oil, 0.88 per cent for green manure and 0.66 per cent for vermicompost.

It is observed in the case of the organic inputs that organic farming practices are mostly dependent on organic inputs for cultivation to enrich the fertility of soil, desilting the soil, increase the bio-stock on the land and under the land, the application of animal labour, consumption of electricity for irrigation, farmyard manure, panchakavya, amirthakaraisal, neem cake, neem oil, green manure and vermicompost which are extensively used in cultivation of crops and preserve the nature of the soil. In addition, the organic farmers in the study region have a strong belief that the natural inputs have the capacity to increase the level of output per acre irrespective of the crops cultivated in the study region under different sizes of land holdings.

In the case of human labour, seed, and machinery, they are negatively related to the per acre value of output and it is found to be statistically significant 't' value. It denotes the fact that an additional one percent increase in human labour has brought reduction in the per acre value of output by 0.24 per cent, for seed it is 0.31 per cent, and machinery 0.25 per cent. It may be pointed out that from the negative co-efficient of human labour, seed, and machinery that the marginal and small farms have excessively used the human labour and medium and large farms have utilized machinery and seed more than the required amount in the practice of cultivation. Since the marginal and small farmers have their own family labour, they do not pay for their own Work in the cultivation, they are in a position to use their labour extensively. In the case of machinery and seed, the medium and large farmers have their own mechanical devices like tractor, power tiller and threshers and they have used it in an exorbitant amount. With regard to seed, the medium and large farmers are storing their own seed and also mostly they are not buying it from the market at the time of sowing. They used it more than the required amount.

However, among the significant variables, animal labour, electricity, farmyard manure, natural Panchakaviya, amirthakaraisal, neem cake, Neem oil, green manure and vermicompost have greater influence on the determination of per acre value of output in the organic pooled farms. 'F' value in the regression model is found to be statistically significant at 5 per cent level.

While making a comparison between input and output among the different sizes of land holdings under organic farming, the input human labour is relatively related to marginal and small farms which shows that one per cent increase in human labour leads to decline in per acre value of output by 0.49 for marginal farms, and 0.79 for small farms. In contrast to the above, human labour is positively related to the per acre value of output for medium farms at 0.82 per cent, and for large farms 0.64 per cent. It implies that the additional one per cent increase in the human labour will lead to increase in the level of output per acre. It is observed in the study region that when the size of the farm is large, the medium farmer and large farmers are unable to use their own labour and hired labour in the operation of irrigation, weeding the land more than once in a season but the marginal and small farmers use their own which recorded first place followed by medium farms at 0.82 per cent, 0.59 per cent for small farms and the least is recorded under marginal farms. It implies the fact that the large farms and medium farms are having still further scope for increasing the level of output per acre by applying amirthakaraisal as compared to marginal and small farmers. With regard to machinery, it may be observed that it is positively related to the level of per acre output for marginal farms, small farms, and medium farms, and it is negatively correlated to the level of output per acre for large farms. It may be brought out that one per cent increase in machinery leads to the level of output per acre for 63 per cent followed by 48 per cent for medium farms and 22 per cent for marginal farms. In contrast, it is seen that even one per cent increase in the use of machinery leads to a decline in the level of output by 0.22 per cent.

It shows that since most of the marginal and small farmers do not own machinery, they use the hired, machinery at optimum level.

In the case of medium farmers, they own machinery, they use it at optimum level and also they are aware of the fact that use of machinery will affect the nature of the soil. In the case of large farmers, it is seen that since they own their own tractors, threshers, power tillers, weeders and transplanters, they are lavishly using the machinery in agricultural operation. As a result, it is negatively related to the per acre value of output.

In regard to neem cake, it is observed that it is positively related to the per acre value of output. It is noticed that even one per cent increase in the application of neem cake leads to 0.81 per cent of the level of output per acre followed by small farms at 65 per cent, small farms at 24 per cent and the least is found at 19 per cent for large farms. In this context, it could be inferred from the results that the application of neem cake does not affect or have adverse impact in determining the level of output per acre among the different sizes of land holdings under organic farming.

As regards the neem oil, it is seen that it has positive impact in determining the per acre value of output among the different sizes of farm categories. While referring to variation in determining the value of output per acre among the different sizes of holding classes, it is observed that one per cent increase in application of neem oil as fertilizer and also pesticide, it is higher for small farmers at 24 per cent, followed by marginal farmers at 15 per cent, large farms at 12 per cent and medium farms at 0.06 per cent. It implies the fact that medium farmers are more judicious in the application of neem oil as pesticide and mixing with other natural manures for pest control in the study region as compared to the other farmers categories.

In regard to green manure, it is positively related to the per acre value of output. It is observed from the results that even one per cent increase in the level of output per acre at 42 per cent for small farmers, 38 per cent for marginal farmers, 29 per cent for large farmers, and 24 per cent for medium farmers.

It could be reasoned out that among all the farmers under different categories of farm sizes, medium farmers have used green manure as green manure in a wise manner. Further, in the case of the input vermin compost which is a vital organic bio-input, it may be brought out that it is found to be positively related to the value of per acre output among family labour both male and female labours extensively in the operations of weeding and irrigation.

Therefore, it may be inferred from the results that even one per cent increase in the human labour will lead to decline in output per acre at 0.79 per cent for small farms and 0.49 per cent for marginal farmers. Similarly, the same trend has been observed in the case of animal labour among the different sizes of land holding. It may be observed that animal labour is negatively related to marginal and small farmers which implies that one per cent increase in animal labour lead to 42 per cent decline in output for marginal farms and 19 per cent decline in output per acre for small farms. The reason is that the live stock like cow, bullock, goat are greater than that of medium farms and large farms. As a result, the marginal farmers and small farmers use more animal labour and also able to use more farmyard manure in the field. In contrast to the above, the medium and large farmers are having relatively low level of livestock and it shows that one per cent increase in livestock will lead to increase in the per acre output by 49 per cent for large farmer and 34 per cent for medium farm. It may be emphasized here that it, they have more livestock like bullock, and cow which does not only support their cost of cultivation but also that will lead to increase in the level of soil fertility bio stock and ultimately they will become economically sound.

In the case of electricity, it may be observed that irrespective of farm sizes, it is positively related to the per acre value of output energy. It implies that electricity is a vital input in supplying irrigation water that too during the scarcity of irrigation water, it has significant position impact on the level of per acre output. However, it is seen that even one per cent increase in the utilization of electricity leads to increase in the per acre output at 49 per cent for large farms, 44 per cent for medium farm 33 per cent for marginal farms and 22 per cent for small farms.

With regard to farmyard manure, it may be observed that it is positively related to per acre value of output among the different sizes of land holdings. By and large, there is variation in determining the value of output per acre among the different sizes of land holdings. It shows that even one per cent increase in farmyard manure will lead to 49 per cent of output per acre for large farms followed by marginal farms at 42 per cent, 29 per cent for small farms and 24 per cent for medium farms. Regarding natural panchakavya, it is seen that it is positively related to per acre value of output irrespective of all sizes of farms in the study region. Since it is out and out natural manure, even over application has not any adverse impact on the level of output per acre among the different sizes of landholding classes. In this regard, it may be observed that one per cent increase in application of panchakavya will lead to 1.62 per cent of output per acre for marginal farms, followed by large farms at 0.24 per cent, 0.19 per cent for medium farms and the least is found for small farmers at 0.11 per cent. Similarly, in the case of amirthakaraisal, it is seen that it is positively related to the per acre value of output. However, there is variation in determining the level of output per acre among the different sizes of land holdings. It is observed that one per cent increase in amirthakaraisal leads to 1.24 per cent increase in the level of output per acre for large farms the different sizes of land holding classes. By and large, it is important to see from the results that one per cent increase in vermicompost leads to 0.62 per cent increase in per acre output for marginal farmers followed by small farmers at 26 per cent, 24 per cent large farms, and the least is found under medium farms at 0.11 per cent.

An Evaluation of Factors Determining the Value of Output Per Acre And The level of Organic Input Application Under Different Sizes Of land holding classes. It could be inferred from the results of pooled organic farms viz., marginal, small, medium and large farms that except human labour, seed and machinery, all other organic inputs like animal labour, electricity, farmyard manure and natural panchakavya, amirthakaraisal, neem cake, neem oil, green manure and vermin compost are found to be statistically significant. However, marginal and small farmers are using human labour exclusively, since they use their own farming labour force. In the case of seed, large farmers use higher amount of seed which shows the fact that they are economically sound and in turn, they have seeds more than required. It also applies in the case of machinery, since they have all mechanical devices which are used in different agricultural operations right from plugging to transportation.

In addition, the co-efficient of determination (R²) is relatively higher for medium farmers as compared to other categories of farmers. To conclude, all the 13 variables selected are more relevant and apt in analyzing the factors determining per acre value of output under different sizes of land holdings in organic farming.

TABLE-2

SI.NO	Source	Marginal	Small	Medium	Large	Pooled Farms
1.	Constant	7.52*(5.93)	6.42*(6.27)	14.63*(4.62)	10.06*(2.64)	5.46*(4.96)
2.	Human Labour	-0.63*(3.42)	-0.82**(3.69)	0.24(3.22)	0.31(03.06)	0.64**(3.52)
3.	Animal Labour	-0.63*(3.42)	-0.82**(3.63)	0.12(5.62)	0.29**(-7.44)	0.37*(3.42)
4.	Electricity	0.24**(3.52)	0.62**(4.63)	0.77**(3.22)	0.82**(3.44)	0.92**(3.21)
5.	Seed	0.68*(2.92)	0.74**(3.42)	0.33(5.375)	-0.57(12.33)	0.47(3.49)

6.	Machine ry	0.27**(2.75)	0.72**(2.09)	0.22**(-2.82)	-1.28*(-5.52)	-01.14(1.42)
7.	Farmyard manure	0.33*(8.88)	0.44*(3.39)	0.22(9.15)	0.52(15.33)	0.79*(12.66)
8.	Pesticide	-0.42(7.34)	-0.51(3.44)	0.40(2.63)	-0.82(3.21)	-0.92*(2.93)
9.	Potassium	0.37*(6.89)	0.33**(02.66)	-	-	0.16*(5.93)
10.	Complex	0.09*(4.64)	0.63**(-2.66)	0.73**(02.49)	0.22**(02.49)	0.08(1.92)
11.	Urea	-0.57*(14.33)	-	0.23**(3.69)	-0.66**(2.29)	-0.25*(6.79)
12.	Neem cake	0.62**(3.93)	0.49**(-10.22)	0.82**(3.52)	0.78**(4.02)	0.81**(3.44)
13.	Adj R square	0.55	0.75	0.84	0.29	0.49
14.	F	14.64**	22.42*	48.64**	5.64*	35.62*

Source: Computed

*: Significant at 1%

** : Significant at 5 %

Figure in parentheses indicated 't' ratios Framework of analysis for in-organic farming.

In order to examine the inorganic inputs which case variation in per acre value of output among the different sizes of land holding under in-organic farming similar log-linear multiple regression model has been employed.

$$\text{Log } Y = \alpha_0 + \sum_{i=1}^{11} \log X_i + \epsilon$$

Where

Y = per acre value of output

X₁ = Human labour

X₂ = animal labour

X₃ = electricity

X₄ = Seed

X₅ = Machinery

X₆ = Farmyard manure

X₇ = Pesticide

X₈ = Potassium

X₉ = Complex

X₁₀ = Urea

X11 = Neem cake

ϵ 's are normally, identically and independently distributed with mean '0' (zero) and variance ,
 $\beta_1, \beta_2, \beta_3 \dots \dots \beta_{11}$ are the parameters to be estimated.

The above model has been estimated separately for marginal, small, medium, large and pooled farms by the methods of least squares under inorganic farming.

RESULTS AND DISCUSSION

In order to determine the relative contribution of different inorganic inputs to the per acre value of output, the log-linear model is estimated. The results of marginal, small, medium and large farmers and pooled farms are presented in table 22.

The value of co-efficient of determination (R²) indicates that all the inorganic inputs have jointly explained about 84 percent of variations in the per acre value of output energy for the medium farms. It is followed by small farms at 72 per cent, marginal farms at 55 per cent, and the least is found for large farms at 0.29 per cent. The value of R² for the pooled inorganic farms indicates 0.49 per cent. It could be brought out that out of 100 per cent variation of per acre value of output, the given 11 independent inputs contribute maximum to the tune of 84 per cent in the case of medium farms, 72 per cent for small farms, 55 per cent for marginal farms and it is the least in the case of large farms at 29 per cent. In addition, pooled inorganic farms Contribute about 0.49 per cent of co-efficient of determination. It brings out the fact that out of 100% per acre value of output variation, about 0.49 per cent is attributed to the given 11 inorganic inputs, the balance 51 per cent is explained by the factors other than the specified one. The "F" ratios are found to be statistically significant, which are based on R² in each size of land holdings as well as pooled farms. Therefore, it is inferred that all the models are suitable irrespective of the size holding classes as well as pooled farms.

It may be seen that out of 11 independent inorganic inputs, human labour, animal labour, electricity, seed, farmyard manure, potassium, and neem cake are found be statistically significant at 5 per cent level for the pooled farms. Further, among them except machinery, pesticide and urea have been positively related to per acre value of output in the case of pooled inorganic farms. It enlightens that even one percent increase in those variables, could increase the output per acre for human labour by 64 per cent, animal labour by 37 per cent, electricity by 92 per cent, farmyard manure by 79 per cent, potassium at 16 per cent and neem cake by 89 per cent. In contrast to the above, the inputs like machinery, pesticide and urea are negatively correlated to the per acre value of output and it is found to be statistically significant 't' value. It could be brought out that even additional one per cent increase in these variables will bring decline in the per acre value of output at 14 per cent for machinery, 0.92 per cent for pesticide and for urea it is found at 25 per cent.

Further, it is clear from the results that over application of machinery, pesticide and urea lead to decline in the level of output per acre.

Among the significant variables, it may be brought out that even one per cent increase in human labour brings a change about the value of output at 0.64 per cent for human labour, 37 per cent for animal labour, 92 percent for electricity, 47 per cent for seed, 79 percent for farmyard manure, 0.16 percent for prottassium, 0.08 percent for complex and 89 percent for neem cake at the pooled inorganic farms.

When the input and output are compared among the different sizes of land holding classes, electricity, machinery, farmyard manure, potassium, complex, urea and neem cake are found to be statistically significant 't' value at 5 percent level in the case of marginal farms.

It may be inferred from the results that these energy inputs are positively related to the per acre value of output energy in the case of marginal farms. Further, It could be inferred from the results that one per cent increase in electricity, seed, machinery, farmyard manures, potassium, complex and neem cake will lead to increase in the per acre value of output by 24 per cent, 68 per cent, 27 per cent, 33 per cent, 37 per cent, 0.09 per cent and 0.62 per cent respectively.

In contrast to the above, human labour, animal labour, pesticide and urea are negatively related to the per acre value of output. They imply the fact that an additional one per cent increase in these inputs leads to decrease in the per acre value of output by 0.63 per cent, 0.42 per cent, 0.42 per cent and 0.57 per cent.

It could be brought out that the negative co-efficient of these inputs are due to the fact that excessive utilization of human family labour and animal labours in agricultural operations. In the case of pesticide and urea, it could be reasoned out that the marginal farms have used inputs beyond the required level.

Similarly in the case of small farmers, electricity, seed, machinery, farmyard manure, potassium, complex and neem cake are positively related to the per acre value of output. It implies the fact that even one per cent increase in these energy inputs will lead to per acre value of output by 0.62 per cent, 0.74 per cent, 0.72 per cent, 0.44 per cent, 0.33 per cent, 0.63 per cent and 0.82 percent.

As against this the negative co-efficient of human labour, animal labour, pesticide and urea show that even an additional one per cent increase in these inputs will result in reduction in the size of output per acre by 0.82 per cent, 0.29 per cent, 0.51 per cent, and 0.49 per cent. It shows that marginal and small farmers are using similar method in applying these inputs in an excessive manner under inorganic farming.

With regard to medium farmers, it could be inferred from the results that human labour, animal labour, electricity, seed, farmyard manure, pesticide, complex, urea and neem cake are positively related to the per acre value of output. More specifically, the inputs like electricity, machinery farmyard manure, complex, urea and neem cake are found to be statistically significant at 5 per cent level.

It could be inferred from the results that the foresaid inputs which are positively related to the per acre value of output under medium in-organic farmer category could increase the per acre value of output by 0.24 per cent, 0.12 per cent, 0.77 per cent, 0.33 per cent, 0.22 per cent, 0.39 per cent, 0.23 per cent and 0.78 per cent.

Contradictorily, the inputs, potassium and machinery are negatively related to the per acre value of output. It shows that one per cent increase in these input could lead to decline in the per acre value of output by 0.22 per cent and 0.73 per cent. Since medium farmers use their own machinery in agricultural operation, it showed negative co-efficient. In the case of potassium, it may be argued that in the study region medium farmers have used potassium beyond the recommended level of dosage under inorganic fanning practices.

In the case of large farmers, it may be observed that out of eleven independent variables, electricity, neemcake and farmyard manure are statistically found to be significant at 5 per cent level. It implies the fact that even one per cent increase in the above said inputs could increase the per acre output under large farms by 0.82 per cent, 0.52 per cent, and 0.81 per cent.

As against this, the inputs viz., seed, machinery, pesticide, potassium, complex and urea are found to be negatively related to the per acre value of output in the study region. It shows that one per cent increase in these variables will lead to decline in per acre output at 0.57 per cent, 1.28 per cent, 0.82 per cent, 0.21 per cent and 0.66 per cent. However, it may be observed that since the large farmers use their own machines in agricultural operation in an excessive manner, especially in ploughing the over utilization of these inputs, transplanting, threshing, and — transporting of grainness, led to negative outcome in aggregation.

In the case of chemical fertilizers and pesticides, it is noticed that they have the misbelief that over application of chemical fertilizer will lead to an increase in per acre output, though the reality is reverse. Yet another observation is that since the size of the farm is large and they are under inorganic practice of cultivation, they depend on synthetic fertilizer and pesticides to support their land.

VI. CONCLUSION

With regard to the factors determining per acre value of output under organic farming, it could be concluded from the results that out of 12 organic inputs animal labour, electricity, farmyard manure, natural panchakavya, amirthakaraisal, neem cake, neem oil, green manure and vermicompost have been positively related to per acre value of output. It shows that even one per cent increase in these inputs will lead to increase in the per acre out.

As regards the factors determining per acre value of output under inorganic farming, it may be inferred that human labour, animal labour, electricity, seed, farmyard manure, potassium and neem cake are positively related to the per acre value of output.

VII. Policy Implications

The following policies could be of immense use for policy makers, planners and agricultural scientists in the field of organic farming. Further, the policies suggested here are in the context of the analysis of the present study.

- i. Farmers should be made aware of the importance of natural inputs such as farmyard manure, neem oil, neem cake, panchakavya, amirthakaraisal and green manure. Since they are vital organic inputs and enrich the fertility of soil, the application of such inputs should be encouraged as against the synthetic chemical farm inputs which destroy the organisms on the soil and under the soil.
- ii. In the preparation of natural inputs like vermicompost, amirthakaraisal, panchakavya and other natural inputs, the government should give proper training to the farmers.
- iii. Incentives should be widely given to the farmers to adopt the practice of organic farming.
- iv. The government should supply organic inputs at subsidized rate to the farmers who are practicing organic farming.
- v. Regarding organic products, the government should give more price to the organic products.
- vi. The growing demand for organic products in the global market should be made known to not only to the organic farmers but also to the inorganic farmers. This will have a significant impact on the inorganic farmers to shift from inorganic farming to organic farming.

- vii. Farmers should be made aware of agriculture residues on the ground that they should be used as organic inputs.
- viii. It may be suggested that marginal and small farmers should be made more viable by giving special importance by the government.
- ix. ix. If organic farming practice is given proper importance, all the adverse consequences could be overcome in the years to come.

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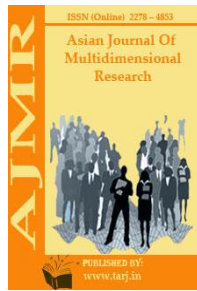
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MEASURES AND WHAT AFFECTS WORK AND FAMILY BALANCE? A LITERATURE REVIEW

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ABSTRACT

Work-Family balance is an appealing and inquisitive concept since two or three decades. Scholars, academicians, public sector and private sector executives all of them are always try to explore what are the factors which are responsible for work-family conflict? On the other hand what are the factors which help the employees to maintain a balance between work and family life? This paper is found out the answers of such questions. This study is purely based on literature review. Finally, we explored various dimensions related to work-family balance such as: Time, Strain, behaviour and Management support. Work-family conflict arises due to demands related to time, behaviour and working polices of an organization. While management support, flexible working hour, Work-from home and emotional support from family are some factors responsible for balancing a better work-family life. Another objective of this paper is to find out major scales of work-family balance through extensive literature review.

KEYWORDS: *Work-Family balance, Time, Strain, Behaviour, Conflict, Facilitation, Measurements.*

1. INTRODUCTION

Employees as well as employers both are struggling with work and family balance. They face lots of challenges due to work and family imbalance on a daily basis. These are arising due to various factors such as time, strain, behaviour of the individual etc.(Pleck et al., 1980; Greenhaus

&Beutell, 1985; Netemeyer et al., 1996). This paper also analyses various conflict factors from demographic characteristics like gender, age, marital status (Henly and Lambert, 2008; Shankar and Bhatnagar, 2010; Devi and Nagini, 2013; Goswami, 2014). Now a day's family structure changed, the development of single parent families, ageing parents, and having working spouse are responsible for work-family conflict. As nuclear family structure is very common so employee cannot seek help from the other family members. Which leads to strain and time based conflict. Employees alone cannot easily cope up with these problems. There should be collective efforts from the family members as well as organizations. Family member can support them by helping in house hold chores and by emotional support. Organization can support them by providing flexible work hours, work from home, carers leave and maternity leave etc. To predict work-family conflict and work-family facilitation number of scales found in literature viz. Netemeyer and Boles (1996), Hayman J. (2005), Carlson et al. (2006), Matthews et al. (2010) and Haslam et al. (2014). These scales are mainly developed on the basis of various factors (Time, Strain, management support etc.) affects the work-family balance.

2. LITERATURE REVIEW

Work-family conflict concept

Work-family balance is a concept that involves proper prioritizing between work (career and ambition) and lifestyle (health, pleasure, leisure, family and spiritual development/meditation). Work-family balance is multifaceted as it includes three aspects 'work', 'family' and balance (Deery, 2008). Work-family balance is multidirectional as well because work and family life affect each other in both positive and negative ways (Kirchmeyer 1992; Frone, 2003). While the negative aspect of work-family life is known as work-family conflict; the positive aspect of work-family life is known as work-family facilitation.

Work-family conflict happens if imbalanced demands within the work and family roles occurs which makes it difficult to play both roles. The given definition of work-family conflict is based on the idea that (work-family conflict) and (family-work conflict) are different but related forms of inter-role conflict (Pleck et al., 1980; Greenhaus & Beutell, 1985; Netemeyer et al., 1996). Work-family conflict is of two types: (1) Work to family conflict. (2) Family to work conflict. As per Netemeyer et al. (1996) "Work to family conflict" starts if amount of time dedicated to work and strain generated by the job affects the family related duties. On the other hand "Family to work conflict" starts if the amount of time dedicated to family and strain generated by family affects the work related duties.

Work-family facilitation forms the constructive part of the work-family relationship. There are various studies which are related to positive relationship between work and family life. The terms used for such relationship are positive work-family spill over, work-family enrichment and work-family facilitation (Netemeyer et al., 1996; Carlson et al., 2006). Work-family facilitation comprises of positive spill-over from family to work and from work to family. Stoiko et al. (2016) stated that positive work-to-family spill-over reflects how employees' work positively affects their family life. On the other hand, positive family-to-work spill-over shows how an employees' family life affects their work.

2.1 Factors affecting the work-family balance

Work-family relationship is dividing in two parts - work-family conflict and work-family facilitation. This section described various factors responsible for conflict as well as facilitation between work and family.

(i) Factors affecting work-family conflict : There are various factors which affect work-family balance like long working hours, unpaid overtime, stress, loss of social support network and demographic characteristics (Bond, 2004; Eldridge & Nisar, 2011; Henly & Lambert, 2014). Various researches suggest that though employees want to earn extra time with family through flexible working hours, job related issues like security, and high profile roles were at priority. This leads to behaviour based conflict, strain based conflicts and time based conflict, which result in deterioration of performance at work. Home-work interference and the need for recovery of physical, mental fatigue had a negative lagged impact on concentration which leads to work-family conflict (Ahmad and Skitmore, 2003; Demerouti et al., 2007; Goswami, 2014).

Henly and Lambert (2014) analysed the unpredictable working hours specifically for women dominated roles like retail store sales associate. Hours are unpredictable because part-time work is common and overtime is rare, also due to high work demands during weekends and evenings. Results of this study proved that unpredictability is significantly associated with three consequences: strain-based conflict, time-based conflict and general work-family conflict, measured by perceived workers stress. They specifically found that receiving prior notice for working schedule has a positive effect on work-family conflict and time-based conflict. Experience of last-minute changes to the work schedule with instances of limited prior notice resulted in work-family conflict, specifically effecting strain-based conflict. They also found that unpredictability experienced through different sources enhanced employee's level of strain-based conflict and time-based conflict.

Work-family conflict arises due to the following constraints:

(a) Time based conflict arises due to long working hours, unpaid overtime, existence and unevenness of shift work (Pleck et al., 1980; Bond, 2004; Priyadarshni et al., 2014). Time dedicated to the duty of one role (work life) makes it tough to fulfil duty of another (family life) and vice-versa (e.g. having to take sick parents to the doctor during office time) (Greenhaus & Beutell, 1985).

(b) Strain based conflict arises when effect of one role makes it tough to fulfil duty of another (e.g. Difficult work day leading to short temper with family) (Greenhaus & Beutell, 1985). Strain based conflict is a consequence of physical and mental fatigue which has a negative impact on mental concentration required at work (Pleck et al., 1980; Greenhaus & Beutell, 1985; Demerouti et al., 2007; Priyadarshni et al., 2014). These studies also concluded that strain factors like feeling of physical fatigue, frustration; time-constraints like missing family gatherings due to work duties significantly contribute to work-family conflict.

(c) Behaviour based conflict: Burke and Weir (1980) have revealed that the behaviour style required at work (logic, formal, authority) is different from the behaviour desired in the family (informal, kind). Specific behaviours needed by one role make it tough to fulfil the duty of another (e.g. authoritative work style may be effective at workplace but may lead to confrontations at home). According to Greenhaus & Beutell (1985), the behaviour expectation at work like formal behaviour, emotional stability is different from behaviour expected in the

family environment which is primarily more informal, warm and emotional resulting in behaviour based conflict.

(d) Demographic characteristics: The level of work-family conflict also depends on demographic characteristics of a person such as age, gender, marital status and family responsibility (Shankar and Bhatnagar, 2010; Devi and Nagini, 2013; Goswami, 2014, Henly and Lambert, 2014). Most of the studies indicated that there is a significant imbalance between various age groups - the employees aged between 20-25 years' experience more work-family imbalance as compared to older employees. An employee who has more dependent responsibilities like children and aged parents face higher work-life imbalance as compared to employees with no dependent responsibility.

(e) Family structure: Family structure affects the work-family balance especially in countries like India where family structures are going through a transition. Currently in India families are transforming from joint structure families to nuclear families. Employees living in joint family structure may benefit as responsibilities get shared between larger group/family members like childcare responsibility. Employees living in nuclear family don't have this advantage and thus have to face more work-family conflict (Goswami, 2014 & Shankar & Bhatnagar, 2010).

TABLE 2.1

S. No.	Factors responsible for Work-family conflict	Various studies related to them
1.	Time	Pleck et al., 1980, Greenhaus & Beutell, 1985, Netemeyer et al., 1996; Ahamd & Skitmore, 2003; Demerouti et al. 2007.
2.	Strain	Pleck et al., 1980; Greenhaus & Beutell, 1985; Netemeyer et al., 1996; Ahamd & Skitmore, 2003; Demerouti et al. 2007.
3.	Behaviour	Pleck et al., 1980; Greenhaus & Beutell, 1985; Netemeyer et al., 1996.
4.	Demographic Characteristics such as: A. Age B. Gender C. Marital Status D. Education	Henly & Lambert, 2008; Shankar & Bhatnagar, 2010; Devi & Nagini, 2013; Goswami, 2014.
5.	Family structure: A. Nuclear family B. Joint family	Shankar & Bhatnagar, 2010; Goswami, 2014.

(ii) Factors responsible for work family facilitation

(a) Organization support:

Organization support plays an essential role in implementation of effective work and life balance practices. There are various family friendly practices such as: alternative work arrangements, offsite work practices, flexible working time and carer's leave policies, job sharing facility etc. When workers perceive greater management support they have higher work-family balance (Yuile et al., 2012). Organizations which provides support to employees are more successful in implementing work-family balance policies effectively and efficiently (Galvez et al., 2012).

According to a study by Richman et al. (2008) supportive work-family policies represent organizational support and specifically contribute to a co-operative work culture. Eldridge and Nisar (2011) also investigated the influence of flexitime practices and concluded through research that flexitime offers better opportunities to fulfil family responsibilities along with work responsibilities and helps in making efficient use of free time. As workers can select their start and finish working time probably it will help them to manage little extra time off in a week. With such opportunities, motivation and morale of employees rises. This also helps in reduction of stress at the work-place and improves happiness at home finally resulting in an increase in employee's performance which is a desirable situation for the organization.

(b) Family support:

If an individual has peaceful environment and family support at home, he is likely to perform better at workplace (Demerouti et al., 2007).

Family support means support from life-partner, family member and relatives. Family support can be of two types- Instrumental support and emotional support. Instrumental support is related to domestic activities such as (1) cleaning (2) food preparation (3) taking care of children and elder parents (Susi & Jawaharrani,2010). Distribution of home responsibilities can be helpful in balancing unity and adaptability among family members. On the other hand emotional support assists individuals well-being (e.g. better mood) which can support his/her work -life (Namayandeh et al.,2010; Ahmad & Omar,2012; Selvarajan et al.,2013). Family support also results fewer arguments with life partner and minimum family burden (Grzywacz& Marks 2000b).

TABLE 2.1.1

S. No.	Supportive factor for work-life balance	Various studies related to them
1.	Family Support (i) Emotional support. (ii) Distribution of house chores responsibility between partners (iii) Less family criticism	Grzywacz& Marks,2000b; Demerouti et al. ,2007;Susi & Jawaharrani,2010;Namayandeh et al., 2010;Ahmad & Omar,2012; Selvarajan et al.,2013.
2.	Organization support: (i) Flexible work polices. (ii) Supervisor support. (iii) Carer's leave & Maternity leave. (iv)Telecommuting. (v) Employees health and wellness Programs. (vi) Co-worker support.	Bond,2004; McPherson ,2007; Richman et al.,2008; Eldridge &Nisar,2011; Parmar,2012; Galvez et al, 2012; Yuile et al., 2012; Zulch et al.,2012; Sivatte&Guadamillas,2013;Namita,2014.

3. Measures of work family balance

First empirical measure on work-family relationship was developed by Small and Riley (1990). They developed a scale known as Work Spillover Scale (WSS). It is a 20 items scale. These items were developed on the basis of four major family roles viz. marital role, parent role, leisure role and home management role. Data was collected from 618 bank executives and 236 spouses. This scale was formulated for calculating negative effect or conflict between work and family.

The Work-family conflict (WFC) and Family-work conflict (FWC) scale (Netemeyer& Boles,1996) is a short 7 point, 10-items scale which consists of five items of WFC and five items of FWC. Three different samples were used. Sample 1 was from elementary and high-school teachers and administrators. Sample 2 from small owner business owners and Sample 3 from real estate salespeople. Examples of items from the scale include “My job produces strain that makes it difficult to fulfil family duties (work-family conflict sub scale). “ Family- related strain interferes with my ability to perform job-related duties (family-work conflict scale). The value of Alpha for the subscale ranges from 0.82 to 0.90 providing evidence of high internal consistency.

Grzywacz and Mark (2000) developed a 16 item scale. They proposed a measure which is based on both work-family conflict as well as work-family facilitation. They collected data from 1986 respondent from National Survey of Midlife Development in United State (MIDUS). Four dimensions of this scale were: (1) Work to family negative spillover. (2) Family to work negative spillover. (3) Work to family positive spillover. (4) Family to work positive spillover.

A psychometric tool comprising of 39 statements categorised into five factors was developed for measuring Work-life balance by Mathew and Panchanatham (2011). The sample for this study was collected from women entrepreneurs in South India on a five point Likert scale. The five factors were support network, time management, quality of health, dependent care and role overload. The factor loadings of all items were found to be greater than 0.5 and Eigen values higher than 1.0. These values confirm the appropriateness of factor analysis.

Another scale comprising of 10 items is the Work-family conflict scale by Haslamet. al (2014).It comprises of two subscales 1. Work-to-family conflict (WFC) 2.Family-to-work conflict (FWC). This scale was designed for use with parents of young children aged between 2-12 years of age. Each factor had an eigen value greater than 1(7.60 and 2.02).The coefficient H for both subscales was more than .70 (.91 for WFC and .91 for FWC respectively), indicating very good internal consistency of the measure.

Work-family balance scale (Singh, 2014) is a 24-item scale with Cronbach alpha value 0.908 and the reliability of subscales ranging from 0.968 to 0.798. The data was collected from 114 service sector professionals .This scale consisted of four dimensions viz.work spillover in personal life, personal life spillover in work, work/life behavioural enhancers and work/life behavioural constrains. These four factors had Eigen values greater than 1 ranging from 1.511 to 10.628, which shows the importance of each factors. These four factors accounted for 79.947% of the total variance.

Work-family conflict scale(Goswami, 2014) is a 19- item scale that includes conflict as well as management support. This study was conducted in Indian software firms of Pune and Bangalore city. A majority of scale items for work-to-nonwork imbalance were adopted from Greenhaus and Beutell’s(1985) scale, while dependent variable of organizational commitment was measured using two scale items of Allen and Meyer’s(1990). Responses were sought on a five-point Likert scale. The scale has good internal consistency Alpha value of 0.892.

TABLE 3 EXISTING SCALES ON WORK-FAMILY BALANCE

S.no.	Name of the scale	Year of publication	Findings
1.	Small & Riley	1990	<ol style="list-style-type: none"> 1. Sample was collected from bank executives. 2. 20 item scale. 3. Items were developed on the basis of four major family roles viz. marital role, parent role, leisure role and home management role.
2.	Netemeyer & Boles et al.,	1996	<ol style="list-style-type: none"> 1. Three different samples were used: Sample 1 is from elementary and high-school teachers and administrators. Sample 2 is from small owner business owners. Sample 3 is from real estate salespeople. 2. Seven point Likertscale. 3. Alpha estimated range from .82 to .90 provides evidence of internal consistency.
3.	Grzywacz & Mark	2000	<ol style="list-style-type: none"> 1. Sample was collected from National Survey of Midlife Development in United State. 2. 16 item scale. 3. Four dimensions were: (i) Work-family negative spillover (ii) Family-work negative spillover.(iii)Work-family positive spillover. (iv) Family-work positive spillover.
4.	Matthews & Panchanatham	2011	<ol style="list-style-type: none"> 1. The sample for this study was collected from women entrepreneurs in south India. 2. Five point scale. 3. This psychometric tool comprises of 39 statements related to five factors. 4. These five factors are Support network, Time management, and quality of health, dependent care and role overload. 5. The factor loadings of all items are greater than 0.5 and eigen values are higher than 1.0. These values confirm the appropriateness of factor analysis.
5.	Haslam et al.	2014	<ol style="list-style-type: none"> 1. Sample comprised of parents of young children between 2-12 years of age. 2. 10 item scale. 3. Scale comprises of two subscales 1. Work-to-family conflict (WFC) 2. Family-to-work conflict (FWC). 4. Each factor had an Eigen value greater than 1(7.60 and 2.02).
6.	Goswami	2014	<ol style="list-style-type: none"> 1. Samples were collected from IT professionals. 2. Five point Likert scale.

			<p>3. 19- item scale that includes conflict as well as management support.</p> <p>4. A majority of scale items for work-to-nonwork imbalance is adopted from Greenhaus and Beutell's(1985) scale. While dependent variable of organizational commitment was measured using two scale items of Allen and Meyer's (1990).</p>
7.	Singh	2014	<p>1. Sample was collected from various Service sector professional.</p> <p>2. 24-tem scale with cronbach alpha value 0.908.</p> <p>3. Reliability of subscale ranging from 0.968 to 0.798.</p> <p>4. This scale consisted of four dimensions as Work spillover in personal life, personal life spillover in work, work/life behavioural enhancers and work/life behavioural constrains.</p> <p>5. These four factors have Eigen values greater than 1 ranging from 1.511 to 10.628, which shows the importance of each factors.</p>

4. Discussion and Managerial Implications

Various factors such as time, strain, behaviour and lack of family and organizational support are responsible for work-family conflict. When employees are able to pay equal attention to both personal and professional lives they like their jobs and feel committed. Supportive work-family policies represent an organizational support and specifically contribute to a co-operative work culture. The findings of this study have vital implications for management practices in organizations. An organization that implemented better flexible work policies would see improvement in employee engagement and talent retention which will also lead to business success (Devi and Nagini, 2013; Richman et. al., 2008; Goswami, 2014; Sivatte and Guadamillas, 2013).

The benefits of work-life balance practices are not only essential for the organization, but also for the employees, society and family. Work-life balance practices lead to the following organizational outcomes such as improved productivity, reduced absenteeism, increased employee retention, lower worker turnover rate and improved company's image. On the other hand, work-family balance policies have the following benefits to the employees such as better mental and physical health, job security, reduced stress level, enhanced job satisfaction and improved control over work and life environment (Lazar et. al., 2010; Devi and Nagini, 2013; Richman et. al., 2008).

5. Limitations and Future Research Directions

This study is purely based on review literature. So we consider only those factors which have been discussed by various studies. As the living style of people changes from the last ten years, there can be more factors than those which can be responsible for work-family conflict. Thus

scholars can explore more factors, by empirical study. This study is generalised study, one can find out factors on the basis of rural area or metro cities also. Because there may be a chance that some factors are applicable to the employees are staying in metro cities and not the employees working in small cities. There are very few studies on behaviour-based conflict, this area needs to be more research as compare to other factors.

6. CONCLUSION

Employees facing work-family imbalance due to following constraints such as time, strain, role based conflict. These are inevitable conflict, but the family as well as an organization can support employees with their emotional as well as instrumental support. Work-life balance is not only essential for married, working mothers or couples with children but also important for working individuals (Shankar and Bhatnagar ,2010). Studies revealed that various factors that one experiences in their family life which affect an individual's work performance. Problems faced by employees in the family life may negatively affect performance in the work domain. Therefore, organization, governments and policy makers should enhance the means and policies to facilitate family life better. Such policies will be beneficial for the organization themselves as it would translate into better performance and thus higher profitability (Ahmad and Skitmore, 2003; Demerouti et. al., 2007).

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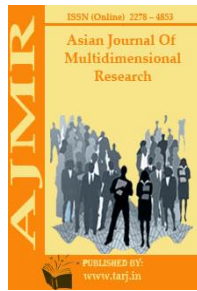
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ON SOME INTEGRALS AND EXPANSION FORMULAE INVOLVING JACOBI POLYNOMIAL AND ALEPH-FUNCTION

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ABSTRACT

In the present paper, the authors has established some results involving the Jacobi polynomials and Aleph-function . Some expansion formulae are also established. Some particular cases are also given.

KEYWORDS: *Jacobi Polynomial, Expansion Formula, Aleph-function.*

(2010 Mathematics subject classification: 33C99)

1. INTRODUCTION

The \aleph - function introduced by Suland et.al. [7] defined and represented in the following form:

$$\begin{aligned} \aleph[z] &= \aleph_{p_i, q_i; \tau_i; r}^{m, n}[z] = \aleph_{p_i, q_i; \tau_i; r}^{m, n} \left[z \mid \begin{matrix} (a_j, \alpha_j)_{1, n}, [\tau_i(a_{ji}, \alpha_{ji})]_{n+1, p_i} \\ (b_j, \beta_j)_{1, m}, [\tau_i(b_{ji}, \beta_{ji})]_{m+1, q_i} \end{matrix} \right] \\ &= \frac{1}{2\pi\omega} \int_L \theta(s) z^s ds \end{aligned} \quad (1.1)$$

Where $\omega = \sqrt{-1}$;

$$\theta(s) = \frac{\prod_{j=1}^m \Gamma(b_j - \beta_j s) \prod_{j=1}^n \Gamma(1 - a_j + \alpha_j s)}{\sum_{i=1}^r \tau_i \left\{ \prod_{j=m+1}^{q_i} \Gamma(1 - b_{ji} + \beta_{ji} s) \prod_{j=n+1}^{p_i} \Gamma(a_{ji} - \alpha_{ji} s) \right\}} \quad (1.2)$$

We shall use the following notation:

$$A^* = (a_j, \alpha_j)_{1, n}, [\tau_i(a_{ji}, \alpha_{ji})]_{n+1, p_i}, B^* = (b_j, \beta_j)_{1, m}, [\tau_i(b_{ji}, \beta_{ji})]_{m+1, q_i}$$

2. Main Results

The following results are required in our investigations:

The Gamma-product formula ([1], p.4)

$$\Gamma(mz) = (2\pi)^{\frac{1}{2}-\frac{1}{2}m} m^{mz-\frac{1}{2}} \prod_{k=0}^{m-1} \Gamma\left(z + \frac{k}{m}\right) \quad (2.1)$$

The Saalschutz's theorem ([5], p.32 (9)) and ([4],p. 360)

$${}_3F_2 \left[\begin{matrix} -n, \alpha+n, 1-\alpha+\beta-\gamma \\ 1+\alpha-\beta, 1+\alpha-\gamma \end{matrix}; 1 \right] = \frac{(\beta)_n (\gamma)_n}{(1+\alpha-\beta)_n (1+\alpha-\gamma)_n} \quad (2.2)$$

The integral,

$$\int_{-1}^1 (1+x)^{\mu-1} (1-x)^{\lambda-1} P_v^{(\alpha,\beta)} \left(1 - \frac{\gamma z}{2} (1-x) \right) dx \\ = \frac{2^{\lambda+\mu-1} (\alpha+1)_v \Gamma(\mu)}{v!} \sum_{r=0}^v \frac{(-v)_r (1+\alpha+\beta+v)_r \Gamma(\lambda+r)}{r! (1+\alpha)_r \Gamma(\lambda+\mu+r)} \left(\frac{\gamma z}{2} \right)^r \quad (2.3)$$

Where $\text{Re}(\lambda) > 0, \text{Re}(\mu) > 0$, which is modified form of the formula ([2],p. 192 (46)) and $P_v^{(\alpha,\beta)}(x)$ is the Jacobi polynomial defined by ([5],p. 254)

$$P_v^{(\alpha,\beta)}(x) = \frac{(1+\alpha)_v}{v!} {}_2F_1 \left[\begin{matrix} -v, 1+\alpha+\beta+v \\ 1+\alpha \end{matrix}; \frac{1}{2}(1-x) \right]$$

The first integral to be established is

$$\int_{-1}^1 (1+t)^{\mu-1} (1-t)^{\lambda-1} P_v^{(\alpha,\beta)} \left(1 - \frac{1}{2} \gamma z (1-t) \right) \mathfrak{N} \left[x(1-t)^\delta \right] dt \\ = \frac{2^{\lambda+\mu-1} (1+\alpha)_v \Gamma(\mu)}{v!} \sum_{r=0}^v \frac{(-v)_r (1+\alpha+\beta+v)_r}{r! (1+\alpha)_r} \left(\frac{\gamma z}{2} \right)^r \\ \mathfrak{N}_{p_i+2, q_i; r; x}^{m, n+1} \left[2^\delta x \Big|_{B^*}^{(1-\lambda-r, \delta), A^*, (\lambda+\mu+r, \delta)} \right] \quad (2.4)$$

Valid for $\delta > 0, \text{Re} \left(\lambda + \tau_i \delta \frac{b_{ji}}{\beta_{ji}} \right) > 0 (j=1, \dots, n)$.

Proof: Expressing the Aleph-function in the integrand as a Mellin-Barnes type integral (1.1) and interchanging the order of integration, which is justified due to the absolute convergence of the integral involved in the process, we have L.H.S. equal to

$$\frac{1}{2\pi i} \int_C \theta(s) \int_{-1}^1 (1+t)^{\mu-1} (1-t)^{\lambda+\delta s-1} P_v^{(\alpha,\beta)} \left(1 - \frac{1}{2} \gamma z (1-t) \right) dt ds$$

Now evaluating the inner integral with the help of (2.3) and interchanging the order of integration and summation, we get

$$\frac{2^{\lambda+\mu-1}(1+\alpha)_v \Gamma(v)}{v!} \sum_{r=0}^v \frac{(-v)_r (1+\alpha+\beta+v)_r}{r!(1+\alpha)_r} \left(\frac{\gamma z}{2}\right)^r \frac{1}{2\pi i} \int_C \frac{\theta(s) \Gamma(\lambda+r+\delta s)}{\Gamma(\lambda+\mu+r+\delta s)} 2^{\delta s} ds.$$

On applying (1.1), the result (2.4) follows.

Particular Cases:

(i) Setting $r = 1, \tau_i = 1$ in (2.4) and using (1.14), we obtain

$$\begin{aligned} & \int_{-1}^1 (1+t)^{\mu-1} (1-t)^{\lambda-1} P_v^{(\alpha, \beta)} \left(1 - \frac{1}{2} \gamma z (1-t)\right) H_{p, q}^{m, n} \left[x(1-t)^\delta \left| \begin{matrix} (a_j, \alpha_j)_{1, p} \\ (b_j, \beta_j)_{1, q} \end{matrix} \right. \right] dt \\ &= \frac{2^{\lambda+\mu-1}(1+\alpha)_v \Gamma(v)}{v!} \sum_{r=0}^v \frac{(-v)_r (1+\alpha+\beta+v)_r}{r!(1+\alpha)_r} \left(\frac{\gamma z}{2}\right)^r \\ & \quad H_{p+1, q+1}^{m, n+1} \left[2^\delta x \left| \begin{matrix} (1-\lambda-r, \delta), (a_j, \alpha_j)_{1, p} \\ (b_j, \beta_j)_{1, q}, (\lambda+\mu+r, \delta) \end{matrix} \right. \right] \end{aligned} \quad (2.5)$$

The second integral to be established is

$$\begin{aligned} & \int_{-1}^1 (1+t)^{\mu-1} (1-t)^{\lambda-1} P_v^{(\alpha, \beta)} \left(1 - \frac{1}{2} \gamma z (1-t)\right) \aleph \left[x(1-t)^\delta \right] dt \\ &= \frac{2^{\lambda+\mu-1}(1+\alpha)_r \Gamma(\mu)}{v!} \sum_{r=0}^v \frac{(-v)_r (1+\alpha+\beta+v)_r}{r!(1+\alpha)_r} \left(\frac{\gamma z}{2}\right)^r \\ & \quad \aleph_{p_i+1, q_i+1; r; \tau}^{m, n+1} \left[2^\delta x \left| \begin{matrix} (\lambda+r, \delta; 1), A^* \\ B^*, (1-\lambda-\mu-r, \delta) \end{matrix} \right. \right] \end{aligned} \quad (2.6)$$

Valid for all conditions given in (2.4).

The proof of (2.6) is similar to the (2.4).

Particular Cases:

(i) Setting $r = 1, \tau_i = 1$ in (2.6), we obtain

$$\begin{aligned} & \int_{-1}^1 (1+t)^{\mu-1} (1-t)^{\lambda-1} P_v^{(\alpha, \beta)} \left(1 - \frac{1}{2} \gamma z (1-t)\right) H \left[x(1-t)^\delta \right] dt \\ &= \frac{2^{\lambda+\mu-1}(1+\alpha)_r \Gamma(\mu)}{v!} \sum_{r=0}^v \frac{(-v)_r (1+\alpha+\beta+v)_r}{r!(1+\alpha)_r} \left(\frac{\gamma z}{2}\right)^r \\ & \quad H_{p+1, q+1}^{m, n+1} \left[2^\delta x \left| \begin{matrix} (\lambda+r, n; 1), (a_j, \alpha_j)_{1, p} \\ (b_j, \beta_j)_{1, q}, (1-\lambda-\mu-r, n) \end{matrix} \right. \right] \end{aligned} \quad (2.7)$$

Valid for all condition given in (2.6)

Some Expansion Formulae

The expansion formulae to be established are

$$\left(\frac{1-x}{2}\right)^\sigma \aleph \left[y(1-x)^\delta \right] = \sum_{r=0}^{\infty} \frac{(-1)^r (1+\alpha+\beta+2r)\Gamma(1+\alpha+\beta+r)}{\Gamma(1+\alpha+r)} P_r^{(\alpha,\beta)}(x) \aleph_{p_i+2, q_i+2; r; \tau}^{m, n+2} \left[2^\delta y \Big|_{B^*, (1-r+\sigma, \delta), (2+\sigma+\alpha+\beta+r, \delta)}^{(-\sigma, \delta), (-\sigma-\alpha, \delta), A^*} \right] \quad (2.8)$$

Where $\sigma > 0, \operatorname{Re}(\alpha) > -1, \operatorname{Re}(\beta) > -1, \operatorname{Re}\left(\sigma + \alpha + \tau_i \delta \frac{b_{ji}}{\beta_{ji}}\right) > -1,$

and all the conditions are satisfied given in (2.4).

And

$$\left(\frac{1-x}{2}\right)^\sigma \aleph \left[y(1-x)^\delta \right] = \sum_{r=0}^{\infty} \frac{(-1)^r (1+\alpha+\beta+2r)\Gamma(1+\alpha+\beta+r)}{\Gamma(1+\alpha+r)} P_r^{(\alpha,\beta)}(x) \aleph_{p_i+2, q_i+2; r; \tau}^{m, n+2} \left[2^\delta y \Big|_{B^*, (1\sigma+r, \delta; 1), (1-\alpha-\beta-\sigma-r, \delta; 1)}^{(1+\alpha+\sigma, \delta; 1), (1+\sigma, \delta; 1), A^*} \right] \quad (2.9)$$

Valid for all the condition given in (2.8)

Proof: To prove (2.8), let

$$f(x) = \left(\frac{1-x}{2}\right)^\sigma \aleph \left[y(1-x)^\delta \right] = \sum_{r=0}^{\infty} C_r P_r^{(\alpha,\beta)}(x), \quad (-1 < x < 1) \quad (2.10)$$

Equating (2.10) is valid since $f(x)$ is continuous and of bounded variation in the open interval $(-1, 1)$ when $\sigma \geq 0$.

Multiplying both sides of (2.10) by $(1-x)^\alpha (1+x)^\beta P_v^{(\alpha,\beta)}(x)$ and integrating with respect to x from -1 to 1 , we get

$$2^\delta \int_{-1}^1 (1-x)^{\sigma+\alpha} (1+x)^\beta P_v^{(\alpha,\beta)}(x) \aleph \left[y(1-x)^\delta \right] dx = \sum_{r=0}^{\infty} C_r \int_{-1}^1 (1-x)^\alpha (1+x)^\beta P_v^{(\alpha,\beta)}(x) P_r^{(\alpha,\beta)}(x) dx$$

Now using (2.6) and orthogonal property of Jacobi polynomials ([2], p.285(5)), we obtain

$$C_r = \frac{(-1)^r (1+\alpha+\beta+2r)\Gamma(1+\alpha+\beta+r)}{\Gamma(1+\alpha+r)} \aleph_{p_i+2, q_i+2; r; \tau}^{m, n+2} \left[2^\delta y \Big|_{B^*, (1-r+\sigma, \delta), (2+\sigma+\alpha+\beta+r, \delta)}^{(-\sigma, \delta), (-\sigma-\alpha, \delta), A^*} \right] \quad (2.11)$$

From (2.8) and (2.9), the formula (2.6) immediately follows.

To prove the formula (2.7), the same procedure as above is adopted and instead of formula (2.6), the result (2.7) is used.

Particular Cases:

$$\left(\frac{1-x}{2}\right)^\sigma H\left[y(1-x)^\delta\right] = \sum_{r=0}^{\infty} \frac{(-1)^r (1+\alpha+\beta+2r)\Gamma(1+\alpha+\beta+r)}{\Gamma(1+\alpha+r)} P_r^{(\alpha,\beta)}(x)$$

$$H_{p+2,q+2}^{m,n+2} \left[2^\delta y \left| \begin{matrix} (-\sigma,\delta), (-\sigma-\alpha,\delta), (a_j,\alpha_j)_{1,p} \\ (b_j,\beta_j)_{1,q}, (1-r+\sigma,\delta), (2+\sigma+\alpha+\beta+r,\delta) \end{matrix} \right. \right] \quad (2.12)$$

Valid for all the conditions are given in (2.8).

(i) Setting $r = 1, \tau_i = 1$ in (2.9), we obtain, we get

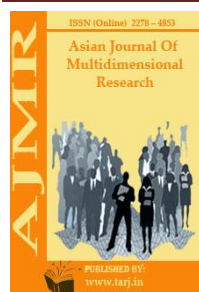
$$\left(\frac{1-x}{2}\right)^\sigma H\left[y(1-x)^\delta\right] = \sum_{r=0}^{\infty} \frac{(-1)^r (1+\alpha+\beta+2r)\Gamma(1+\alpha+\beta+r)}{\Gamma(1+\alpha+r)} P_r^{(\alpha,\beta)}(x)$$

$$H_{p+2,q+2}^{m,n+2} \left[2^\delta y \left| \begin{matrix} (1+\alpha+\sigma,\delta;1), (1+\sigma,\delta;1), (a_j,\alpha_j)_{1,p} \\ (b_j,\beta_j)_{1,q}, (1+\sigma+r,\delta;1), (1-\alpha-\beta-\sigma-r,\delta;1) \end{matrix} \right. \right] \quad (2.13)$$

Valid for all the conditions are given in (2.9).

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FOOD POLICY IN INDIA: A HISTORICAL APPRAISAL

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ABSTRACT

The food policy is a consequential wedge in the sphere of Indian public policy as it plays a pivotal role in determining food security in the country. In this regard, the government of India has taken many steps from time to time by introducing various food policies. Initially the rationing system was introduced and was extended in the form of Public Distribution System especially for urban areas. During 1980s the Public Distribution System was linked with anti-poverty and employment programs and in order to increase the household level food security the Revamped Public Distribution and Targeted Public Distribution System schemes were introduced during 1990s. Later on Targeted Public Distribution System and Mid Day Meal Scheme were also introduced to tackle the menace of hunger and malnutrition. Recently National Food Security act, 2013 unified all the food programs under one umbrella and streamlined the benefits of all the programs according to the needs of the beneficiaries. Therefore, the objective of the present paper is to provide an overview of food policy in India and the steps taken by government to improve it in order to ensure the food security to all people in the country.

KEYWORDS: Food Policy, Food Security, Poverty, Public Distribution System, ICDS

INTRODUCTION

The food policy is a consequential wedge in the sphere of Indian public policy as it plays a pivotal role in determining food security in the country. The food policy embodies all area of public policy concerning how food is produced, processed, distributed, and purchased. Currently, it is a very arduous task to formulate a stable food policy that can sustain and satisfy the masses

for a long period of time. In this regard, the government of India has taken many steps from time to time by introducing various food policies for assuring food security among the general masses. Among these policies, Public Distribution System is the most important medium through which the government ensures food security at the micro-level. The British government introduced the first structured public distribution of cereals in India through the rationing system in Bombay during World War II and later extended it to six cities and regions. Later, this rationing system was abolished by the government after the end of the war and was reintroduced in 1950 after independence; due to the inflationary pressures of the economy. Ever since, the Indian government has used the public distribution system to overcome chronic food shortages due to unpredictable food production in the country.

These policies have been generated mixed response from the academic community. Therefore, in this paper various efforts and policies of Indian government to ensure safe, sufficient and economically viable food for the people have been discussed.

REVIEW OF LITERATURE

Lot of work has been done by scholars on food security and public distribution system (Subbarao (1980), Acharaya (1983), Bhatia (1983), George (1984, 1996), Bapna (1988, 1993), Tyagi (1990), Rao (1993), Kannan (1995), Swaminathan (2002), Vyas (2003)). These scholars explained how the concept of food security and PDS emerged in India after the Bengal famine in 1942-43, as majority of agricultural, casual labour and artisans were affected by this famine due to which rationing food grains system was introduced in the country. They also discussed the evolution of PDS and the issues related to its implementation by the government. The functioning and growth of PDS and its role in ensuring food security in the country were highlighted by scholars like Acharya (1983), George (1984, 1996), Bapna (1988, 1993), Tyagi (1990), Rao (1993), Kannan (1995), Swaminathan (2002), Vyas (2003) and Srinivas and Abdul Thaha (2004).

Issues such as coverage and leakages in public distribution system have also been highlighted by Howes and Jha (1992), Cornia and Stewart (1993), Parikh (1994), Radhakrishna (1994), Jain and Shah (2005), Drèze and Reetika (2011), Khera (2011), Rajadhvaksha, (2012) and Overbeck (2016) in their studies. Drèze and Reetika (2011) in their article published in Hindu newspaper discussed about PDS leakages in the country and said poor people are not benefited through PDS rather substantial proportion of grains mainly wheat and rice under PDS are sold in the open market by corrupt intermediaries, including some dealers who manage PDS outlets. Khera (2011) examined different aspects of the PDS, its role in ensuring food security, corruption and other complaints, state-level diversity and reform measures undertaken by state governments in her report based on nine-state survey of PDS. Rajadhvaksha (2012) stated that in India food insecurity, hunger situations due to lack of proper public distribution system network not due to shortage of food. The result showed that coverage, entitlements and implementation of the PDS vary at the state level and it gives contradictory results if we evaluate PDS only at the national level. Overbeck (2016) has studied the leakage and corruption in PDS. The results showed that the proportion of PDS leakages has increased over time. The increase in APL quota in PDS is the major obstacle in reducing the corruption and leakages in PDS.

Various scholars such as Mishra (2013), Tanksale and Jha (2015), Sengupta and Mukhopadhyay (2016) have studied the various issues, challenges and impacts of NFSA. Tanksale and Jha (2015) have discussed the various features of NFSA and highlighted the issues and challenges

which acts as obstacles in the effective implementation of this act. Identification of the targeted population is the major challenge. This study suggested allotment of foodgrains should be increased and diversification of commodities should be enhanced under this act. Sengupta and Mukhopadhyay (2016) have discussed the economic and environmental impacts of NFSA. The economic impacts have been analyzed by using input-output (IO) framework and the environmental impacts have been assessed through seven environmental indicators. The study suggested that for a sustainable food system the agricultural sector should be revised thoroughly by considering its environmental implications.

Objective

The objective of this study is to provide an overview of food policy in India and the steps taken by government to improve it in order to ensure the food security to all people in the country.

RESEARCH METHODOLOGY

This paper is highly based on secondary data sources such Government of India reports, books and journals. Data related to Public Distribution System such as number and location of Fair Price Shops, number of beneficiaries, type of commodities distributed were collected from Department of Food & Public Distribution under the Ministry of Consumer Affairs, Food & Public Distribution.

RESULTS AND DISCUSSION

The results of the present study have been discussed under two sections. The first section explains the historical evolution of food policy in India and second section focuses on the various aspects of Food Security Act, 2013.

History and Evolution of Food Policy in India

The food policy of India has its outset in the past which goes as far back in history as 2nd World War. Initially the food policy was introduced as a rationing system mainly for urban areas and the entire establishment was formed laid out by importing food grains from foreign countries. Although this policy provide entitlements to the needy population and deliver much needed relief from the recurrent famines at the time, a huge economic burden was also piled up owing to this policy. So right away after independence this policy was scrapped. In lieu of it Public Distribution System was instituted. The main difference in this new program was that a lot more prominence was given to the self-reliance on food grains which was highly appropriated in the first five year plan of India. In this plan major part of the budget was designated for the development of agriculture within the country. The evolution of the PDS is depicted in Table 1.

TABLE 1 EVOLUTION OF PUBLIC DISTRIBUTION SYSTEM IN INDIA

Name of Programme	Time	Details
Rationing System	World War II	Subsidised food for urban areas
Public Distribution System (PDS)	1950s	General entitlement scheme
Revamped Public Distribution System (RPDS)	1992	Area based approach
Targeted Public Distribution System (TPDS)	1997	Income based approach
Annapurna Scheme	2000-01	Provide free of cost foodgrains to the poor senior citizens

Antyodaya Anna Yojana (AAY)	2001	Provide highly subsidised foodgrains to poorest of the poor
Food Security Act	2013	Provide legal right to food to the poor

Source: Ministry of Consumer Affairs, Food and Public Distribution, Govt. of India.

Due to regular interventions of the government a new era ushered in the domain of Indian agriculture with the dawn of green revolution. It dramatically transfigured the whole structure of Indian agriculture. Hybrid seeds, new irrigation methods, extensive mechanization and chemical fertilizers laid the foundation of modern agricultural practices. These factors downrightly changed the food distribution system also. Within a decade India became self-sufficient in food grains. The manifold surge in the food production warrants the government to expand its food program to far reach places. Thus in 1970s and 1980s the outreach of Public Distribution System was extended to tribal blocks and areas of high incidence of poverty. This policy of general food entitlement worked until 1992 which does not had any specific target till then. But in June 1992 the whole food policy was refurbished and was name as Revamped Public Distribution System (RPDS). This scheme was introduced in 1775 blocks throughout the country. But with the object to provide maximum benefit of its program to the poor population of the country this scheme was changed again in 1997 and was renamed as Targeted Public Distribution System (TPDS). TPDS was introduced to provide food specifically to the poverty stricken families. Even the offtake by the poor under TPDS was substantially higher than under universal PDS. But still large errors lingers in inclusion of the BPL households as TPDS covers only 57% of all the BPL families (Swaminathan (2003), Jha and Srinivasan (2001). Apart from it this system had also been plagued by leakages of offtake. The amount of leakages also varies among different states of India. In the total leakage in Bihar and Punjab, exceeds 75% while in Kerala, Orissa and Tamil Nadu it was less than 25% (Planning Commission 2005; Balani, 2013). The consumption of the foodgrains provided under this system also varied between various states of India. The states of Jammu and Kashmir (56%), Tamil Nadu (48.3%), Mizoram (47.4%), Himachal Pradesh (37.5%) had highest share of PDS rice consumption in India. While on the other hand Punjab (0.1%), Haryana (0.6%), Manipur (1.3%), Rajasthan (1.5%), Nagaland (4.9%) had below 5 percent share. As far as the PDS wheat Consumption as percent of monthly per capita consumption was concerned, it was highest in Tamil Nadu (69.9%), Jammu and Kashmir (47.8%), Mizoram (47.4%) and Kerala (46.9%). While Nagaland, Manipur Jharkhand, Sikkim, Gujarat states had below 10 percent share of PDS wheat.

Apart from TPDS the other key food programmes were Antyodaya Anna Yojna, Mid Day Meal Scheme and Village Grain Bank Scheme. The Antyodaya Anna Yojna (AAY) was started in December, 2000 for one crore poorest of the poor families of India. These families were pinned down to with the help of state level comprehensive surveys. Under this scheme the beneficiaries could purchase upto 37 kg of food grain at highly subsidized cost. Subsequently in the coming years another one crore poor of the poor population was included under this scheme. The Mid Day Meal (MDM) Scheme was implemented in 1995 in order to improve the nutritional status of children. For this purpose all the students studying in primary to middle classes in the government and government aided school are served with free lunch on each working day. The primary objective of this scheme is to serve meal containing at least 300 kilocalories to the target students for the minimum of 200 days a year. Both central and state governments incur the

expenses of this scheme. Judging by its merits this scheme has also been given its due place in the National Food Security Act, 2013.

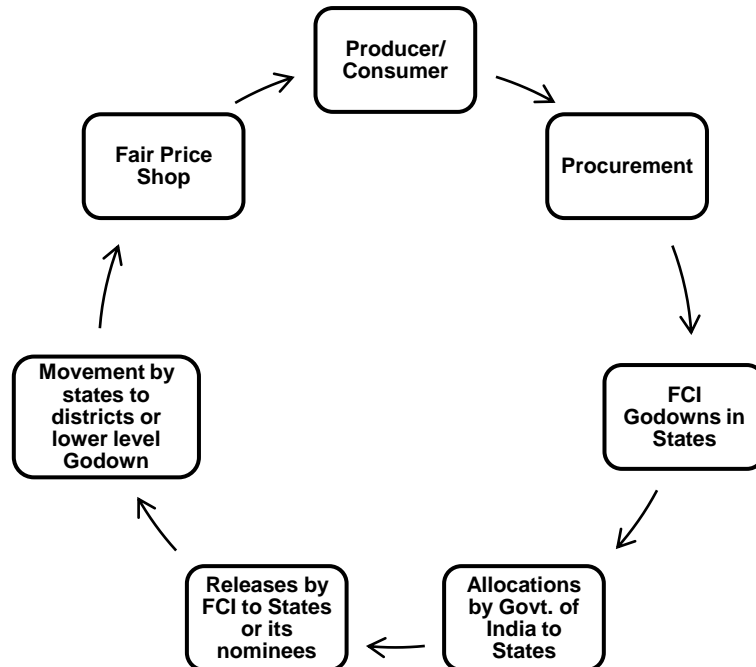
But PDS scheme was not free from the problems of leakages and corruption issues. Several empirical studies (Gupta 1977, Subbarao 1988, Johl 1989, Nair and Srivastava 2001), based on PDS purchases, have shown that the poor were not benefiting much from the PDS and PDS remained urban oriented and biased towards middle and rich classes. Subbarao Gupta (1977) and (1988) observed that population below poverty line, especially in the rural areas did not benefit much but the urban population undoubtedly benefited from PDS policies in the country (except Kerala Gujarat and Andhra Pradesh) and even rural population was not adequately covered by PDS network. Johl (1989) also viewed that the food subsidies through PDS served mainly the middle and lower middle classes of urban areas in preference to the rural areas and the allocation of these subsidized foodgrains in most cases went more to the states having comparatively higher per capita income. Parikh (1994) concluded that PDS is not an effective strategy in reaching the poor as it provides only little support to the poor. Jain and Shah (2005) analyzed the coverage of Antyodaya Anna Yojana and Mid-Day Meals schemes in Madhya Pradesh and found that AAY had insufficient coverage in villages and in tribal areas poor people do not have access to PDS. They also evaluated the "ruchikar" (relishing) mid-day meal programme of the MP government as a result of which enrolment in schools has dramatically increased despite the poor meal quality and inadequate infrastructure. But the absence of a separate administration for meal management placed an enormous burden on teachers, which poses a danger of further compromising the already very poor quality of primary education.

National Food Security Act (NFSA), 2013

In order to overcome the problems of PDS, National Food Security Act (NFSA) has been introduced in 2013. At present, NFSA is considered as the most important food security network introduced by the Government of India under the Ministry of Consumer Affairs, Food and Public Distribution. This is an ambitious program of the Indian government which strives to serve 67% of the population and is the world's largest welfare scheme. This act aims to bring substantial reforms to the already existing food welfare schemes. Under this act the Antyodaya Anna Yojana, Targeted Public Distribution System, Mid Day Meal Scheme and Integrated Child Development Scheme were amalgamated under one policy. Moreover the act also aims to enhance women empowerment in India. Further an improved grievance redressal mechanism has also been charted out under this act and more emphasis has also been given to put transparency and accountability at the centre stage of the whole system.

This is perhaps the largest distribution network of its kind in the world and has also evolved as an important poverty alleviation programme of the central government. It functions with the help of 4.63 lakh Fair Price Shops spread all over the country. It is operated under the joint responsibility of the central and the state governments. The central government is responsible for procurement, storage, transportation, and bulk allocation of food grains while the state governments distribute the same to the consumers through the established network of Fair Price Shops (FPS). The allocation and identification of BPL/APL families, issuance of ration cards, supervision and monitoring the functioning of FPS's are done by the state governments. The items distributed under this scheme include wheat, sugar, pulses and kerosene. Fig 1 shows the functioning of the PDS.

Functioning of PDS/NFSA



Source: Modified from B. K. Taimni (2001) Fig. 1

The government under this act seeks to serve 75% of the rural population and almost half of the urban population of India as far as distribution of entitlements is concerned. Each family member from the recognized household is eligible for 5 kg of food grains per month at highly concessionary prices i.e. rice at rupees 3 per kg, wheat at rupees 2 per kg and coarse grains at rupee 1 per kg. Moreover Antyodaya Anna Yojana continues to deliver 35 kg of foodgrains to the poorest of the poor households. Furthermore, the government divided the households as priority households and other priority households so as to fix the cost of entitlements. Furthermore the children under the age of 6 years receive food under the Integrated Child Development Services Program and children under the age of 14 receive food at their school under Mid Day Meal Program. The pregnant and lactating mothers also receive sufficient nutritious food without any charge. Moreover, to encourage women empowerment, in all the new ration cards the eldest women above the age of 18 has been identified as household head.

NFSA as an effective tool against the hunger, poverty, malnutrition and food insecurity (Bhusan, 2013). No matter how beneficial the National Food Security Act, 2013 is in tackling the menaces of hunger and food insecurity, in the long haul it will ultimately prove as a burden on the national economy (Sengupta and Mukhopadhyay, 2016). Apart from it chance of errors in identifying the targeted population is also very large under this act (Tanksale and Jha, 2015). By enacting various acts and policies the government of India has curbed the problems of hunger but till date it could not ensure the eradication of the problem of malnutrition.

CONCLUSION AND SUGGESTIONS

It can be concluded that earlier the PDS was seen as a mere rationing' system to distribute the scarce commodities and later it was seen as a Fair price' system in comparison with the private trade. Till late seventies, the PDS was largely confined to urban population and did not guarantee adequate food to the rural poor in times of crisis. During the late 1970's, and early eighties some

state governments (Kerala, Gujarat, Tamil Nadu, and Andhra Pradesh) extended the coverage of PDS to rural areas and also introduced the target grouping approach. At present this system is working efficiently in Chhattisgarh and in southern states.

The government of India could enhance the efficiency of NFSA by overcoming the various problems of this act. To target the BPL population, all the MGNREGA workers must be covered under this act. Further to address the issue of nutrition security pulses should also be included at subsidized rate for the poorest of the poor population. The footsteps of the Chhattisgarh Public Distribution System model should also be followed as it leads the way in the field of efficient working of PDS system. The Chhattisgarh model ensures the proper working of the fair price shops (FPS) by giving the ownership of FPSs to women self help groups, panchayats and cooperative societies. The storage capacity of foodgrains has also been increased 5 times under this model. Further in an attempt to curb corrupt practices by the FPSs owners the commission of the FPS owners has been increased 4 times. To check the proper deliverance of foodgrains, computerised monitoring system & smart ration card system has also been introduced under this model.

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PRISON REFORMS IN INDIA: EMERGING ISSUES

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ABSTRACT

In other words, imprisonment as a mode of dealing with offenders has been in vogue since the time immemorial. Prisons and correctional services are said to be the “jail end” of criminal justice administration. Prisons in the present day contexts play the role of reformatories also. Prison, according to the Oxford English Dictionary, is a place, properly arranged and equipped for the reception of persons who by legal process recommitted to it for safe custody while awaiting trial for punishment.⁴ Lord Macaulay drew attention of the Government of India to the terrible conditions in the Indian Jails and on his suggestion, a Committee was appointed on 2nd January, 1836, to look in to the conditions and report thereon. It was the First Committee on Prison Reformation. The enactment of the Borstal Act, the Childrens’ and the Probation Acts and The Punjab Good Conduct Prisoners’ Provisional Release Act were undoubtedly the direct or indirect result of the general interest, aroused by the Report. The Report, it may be remarked, “laid the foundation stone of modern prison system in India”. The present committee was of the opinion that the enactment of a uniform and comprehensive legislation on prisons would be possible within the existing provisions of the Constitution of India, as India is a party to the International Covenant on Civil and Political Rights, 1966. The question of inducting alternatives to imprisonment involves certain amendments in the substantive law.

KEYWORDS: *Imprisonment, Amendments, Comprehensive, Reformatories*

INTRODUCTION

Prison system is as old as civilization itself in the society throughout the world. In other words, imprisonment as a mode of dealing with offenders has been in vogue since the time immemorial. Prisons and correctional services are said to be the “jail end” of criminal justice administration. Prisons in the present day contexts play the role of reformatories also. The prisons are no longer regarded as places for punishment only. They are now being considered as reformatories and greater attention is being given to ameliorate the conditions in jails so that they have a healthy impact on the prisoners in developing a positive attitude towards life and society. The ultimate purpose is to integrate the prisoners in the society after their release from the prison.¹

HISTORICAL BACKGROUND OF REFORMATIVE INSTITUTION

We have to look forward to the historical background of this reformatory institution in order to understand the real meaning, existence, functioning of prisons and types of prisoners and their living conditions in prisons. The existence of an “orderly society” rests upon the sound and efficient functioning of the criminal justice system. In a democratic civilized society like ours, Criminal Justice System is expected to provide maximum sense of security to people at large by dealing with crimes and criminals promptly and effectively without any distinction on the basis of caste, creed, religion, ethnicity, gender etc. Among the three basic pillars, prison administration is the last wing of the Criminal Justice System.

As per the prevailing usage in India, the term “Jail” is a generic term which applies to penal institutions housing both prisoners awaiting trial and prisoners committed to sentences.² Prisons are also called “jails” in India unlike the UK where they are called “prisons”, or the USA where they are “prisons”, “penitentiaries”, “jails”, and “houses of corrections” depending on the nomenclature used in different States for the different categories of prisons.³ Prison, according to the Oxford English Dictionary, is a place, properly arranged and equipped for the reception of persons who by legal process recommitted to it for safe custody while awaiting trial for punishment.⁴

“Whatever may be the official definition of prison as jail, work house, reformatory, penitentiary, State prison, House of correction or whatever else, it is a place where the punishment of imprisonment is executed. The prison is the manifestation of people’s tireless efforts, towards the discovery of curative and refractive process”.⁵

“The prison is the most opaque institution of the State which means no one can just walk into a prison and ask to be taken around as one would in the State’s Courts of Justice, or State schools or hospitals”.⁶ “Prison is that part of the penal system where criminals are held in custody for varying lengths of time determined by the courts as punishments of the offences”.⁷ Thus, Correctional institutions are the institutions where persons are confined while on trial or for punishment. “Prisons are in their true essence, institutions which perform conflicting tasks of:

- 1) Punishment to those offending laws of the country; and
- 2) Providing for inmates’ rehabilitation during their stay in prisons.

This is an ideal perception of the jails as institutions reckoned by Gresham Sykes in his work “The Society of Captives”.⁸

PRISON REFORMS IN INDIA

The “prison reforms revolution” in India, divided under two separate headings i.e., prison reformation before independence and prison reformation after independence which is given as follows:

Prison Reforms Before Independence

Lord Macaulay’s Committee (1835) – The First Committee on Prison Reforms

“There were 43 Civil, 75 Criminal and 68 mixed jails in 1835, under the rule of East India Company. Administrative structure for modern prison system originated from the Minute by T.B. Macaulay, the then Law Member of the Supreme Council of India. Lord Macaulay drew attention of the Government of India to the terrible conditions in the Indian Jails and on his suggestion, a Committee was appointed on 2nd January, 1836, to look in to the conditions and report thereon. It was the First Committee on Prison Reformation. The recommendations of the Committee”⁹ were that Central Jails should be built to accommodate not more than 1000 prisoners each, that Inspector-General of Prisons should be appointed in all provinces and the sufficient building should be provided in all jails to accommodate prisoners comfortably.¹⁰

“In pursuance of the recommendations of the Committee, a Central Prison was constructed at Agra in 1846. This was the first Central Prison in India and was followed by construction of Central Prisons at Bareilly and Allahabad in 1848, at Lahore in 1852, at Madras in 1857, at Bombay, Alipore, Banaras and Fatehgarh in 1864 and at Lucknow in 1867”.¹¹

The R.C. Majumdar and KaliKinkar Dutta “commenting upon the jail system of India during East-India Company (1818-1857) observed that the early Indian jail system was, like English prototype, in-sanitary, demoralizing and non-deterrent.

In 1844, the first Inspector-General of Prisons was appointed in the North-Western Province (Uttar Pradesh). Punjab appointed the Inspector-General in 1852, Bengal in 1854, Bombay in 1854, Madras (Chennai) in 1854, and Central Provinces in 1862. However, the recommendations of the “Macaulay Committee” could not be implemented because, among other things, the East India Company rule, replaced by the British Crown Rule in 1858. The English Criminal Law came to be applied to Indians. The Indian Penal Code, 1860 and the Criminal Procedure Code, 1973 which had long been in preparation were enacted in 1859 and 1860 respectively. The imprisonment as a form of punishment which was first applied in India in 1773 came to be applied on uniform basis throughout India in 1860. The Directors of the East India Company were reluctant to spend money on jails and although jails were modeled on British lines, the conditions of jails were extremely bad.¹²

The Second Committee on Prison Reformation (1864)

The Second Committee on Prison Reforms was appointed in 1864 and made the similar recommendations as the first committee. A noteworthy feature of administrative structure of prison system in India is participation of warders and night watchmen in the executive duties. This system was introduced by the Britishers in 1864 in order to minimize expenditure on establishment.¹³ The Government of India passed the Prisons Act in 1870 to amend the law relating to prisons in the country. It lay down that there should be a superintendent, a medical officer, a jailor and such subordinate officers as the local government thinks necessary.¹⁴ The Act enumerated the duties of the superintendent. The Act made provisions for the separation of

prisoners of males from females, of children from adults, of criminal from civil. Prisoners sentenced to simple imprisonment also were allowed to work and no prisoner sentenced to rigorous imprisonment. The Act defined the list of prison offences and empowered the superintendent to punish such offences.¹⁵ The Act of 1870 tried to give effect to the recommendations of the Committee of 1864 and brought the prison administration in the forefront.

The Third All India Jail Committee, 1877

A Conference of Experts met to inquire into prison administration in 1877. The conference proposed the enactment of a prison law and a draft bill was prepared. The Third India Jail Committee was thus, appointed in 1877. It reviewed the jail management generally and mostly concerned itself more with the matters of detail in prison work than with the general, aims and principles of administration.¹⁶

The Fourth All India Jail Committee, 1888

The Fourth India Jail Committee was appointed in 1888. On the basis of its recommendations, a consolidated prison bill was formulated. Provisions regarding the jail offences and punishment were specially examined by a conference of experts on Jail Management.¹⁷

The Committee recommended the separation of undertrial prisoners and the classification of prisoners into casuals and habituals. Most of the recommendations of the Committee were incorporated in the jail manuals of various provinces.¹⁸

The Fifth All India Jail Committee, 1892

The work of the Fourth All India Jail Committee was supplemented by the next All India Committee of 1892. This was the Fifth All India Committee. It resurveyed the whole prison administration in India and drew up proposals on the subject of prison offences and punishment.¹⁹ The Report of this Committee was accepted by the Government of India which passed the Prisons Act of 1894 with the assent of the Governor General of India. It is the Prisons Act, 1894, on the basis of which the present jail management and administration operates in India. This Act has hardly undergone any substantial change. However, the process of review of the prison problems in India continued even after this.²⁰

Enactment of the Reformatory Schools' Act, 1897

The year 1897 was a landmark in the history of prison reforms movement in India. The Reformatory Schools Act was passed in that year. The Act modified the prior legislation on the subject, which had remained more or less a dead letter, and directed the courts to send a youthful offender below fifteen years of age to a Reformatory School instead of a prison. Then the Prisoners Act of 1900 was passed. Even though different commissions were appointed, the Indian prison system lagged behind on the reformatory side of the prison work.²¹

Sixth All Indian Committee on Prisons

To bring about an overall change in Indian prison system, the Indian Jails Committee was set up in 1919 in which Sir Alexander G. Gadrew was the chairman. This was the Sixth All India Committee on Prisons. It submitted a comprehensive report in 1920 suggesting far reaching changes in the various aspects of prison system.²²

In the report of the Indian Jail Committee, 1919-20²³, for the first time in the history of prisons, 'reformation and rehabilitation' of offenders were identified as the objectives of the prison administrator. As per the report's recommendations, not only were the prison departments affected but penal reforms also received a great flip. The enactment of the Borstal Act, the Childrens' and the Probation Acts and The Punjab Good Conduct Prisoners' Provisional Release Act were undoubtedly the direct or indirect result of the general interest, aroused by the Report. The Report, it may be remarked, "laid the foundation stone of modern prison system in India".²⁴ The need for completely overhauling and consolidating the laws relating to prison has been constantly highlighted during that period.

The years 1921-22 were the years of Non-Cooperation Movement in India in which freedom-fighters voluntarily courted arrest and imprisonment. The committees appointed in different States were Punjab Jail Reforms Committee (1919 and 1948), Uttar Pradesh (1929, 1938 and 1946), Bombay (1939 and 1946), Mysore (1941), Bihar (1948), Madras (1950), Orissa (1952) and Travancore Cochin (Kerala) 1953.²⁵

Provisions under the Government of India Act, 1935

The "Government of India Act, 1935 resulted in the transfer of the subject of jails from the Centre list to the control of provincial governments and hence further reduced the possibility of uniform implementation of a prison policy at the national level as per recommendations of the Indian Jails Committee, 1919-1920 in the country. State governments, thus, have their own rules for the day to day administration of prisons, upkeep and maintenance of prisoners, and prescribing procedures. However, the period from 1937 to 1947 was important in the history of Indian prisons because it aroused public consciousness and general awareness for prison reforms at least in some progressive States like, West Bengal, Tamil Nadu, Maharashtra etc."²⁶

Prison Reforms after Independence

India gained independence in 1947, the memories of horrible conditions in prisons were still fresh in the minds of political leaders and they, on assumption of power, embarked upon effecting prison reforms. However, the Constitution of India which was adopted on November 26, 1949 retained the position of the Government of India Act, 1935 in the matter of prisons and kept "Prisons" as a State subject by including it in List II i.e., State List, of the Seventh Schedule, Entry 4.²⁷

A number of Jail Reforms Committees were appointed by the respective State Governments, to achieve a certain measure of humanization of prison conditions and to put the treatment of offenders on a scientific footing. Some of the committees which made notable recommendations on these lines were:

- The East Punjab Jail Reforms Committee, 1948-49;
- The Madras Jail Reforms Committee, 1950-51;
- The Jail Reforms Committee of Orissa, 1952-55;
- The Jail Reforms Committee of Travancore and Cochin, 1953-55;
- The U.P. Jail Industries Inquiry Committee, 1955-56;
- The Maharashtra Jail Industries Reorganization Committee, 1958-59.²⁸

Dr. W.C. Reckless Commission Report, 1951

The Local Committees were being appointed by State Governments to suggest prison reforms, the Government of India invited technical assistance in this field from the United Nations. In 1951, the Government of India invited the United Nations expert on correctional work, Dr. W.C. Reckless, to undertake a study on prison administration and to suggest policy reforms. His report titled, "Jail Administration in India" made a plea for transforming jails into reformation centers. He also recommended the revision of outdated jail manuals.²⁹

All India Conference of the Inspectors General of Prisons, 1952

In 1952, the Eighth Conference of the Inspector Generals' of Prisons also supported the recommendations of Dr. Reckless regarding prison reforms. The Central Government passed Prisoners (Attendance in Courts) Act, 1955 and the Probation of Offenders Act was enacted in 1958. The UN Standard Minimum Rules for the Treatment of Prisoners further strengthened the international minimum standard of prison reformation. India was expected to follow the UN Standard Minimum Rules for the Treatment of Prisoners.³⁰ Thus; the year 1952 witnessed a significant break-through in national coordination on correctional work.

All India Jail Manual Committee, 1957

In pursuance to the recommendations made by the Eighth Conference of the Inspectors General of Prisons and also by Dr. W. C. Reckless, the Government of India appointed the All India Jail Manual Committee in 1957 to prepare a Model Prison Manual. The committee submitted its' report in 1960. The report also suggested amendments in the Prison Act, 1894 to provide a legal base for correctional work. Among the various recommendations of the Committee, the important ones are;

- A Central Bureau of Correctional Services should be organized at the Union level;³¹
- A Central Advisory Board should be set up by the Government of India and there should be a Research and Planning unit in each state;
- An All India Correctional Services should be set up;
- There should be a separation of executive and clerical function and of executive and accounts functions;
- There should be a State After Care Organization in each state;
- The Jail Manual should be revised periodically;
- Classification of prisoners should be dynamic;
- The probation system should be used on a more extensive scale than at present in order to reduce the pressure on prisons;
- The Correctional Services, i.e. the prisons, probation, after- care and institutional services for children should be integrated under a Director or Commissioner of Correctional Administration and be under the control of the Home Department;
- The Deputy Inspectors-General should be incharge of various divisions and there should be a separate Deputy Inspector-General for health services in prisons.³²

The Model Prison Manual, 1960

The Committee prepared the Model Prison Manual too and presented it to the Government of India in 1960 for implementation. The Model Prison Manual, 1960 is the guiding principle on the basis of which the present Indian prison management is governed.³³

The Central Bureau of Correctional Services, 1961

The Central Bureau of Correctional Services was set up under the Ministry of Home Affairs in pursuance of All India Jail Committee's recommendations in 1961 to formulate a uniform policy and to advise the State Governments on the latest methods relating to jail administration, probation, after-care, juvenile and remand homes, certified and reformatory schools, Borstals and protective homes, suppression of immoral traffic, etc. The Central Correctional Bureau observed the year 1971 as "Probation Year" all over the country. The purpose was to create a general awareness amongst the principal branches of the criminal justice system, viz., the judiciary, the police, the prosecution and the correctional administration about the use of probation as an effective non-institutional mode of treatment for the convicts.³⁴

The Committee on Working Group on Prisons, 1972

On the lines of the Model Prison Manual, the Ministry of Home Affairs, Government of India, in 1972, appointed a working group on prisons. It brought out in its' report the need for a national policy on prisons and correctional administration. It also made an important recommendation with regard to the classification and treatment of offenders and laid down principles.³⁵

The Conference of Chief Secretaries of all the States and Union Territories, 1979

The Government of India convened a Conference of Chief Secretaries of all the States and Union Territories on April 9, 1979³⁶, in order to assess the gaps in the existing prison management system and to lay down guidelines for standardization of prison conditions throughout the country. This Conference made a detailed examination of the issues pertaining to prison administration and on the basis of the consensus arrived at the Conference; the Government of India requested the State Governments and Union Territory Administrations; to revise their prison manuals on the lines of the Model Prison Manual by the end of the year; to appoint Review Committees for the undertrial prisoners at the district and state levels; to provide legal aid to indigent prisoners and to appoint whole-time or part-time law officers in prisons; to enforce existing provisions with respect to grant of bail and to liberalize bail system after considering all its aspects; to strictly adhere to the provisions of the Code of Criminal Procedure, 1973, with regard to the limitations on time for investigation and inquiry; to ensure that no child in conflict with law be sent to the prison for want of specialized services under the Central Children Act, 1960; to have at least one Borstal School set up under the Borstal Schools Act, 1929 for youthful offenders in each State;³⁷ to create separate facilities for the care, treatment and rehabilitation of women offenders; to arrange for the treatment of lunatics in specialized institutions; to organize a systematic programme of prison personnel training on State and Regional level; to prepare a time bound programme for improvement in the living conditions of prisoners with priority attention to sanitary facilities, water supply, electrification and to send it to the Ministry of Home Affairs for approval; to develop systematically the programmes of education, training and work in prisons; to strengthen the machinery for inspection, supervision and monitoring of prison development programme and to ensure that the financial provisions made for up gradation of prison administration by the Seventh Finance Commission are properly

utilized; to abolish the system of convict officers in a phased manner; to mobilize additional resources for modernization of prisons and development of correctional services in prison; to set up a State Board of Visitors to visit prisons at regular periodicity and to report on conditions prevailing in the prisons for consideration of the State Government; to examine and furnish views to Government of India on proposal for setting up of the National Board of Visitors.³⁸

The Mulla Committee

In 1980, the Government of India setup a Committee on Jail Reform titled as All Indian Jail Reforms Committee, 1980-1983, under the chairmanship of Justice Anand Narain Mulla which is popularly known as Mullah Committee. The recommendations of this commission, universally known as; “Mulla Commission” constitute a landmark in the reformatory approach to prison reforms. The commission made thorough study of the problems and produced an exhaustive document. This committee examined all aspects of prison administration and made suitable recommendations respecting various issues involved. A total of 658 recommendations made by this committee on various issues on prison management were circulated to all States and Union Territories for its’ implementation. The basic objective of the Committee was to review the laws, rules and regulations, keeping in view the overall objective of protecting society and rehabilitating offenders. The Mulla Committee submitted its’ report in 1983.³⁹

While commenting on the problem of overcrowding, the Committee⁴⁰ observed that overcrowded prisons tend to be unmanageable on correctional lines. In some of the States, prison barracks were so much overcrowded that inmates had to sleep in shifts. Under such conditions, custody of inmates became the primary and probably the only concern of the staff and even the care and welfare of inmates was neglected. The frequent influx of large number of agitators further worsened the situation and aggravated the problem of prison management.

It was noted with profound regret that the Standard Minimum Rules for the Treatment of Prisoners were not being generally observed in several States and Union Territories in India and that the conditions of prisons in the country had deteriorated and had reached a point of crisis. One of the main reasons for this general deterioration, according to the Committee, was the lack of national commitment arising out of a national consensus on the goals and objectives of prison administration and modalities of achieving them.⁴¹

The Committee had, therefore, formulated the draft of a National Policy on Prisons and principles of National Policy on Prisons had to be formulated and embodied in Part-IV of the Indian Constitution.

- The subject of Prisons and allied institutions were to be included in the Concurrent List of Seventh Schedule of the Constitution.
- Provision of a uniform framework for correctional administration to be enacted by the Parliament for the entire country.
- Revision of Jail Manuals should be given top priority.
- Suitable amendment in Indian Penal Code, 1860.⁴²
- The State shall endeavour to evolve proper mechanism to ensure that no undertrial prisoner is unnecessarily detained. This shall be achieved by speeding up trials, simplification of bail procedures and periodic review of cases of undertrial prisoners. Undertrial prisoners shall, as far as possible, be confined in separate institutions.⁴³

- The government shall endeavour to provide in law new alternatives to imprisonment such as; community service, forfeiture of property, payment of compensation to victims, public censure, etc., in addition to the ones already existing and shall specially ensure that the Probation of Offenders Act, 1958, is effectively implemented throughout the country.⁴⁴
- Living conditions in every prison and allied institution shall be compatible with human dignity in all aspects such as; accommodation, hygiene, sanitation, food, clothing, medical facilities, etc.
- In consonance with the goals and objectives of prisons, the State shall provide appropriate facilities and professional personnel for the classification of prisoners on a scientific basis. Diversified institutions shall be provided for the segregation of different categories of inmates for proper treatment.⁴⁵
- The State shall provide free legal aid to all needy prisoners.
- Children (under 18 years of age) shall in no case be sent to prisons.
- Young offenders (between 18 to 21 years) shall not be confined in prisons meant for adult offenders. There shall be separate institutions for them and shall be given treatment and training suited to their special needs of rehabilitation.⁴⁶
- Women offenders shall, as far as possible, be confined in separate institutions specially meant for them. Wherever such arrangements are not possible, they shall be kept in separate annexes of prisons with proper arrangements. The staff for these institutions and annexes shall comprise of women employees only. Women prisoners shall be protected against all exploitation. Work and treatment programmes shall be devised for them in consonance with their special needs.⁴⁷
- Mentally ill prisoners shall not be confined in prisons. Proper arrangements shall be made for the care and treatment of mentally ill prisoners.⁴⁸

The follow up action on the report was initiated by the Ministry of Home Affairs in consultation with concerned ministries and department of the Central and State Governments.⁴⁹

The present committee was of the opinion that the enactment of a uniform and comprehensive legislation on prisons would be possible within the existing provisions of the Constitution of India, as India is a party to the International Covenant on Civil and Political Rights, 1966. The question of inducting alternatives to imprisonment involves certain amendments in the substantive law. The enactment of the Juvenile Justice (care and protection of children) Act, 2000, has raised the upper age limit of children to be kept away from prisons up to 18 years in case of boys as well, so as to bring parity with girls.⁵⁰

The issues relating to the establishment of an All India Service, namely the Indian Prisons and Correctional Service and the setting-up of a high level National Commission on Prisons on a permanent basis require a thorough review of the existing policy.⁵¹

National Expert Committee on Women Prisoners, 1987

On May 26, 1987, the Government of India appointed the National Expert Committee under the chairmanship of Justice V.K. Krishna Iyer to undertake a study on the situation of women prisoners in India. It has recommended induction of more women in the police force in view of

their special role in tackling women and child offenders. The major recommendations of this committee were:

- Provision of a national policy relating to the women prisoners in India,
- Formation of new rules and regulations relating to their punishment and conduct,
- Maintenance of proper coordination among the police, law and prison for providing due justice to women prisoners,
- Provision of legal-aid for them,
- Construction of separate prisons for women prisoners and
- Proper care of the baby born in jail to a woman prisoner and provision of nutritious diet for the mother and the child.⁵²

The Ministry of Home Affairs, Government of India has constituted an All India Group on Prison Administration-Security and discipline on July 28, 1986.⁵³

Model Prison Manual by Bureau of Police Research & Development (BPR&D), 2003

In order to follow the Supreme Court directions in *Ramamurthy v. State of Karnataka*⁵⁴ to bring about uniformity at national level in prison laws and prepare a draft model prison manual, a committee was set up in the Bureau of Police Research and Development (BPR&D).

The Government of India constituted a high powered committee under the chairmanship of Director General, BPR&D for drafting a national policy paper on Prison Reforms and Correctional Administration on December 01, 2005 with specific terms of reference.

BPR&D also placed this draft policy paper in the meeting of Advisory Committee on Prison Reforms held on November 03, 2006 for discussion to make this document more viable. Finally, BPR&D has finalized this draft national policy on prison reforms in the light of suggestions received from the States and the Advisory Committee on Prison Reforms of the BPR&D.⁵⁵

EMERGING ISSUES IN PRISON REFORMS

Over crowding, gang activity, health care, mental health care, congestion, increasing proportion of undertrial prisoners, inadequacy of prison staff, insufficient food and clothing, lack of classification and correctional methods, in efficient vocational training, indifferent attitude of jail staff, torture and ill treatment, and insufficient communications are the major emerging issues in the path of prison reforms in India. Hence, the state of prisons and lockups is a known cause for prove concern.

CONCLUSION

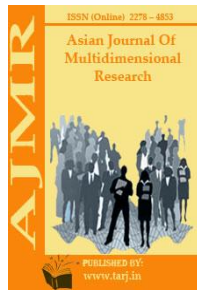
In view of the above mentioned steps for prison reforms and emerging issues in prison reforms, it may be concluded that the prison system at present is not effective and efficient in its' functioning. Therefore, unless the reforms in structural defects and the operational drawbacks are not brought, it is likely that the system would be ineffective. Therefore, the various issues requiring urgent attention include the physical structure of prisons, conditions and treatment of prisoners, training and re-orientation of prison personnel, modernization of prisons and better correctional administration and management. It is also necessary to review the strength of

doctors sanctioned for prisons and ensure the availability of adequate medical facilities for prisoners and prison staff.

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PROFESSIONAL EFFECTS OF PEOPLE'S POPULATION IN UZBEKISTAN FOR 20-30 YEARS

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ABSTRACT

In given article researched policy of the Soviet Union in education branch which were spent 20-30 years of the XXth century. Policy of the Soviet Union in sphere of education and influence of this policy life of rural population analyzed with the archival materials and scientific literatures. Problems in sphere of education, rendering of service formation for rural population and its condition were executed proceeding from absolute desire of the government. Only in October 1929, the Central Committee of the Communist Party of Uzbekistan set the task for the public education system to maintain a low level of primary education, to raise rural schools for three years, and five to eight years in rural schools, and to organize many one and two year schools for adolescents. One of the difficulties in managing the schools of the Republic in the 1930s was the existence of many branches in schools. For example, the branch of School # 28 in Kattakurgan district was 16 kilometers away, which was in many schools. In summary, Uzbekistan has been one of the most important milestones in the history of education, with its deep-rooted problems and unplanned plans for the 20-30 years of the last century. On the one hand, it was seen that the education system was completely dominated by ideology; on the other hand, social problems remained a barrier to the development of the education system. At that time, schools in rural areas, such as schools for the local population, were opened in a well-equipped building, and in this case, urban and rural schools could not compare to the end of the 1930's.

KEYWORDS: *National educations, system of education, level of school, constructions Vakf, professional mugs, an ideological barrier, primary education, textbooks, the teacher, rural schools, economic positions, the subject program, quality formation, positions formation.*

INTRODUCTION

In the history of our country, the roots of the education system go back a long time ago. At different stages of history, our country has become the center of science and culture. With the establishment of Soviet power in the territory of Uzbekistan, the education system began to fail. The colonial government, along with the strengthening of its position, has also pursued a policy of education, education, and sovereignty to the soviet interests, Bolshevist ideology. The post-revolutionary revolution in the nation's education ended in 1920.

Today, in the 20-30th years of the 20th century, a number of research works on the history of the education system in the territory of Uzbekistan were carried out.

One of the important aspects of the education level of the population is the history of education in Uzbekistan in the 20-30s of the last century, which shows the most difficult way.

In the 20th century, the peculiarity of the education system was that the education system was completely subordinate to ideological goals. Soviet-style schools consisted of two stages: in the first stage 8-11-year-olds were taught at secondary schools, and the second stage was taught by students aged 13 to 17 years. During this period, schools for the local population were located not in private buildings, but in the houses of formerly closed schools, in the confiscated warehouses, in the houses of the rich. At that time, schools in rural areas, such as schools for the local population, were opened in a well-equipped building, and in this case, urban and rural schools could not compare to the end of the 1930's. Also, the lack of teachers has led to the fact that most schools in this period existed on paper. In rural districts of Samarkand region, more than half of the schools did not operate as a result of lack of teachers.

Due to the introduction of new economic policies, rural schools were transferred from the state budget to the local budget. As a result, the situation of rural schools has deteriorated and difficulties have arisen in providing teachers with salaries. As a result, the number of Soviet schools in Turkistan villages dropped to 908 at the end of 1924.

Theoretical background

In the 20-30th years of the 20th century, schools also served as educational campaigning, as well as educational activities. Schoolchildren can gather culturally unsound farmers and talk with them on re-election to the Councils (Soviet). There were meetings and nights for gathering parents and re-election campaigns in rural schools. The village school was regarded as the only cultural center that has a great deal of work.

In the 1926 census, the rate of literacy in Uzbekistan between the ages of 9 and 43 was 11.6%. At the same time, 39% of the urban population and 3.5% of the rural population were literate. After the establishment of the Uzbek Soviet Socialist Republic, the ruling political party's leadership and the authorities have allocated less than necessary resources for the education sector, with insufficient attention to eliminating the differences between urban and rural schools. For example, in 1927 9.3% of the state budget of Uzbekistan was allocated for the needs of this sphere, while in the RSFSR it was 14.4%.

In 1925 there was a total of 200 sq. Km of school, 4909 children and 972 school-age children in one school across the country. At that time there were 3665 teachers throughout Uzbekistan.

During these years there were 876 Soviet-type schools and 2403 schools of old-fashioned schools. The Ministry of Public Education has identified the following difficulties and shortcomings in the development of school education in rural areas: 1. Poor coverage of rural children by school (most children require school education), 2. Territorial location of rural school network; dozens of districts, hundreds of villages were completely deprived of schooling; 3. Inadequate rural schools are rarely seen in schools; 4. Absence of female schools in rural areas; 5. The lack of links between schools and the public, and the lack of well-equipped rural schools.

When comparing the activities of the rural and urban schools of Uzbekistan in this period, we can see that 2100 people in the city school and 3,500 in rural schools. In the city of Bukhara, the state of the 1926/27 confirmation was confirmed by 9.8% of Soviet schoolchildren and 4.1% in rural areas.

In the period under review, the issue of teacher training for rural schools was also discussed, and in the beginning of 1928, Bukhara hosted two-year training courses for 100 special trainers consisting of three divisions.

Over time, the network of rural schools has expanded, and the number of students has increased. In the 1924/25 academic year, there were 831 schools in Uzbekistan with 54,800 students, and 609 schools with 30,230 students in rural areas. During the years 1926/27 the number of rural schools increased from 1209 to 1734, and the number of teachers from 968 to 1714.

Main part

However, the process of girls' education in schools was not enough. During the review period, 15 to 18 percent of the total number of school students were girls. Until October 1929, issues of development of the education sector apart from women's education system were not discussed publicly. Only in October 1929, the Central Committee of the Communist Party of Uzbekistan set the task for the public education system to maintain a low level of primary education, to raise rural schools for three years, and five to eight years in rural schools, and to organize many one and two year schools for adolescents.

Nevertheless, during this period, many problems remain, which hinder the rural schools from being able to attract more and more children to farmers. The main problems faced were the lack of footwear and clothing, and the fact that the schools were in remote areas meant that the winter was cold. The constant involvement of rural schools and the involvement of peasant children in training sessions have also had a negative impact on the wide involvement of farmers in agricultural activities in different parts of the year. As a consequence, the school curriculum was only 3-4 lessons, with 10 to 15 students in schools instead of 30 to 40 students.

In the 30th years of the twentieth century, a number of organizational and practical work has been undertaken in Uzbekistan in the direction of development of national education committees and soviet ideology and sovereignty. All activities and changes in the development of education were primarily aimed at educating and training the builders of socialist and communist society. In the rural areas, as in the past, the lack of school buildings and qualified staff was a serious obstacle to the broader development of public education.

On August 14, 1930, a decision was made on "General Primary Education". The resolution states:

1. Make the full course of the 2nd class of children under eight years of age.

2. Introduction of compulsory education for children aged 11 to 15 years.

3. It was shown that in industrial cities, factories, factory locations, children were enrolled in a seven-year compulsory general education.

By the end of the 20th century, the communist ideology, which lost its appeal in every aspect of the world, was unable to live in the hearts and minds of people with its miraculous ideals of 30 years, pursued a policy of repression and ideological repression to achieve its goal. During this period, all aspects of society's life were subordinated to politicized, anthropogenic and great state chauvinism.

The sharp turnaround in the people's education in Uzbekistan in the 30s of the 20th century On July 25, 1930, the Central Committee of the Communist Party of the Soviet Union, based on the Decree of the Central Committee of the Communist Party of the Republic of Uzbekistan "On General Compulsory Education" of July 1930, admissible According to this decree, children aged 8.9 and 10 years old in the cities, factories and factories in the 1930-1931 school year should be covered in public schools in Soviet and collective farms (sovkhozes) and MTS at the age of 8.

Since the 1931-1932 academic year, adolescents aged 11 were enrolled in compulsory primary education, and 11-15 year-olds who had not been enrolled for various reasons were required to undergo one or two annual accelerated training courses.

Data analyses

Introduction of the basic compulsory education in Uzbekistan since the 1930s and 1931s required significant organizational and financial costs. To carry out this event, it would be difficult to perform complex tasks such as school construction, teacher training, textbooks, and educational supplies.

In the 1930-1931 academic year, one of the events held in the nation's education was the introduction of school polygraphic education in order to link the school with the production and production. It was necessary to introduce socially useful work at schools, to introduce pupils, especially direct schools, to the direct production process, and to start school as the primary goal of introducing pupils to their professional choice, and to introduce polytechnic education. Therefore, schools in the regions, industrial enterprises. In this academic year, the process of linking schools to production in Uzbekistan reached 60-70%. During the 1934-1935 academic year, 2,855 schoolchildren or 66 percent of schoolchildren were enrolled in 8 rural communities in the Romitan district of Bukhara region. Citizenship in rural areas such as Romitan, Kalaikhorp, and Chelong, was 40-44 per cent. In some collective farms, students did not come to school. For example, in the "Voenny" collective farm, on November 24, 1934, the school did not attend school, as it did not have the readers on the day of the survey. Tajik children's schools were taught in Uzbek, although they were taught in Tajik. At the "Red Dehqon" kolkhoz school all Tajiks were trained in the first group and all Uzbeks were trained as a group 2, and their class, age, and knowledge were not considered. In some schools, students were trained in grades 3-4 from one class to another. During the 1934-1935 academic year, schools in the Kogon Romitan rural district in the district were 43%.

It was not only in rural schools, but also in schools in cities such as Samarkand and Bukhara. Attracting school-age children and adolescents to schools has not been fully implemented in the first five years and at the end of the second five years. In the 1936-1937 academic year, 145,645

or 21.9 percent, and in the 1939-1940 academic year 40570 children were not enrolled in school. In some districts and cities, school attendance rates were high. In the Gallaaral district - 53.8%, in Jizzakh - 45, in Urgut - 40, in Denau - 40%. Only 1,5200 children in Karakalpak ASSR have been enrolled in school. Particularly, the involvement of girls in school is in a bad state, 58 per cent in Kogon, 49 per cent in Termez, 37 per cent in Koson¹.

DISCUSSION

One of the difficulties in managing the schools of the Republic in the 1930s was the existence of many branches in schools. For example, the branch of School # 28 in Kattakurgan district was 16 kilometers away, which was in many schools. There are 469 branches in 1,913 schools in Fergana Province, and directors or directors of schools have reported their affiliates one or two times during the academic year. As a result of the absence of a special building for schools, classes of some schools were distributed to two or three villages. In such a situation, the school, class, and classroom system could not be ruled out, and many schools in rural areas had such a situation.

One of the biggest problems facing the public education work was that the curricula and textbooks were not published in time. In the 1931-1932 academic year, schools were not provided with textbooks and programs as a consequence of their efforts to extend their work in the Republican Training and Methodological Council (UCA), without the use of textbooks and programs, and classroom and science education. In the same academic year, textbooks from 213 titles and only 17 titles at the beginning of the academic year were published and published in schools in the second half of the academic year.

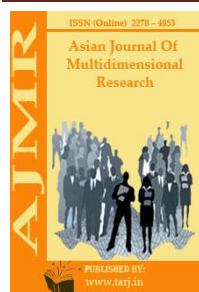
CONCLUSION

In summary, Uzbekistan has been one of the most important milestones in the history of education, with its deep-rooted problems and unplanned plans for the 20-30 years of the last century. On the one hand, it was seen that the education system was completely dominated by ideology; on the other hand, social problems remained a barrier to the development of the education system. The vastness of social issues prevented the education system from working full-time. Especially in rural areas, the state of education was extremely vulnerable.

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ANALYSIS OF PUBLIC SECTOR BANKS AND PRIVATE SECTOR BANKS IN INDIA: A CAMEL APPROACH

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ABSTRACT

Financial institutions of a country play an indispensable role in the transformation of an economy. As an anchor of the economy, this assumes a prevalent job in the monetary improvement of the nation. The progress of a bank can be determined from its financial performance over the years and its ability to manage risks like market risk, credit risk, and liquidity risk. In the 1980s U.S introduced a supervisory framework model called "CAMEL" to determine the general condition of the bank. The model anticipates future risk that may affect a bank and can act as an effective instrument for guidance and management. The current study endeavors to evaluate the performance of 21 "public sector banks" and 18 "private sector banks" in India using the CAMEL approach for five years from 2014 until 2018. CAMEL model uses parameters such as "capital adequacy, asset quality, management efficiency, earning and liquidity" of the banks to determine the financial strength of a bank and ranks them from top to

least. The study revealed that Indian Bank, Andhra Bank, State Bank of India, Canara Bank and Union Bank of India hold the top five position based on the CAMEL parameters. Similarly, Bandhan Bank, IndusInd Bank Ltd, Axis Bank Ltd, Yes Bank, and Kotak Mahindra Bank hold the top five ranks in private sector banks in India based on the CAMEL composite index ranking.

JEL Codes: G21, G24

KEYWORDS: *Private Sector Banks, Public Sector Banks, CAMEL Parameters, Composite Index.*

INTRODUCTION

India is a nation with a vast monetary framework portrayed by numerous financial organizations. Indian financial segment was well grown even before its freedom in 1947. In India, Reserve Bank of India (RBI) is entrusted with the responsibility of monitoring and supervision of banks under The Banking Regulation Act, 1949 (RBI, 2012). The BR Act also enables RBI to inspect licensing eligibilities of the banks, winding up and amalgamation of banks as well as scrutiny of banking companies and its books of accounts (RBI, 2012). In the 1960s banking industry in India had turned into a crucial gadget to encourage the advancement of the economy.

The U.S in the 1980s created a supervisory rating framework CAMELS rating model to characterize the general predicament of a bank. In U.S this rating is connected to each bank and mortgage association and is likewise actualized outside it by different banking controllers. On basis of these ratings, supervisory regulators are accredited to conduct an on-site examination and proportion analysis of the financial statement. CAMELS rating model is used for rating the Indian Scheduled Commercial Banks, and this model came into force after the recommendation of the Padmanabhan Working Group (1995). The CAMEL model, as the name suggests assesses the Capital Adequacy, Asset Quality, Management Quality, Earning Quality and Liquidity of the banks (Kaur, 2010). In 1996, a new parameter relating to Sensitivity to risk was included in the “CAMEL” rating turning it into “CAMELS” to make the system of rating even more risk-focused.

OBJECTIVE OF THE STUDY

- To analyze the financial performance of 21 “Public Sector Banks” and 18 “Private Sector Banks” in India from 2014-18.
- To rank the selected Public Sector and Private Sector Banks through CAMEL parameters and Composite Index Rating in their respective categories.

DATA AND METHODOLOGY

Data collected for the study are secondary. They have been collected from the Statistical Tables relating to banks in India from the year 2014 till 2018 cited on the official website of R.B.I, Annual Reports of sample banks from the year 2014-18 and IBA Bulletin. The study uses a sample of 21 Public Sector and 18 Private Sector banks, which later ranks the average value of CAMEL parameters for five years (2014-2018). The study applies the Composite Index rating, which gives an average of all the ranks of different CAMEL parameters and determines the best performing bank.

LITERATURE REVIEW

Thilakam and Sarvanan (2014): The study evaluated the soundness of Non-Banking Financial Companies (NBCFs) in Tamil Nadu over a decade using CAMEL analysis for selected companies. The study revealed that players with serious commitments are in business, and others have quit the market. The profile of the sector has been changed by consolidation and restructuring. The current players have become stronger and competitive on multiple platforms.

Aspal and Dhawan (2016): This study reviewed the financial performance of the Banking Sector using the “CAMEL” approach, which reflected the financial strength of the bank. The study examined each parameter of the “CAMELS” system by empirical investigation.

Kiran (2018): The study measured the financial health of 7 public sector banks and 4 private sector banks using the CAMEL approach for the period 2013-17. The study revealed that private sector banks showed better performance on C, A,M, and E parameter, whereas the public sector on performed well on L parameter.

Kwan and Eisenbeis (1997): The Paper investigated the relationship between risk-taking and operating efficiency in simultaneous equations setting and found that inefficiency has a positive effect on both credit risk, interest risk, and capitalization. The study also found out that firm with more capital is more efficient as compared to a firm with less capital, indicating that capitalization work as a good proxy for performance.

Prasuna (2003): The study has examined the performance of 65 Indian banks for the period 2003-04 using CAMEL ranking, Composite ranking, Test of Normality, and ANOVA. The study found that statistically there is a significant difference in the performance of all the public sector banks and to cope with the fierce competition, better bargain and innovative products were proved to be beneficial.

Chaudhari (2018): The study comparatively analyzed the performance of “SBI” and “ICICI” bank using CAMEL rating for the year 2011-12 to 2015-16. The study found out that ICICI bank has been doing better in terms of profitability and management as compared to SBI as per the mentioned study period.

Veena and Patti (2017): They reviewed the performance of ICICI Bank through the CAMEL rating approach pre and post-merger. The study found that there has been an improvement in the adequacy of capital and quality of assets in the pre-merger performance of the bank, but efficiency and earning quality failed to reflect the ability of the bank in the post-merger period.

ANALYSIS AND INTERPRETATION

1. ANALYSIS OF PERFORMANCE FOR PUBLIC SECTOR BANKS IN INDIA

A. CAPITAL ADEQUACY RATIO

TABLE 1: THE AVERAGE CAPITAL ADEQUACY RATIO (CAR) AND AVERAGE DEBT TO EQUITY RATIO OF PUBLIC SECTOR BANKS IN INDIA FROM 2014-2018 WITH THEIR RESPECTIVE RANKS.

PUBLIC SECTOR BANKS	CAR AVG	RANK	D/E	RANK	AVERAGE
State bank of India	12.654	2	13.92	3	7.827
Allahabad Bank	10.314	19	17.04	11	10.657
Andhra Bank	11.276	8	17.98	14	12.638
Bank of Baroda	12.486	3	15.24	5	8.743
Bank of India	11.558	6	17.22	12	11.779
Bank of Maharashtra	11.222	11	17.04	11	11.111
Canara Bank	11.67	5	15.3	6	8.835
Central Bank of India	10.232	20	18.566	15	12.616
Corporation Bank	10.77	18	19.24	18	14.385
Dena Bank	11.11	13	15.36	7	9.055
IDBI Ltd	11.244	10	13.24	2	6.622
Indian Bank	12.978	1	11.54	1	6.989
India Overseas Bank	10.06	21	16.42	10	10.03
Oriental Bank of Commerce	10.946	16	16	9	9.973
Punjab & Sind Bank	11.098	14	15.84	8	9.549
Punjab National Bank	11.174	12	14.98	4	7.587
Syndicate Bank	11.476	7	18.88	16	13.738
UCO bank	11.27	9	22.562	20	15.635
Union Bank of India	10.974	15	17.48	13	11.987
United Bank of India	10.844	17	19.74	19	14.922
Vijaya Bank	12.24	4	19.04	17	14.62

Source: Statistical Table relating to banks in India 2014-15 to 2017-18 and Author's compilation.

For CAR Indian Bank enjoys the first rank with a CAR of 12.978 followed by S.B.I (12.654) and B.O.B (12.486). Indian Overseas Bank bags the least rank with a CAR of 10.06. Based on the debt to equity ratio, Indian Bank leads with a ratio of 11.54. IDBI Bank (13.24) and State Bank of India (13.92) has taken second and third rank respectively, whereas the last rank is occupied by UCO Bank (15.635).

B. ASSET QUALITY

TABLE 2: THE AVERAGE NET NON-PERFORMING ASSETS (NNPA) TO NET ADVANCES (NA) AND PRIORITY SECTOR ADVANCES (PSA) TO TOTAL ADVANCES (TA) OF THE PUBLIC SECTOR BANKS IN INDIA FROM 2014-18.

PUBLIC SECTOR BANKS	NNPA/NA	RANK	PSA/TA	RANK	AVERAGE
State bank of India	3.588	4	22.56	21	12.5
Allahabad Bank	6.372	11	39.05	5	8
Andhra Bank	5.34	9	40.78	2	5.5
Bank of Baroda	3.376	1	24.224	20	10.5
Bank of India	5.66	10	24.684	19	14.5

Bank of Maharashtra	7.114	16	37.002	9	12.5
Canara Bank	4.972	6	36.864	10	8
Central Bank of India	7.204	17	42.67	1	9
Corporation Bank	6.4	12	39.62	4	8
Dena Bank	7.026	15	35.588	11	13
IDBI Ltd	8.408	19	27.864	18	18.5
Indian Bank	3.432	3	37.554	7	5
India Overseas Bank	10.018	21	38.024	6	13.5
Oriental Bank of Commerce	6.46	13	37.214	8	10.5
Punjab & Sind Bank	5.192	8	32.008	16	12
Punjab National Bank	6.914	14	34.33	15	14.5
Syndicate Bank	3.886	5	31.266	17	11
UCO bank	7.562	18	34.37	14	16
Union Bank of India	5.056	7	34.84	12	9.5
United Bank of India	9.79	20	39.8	3	11.5
Vijaya Bank	3.39	2	34.58	13	7.5

Source-Same as Table 1.

As far as the Net NPA to Net Advances is concerned, Bank of Baroda is at the first rank (3.376), Vijaya Bank at the second rank (3.39) and Indian Bank bags the third rank (3.432). On evaluating the average priority sector advances to total advances, Central Bank of India holds the first rank with a ratio of (42.67), whereas the second and third rank is bagged by Andhra Bank and United Bank of India with (40.78) and (39.8) respectively.

C. MANAGEMENT QUALITY

TABLE 3: THE RANKING OF AVERAGE PROFIT PER EMPLOYEE AND AVERAGE BUSINESS PER EMPLOYEE OF PUBLIC SECTOR BANKS IN INDIA FROM 2014-18.

PUBLIC SECTOR BANKS	Profit per Employee	RANK	Business per Employee	RANK	AVERAGE
State bank of India	0.366	4	140.056	16	10
Allahabad Bank	-0.33	13	147.08	12	12.5
Andhra Bank	-0.16	9	163.4	7	8
Bank of Baroda	0.12	5	178.98	4	4.5
Bank of India	-0.354	14	191.94	2	8
Bank of Maharashtra	-0.32	11	169.16	6	8.5
Canara Bank	0	7	144.826	13	10
Central Bank of India	-0.516	16	116.198	21	18.5
Corporation Bank	-0.32	11	186.946	3	7
Dena Bank	-0.328	12	141.02	15	13.5
IDBI Ltd	-1.684	19	244.526	1	10
Indian Bank	0.56	2	155.42	10	6
India Overseas Bank	-0.846	18	129.4	19	18.5
Oriental Bank of Commerce	-0.456	15	170.98	5	10

Punjab & Sind Bank	0.04	6	161.96	8	7
Punjab National Bank	-0.22	10	137.04	17	13.5
Syndicate Bank	-0.038	8	144.4	14	11
UCO bank	-0.518	17	134.82	18	17.5
Union Bank of India	0.04	6	155.98	9	7.5
United Bank of India	1.158	1	121.66	20	10.5
Vijaya Bank	0.38	3	151.24	11	7

Source: Sameas Table 1.

For average profit per employee values, the United Bank of India earns the highest profit of 1.158, followed by Indian Bank with a profit of 0.56 and Vijaya Bank with a profit of 0.38 per employee. Based on business per employee, IDBI Bank Ltd is at the first rank with a business per employee value (244.526) and the second and third rank is occupied by Bank of India and Corporation Bank with (191.94) and (186.946) of business per employee. IDBI Bank Ltd has the least profit per employee of -1.684 and the Central Bank of India holds the least position with business per employee of 116.198.

D. EARNING QUALITY

TABLE4: THE EARNING QUALITY OF PUBLIC SECTOR BANKS THROUGH THE RANKING OF AVERAGE RETURN ON ASSET (ROA) AND AVERAGE OPERATING PROFIT TO TOTAL ASSETS (TA) FROM 2014-18.

PUBLIC SECTOR BANKS	ROA	RANK	Operating Profit / TA	RANK	AVERAGE
State bank of India	0.402	2	22.556	21	11.5
Allahabad Bank	-0.312	14	39.05	5	9.5
Andhra Bank	-0.086	10	40.78	2	6
Bank of Baroda	0.064	7	24.224	20	13.5
Bank of India	0.114	4	24.684	19	11.5
Bank of Maharashtra	-0.178	12	37.002	9	10.5
Canara Bank	0.004	8	36.864	10	9
Central Bank of India	-0.63	19	42.67	1	10
Corporation Bank	-0.22	13	39.62	4	8.5
Dena Bank	-0.51	17	35.588	11	14
IDBI Ltd	-0.844	20	27.864	18	19
Indian Bank	0.554	1	37.554	7	4
India Overseas Bank	-0.888	21	38.024	6	13.5
Oriental Bank of Commerce	-0.382	16	37.214	8	12
Punjab & Sind Bank	0.066	6	32.008	16	11
Punjab National Bank	-0.17	11	34.33	15	13
Syndicate Bank	-0.026	9	31.266	17	13
UCO bank	-0.54	18	34.37	14	16
Union Bank of India	0.084	5	34.84	12	8.5
United Bank of India	-0.376	15	39.85	3	9
Vijaya Bank	0.378	3	34.58	13	8

Source: Same as Table 1.

In terms of Average Return on Asset (ROA) Indian Bank holds the first rank (0.554), the State Bank of India at second and Vijaya Bank at the third rank with values 0.402 and 0.378 respectively. The last rank is held by Indian Overseas Bank (-0.888). Based on the Average Operating Profit to Total Assets rankings, C.B.I is at the first rank with (42.67), second and third rank is being held by Andhra Bank and the United Bank of India having an average value (40.78) and (39.85) respectively. The last rank is held by the State Bank of India (22.556).

E. LIQUIDITY RATIO

TABLE 5: THE RANKING OF THE AVERAGE CREDIT TO DEPOSIT RATIO (CDR) AND AVERAGE LIQUID ASSETS TO TOTAL DEPOSIT RATIO OF PUBLIC SECTOR BANKS FROM 2014-18.

PUBLIC SECTOR BANKS	Credit to deposit ratio	RANK	Liquid asset to total deposit	RANK	AVERAGE
S.B. I	80.42	1	0.148	2	1.5
Allahabad Bank	74.322	6	0.078	7	6.5
Andhra Bank	74.768	5	0.078	7	6
Bank of Baroda	68.388	16	0.068	9	12.5
Bank of India	71.346	10	0.086	5	7.5
Bank of Maharashtra	72.936	8	0.064	11	9.5
Canara Bank	70.136	12	0.064	11	11.5
C.B.I	63.064	20	0.054	12	16
Corporation Bank	68.214	17	0.066	10	13.5
Dena Bank	66.832	18	0.04	14	16
IDBI Ltd	77.126	4	0.246	1	2.5
Indian Bank	73.442	7	0.046	14	10.5
India Overseas Bank	69.234	14	0.084	6	10
Oriental Bank of Commerce	70.402	11	0.048	13	12
Punjab & Sind Bank	68.98	15	0.034	15	15
Punjab National Bank	72.568	9	0.094	4	6.5
Syndicate Bank	78.418	2	0.094	4	3
UCO bank	64.618	19	0.07	8	13.5
Union Bank of India	76.51	3	0.104	3	3
United Bank of India (UBI)	55.844	21	0.032	16	18.5
Vijaya Bank	70.04	13	0.032	16	14.5

Source: Same as Table 1.

For the average value of Credit to Deposit Ratio (CDR), the State bank of India holds the first rank with an average value of (80.42), the second and third rank is held by Syndicate Bank and IDBI Bank Ltd with an average value of (78.418) and (77.126) respectively. United Bank of India grasps the last rank in terms of credit to deposit ratio with an average value of (55.844). For the average value of the liquid asset to total deposit ratio, IDBI Bank Ltd holds the first rank with

average value (0.246), followed by State Bank of India and Union Bank of India with an average value of (0.148) and (0.104) respectively. UBI and Vijaya Bank are the least well-off in terms of liquid assets to total deposit ratio with both having an average value of (0.032).

F. COMPOSITE INDEX RANKING FOR PUBLIC SECTOR BANK

TABLE 6: THE COMPOSITE INDEX RANKING OF PUBLIC SECTOR BANKS IN INDIA FROM 2014-18.

PUBLIC SECTOR BANKS	CAR	ASSET QUALITY	MANAGEMENT QUALITY	EARNING QUALITY	LIQUIDITY RATIO	COMPOSITE INDEX	RANK
S.B. I	2.5	12.5	10	11.5	1.5	7.6	3
Allahabad Bank	15	8	12.5	9.5	6.5	10.3	10
Andhra Bank	11	5.5	8	6	6	7.3	2
Bank of Baroda	4	10.5	4.5	13.5	12.5	9	6
Bank of India	9	14.5	8	11.5	7.5	10.1	9
Bank of Maharashtra	11	12.5	8.5	10.5	9.5	10.4	11
Canara Bank	5.5	8	10	9	11.5	8.8	4
Central Bank of India	17.5	9	18.5	10	16	14.2	18
Corporation Bank	18	8	7	8.5	13.5	11	12
Dena Bank	10	13	13.5	14	16	13.3	16
IDBI Ltd	6	18.5	10	19	2.5	11.2	14
Indian Bank	1	5	6	4	10.5	5.3	1
India Overseas Bank	15.5	13.5	18.5	13.5	10	14.2	18
Oriental Bank of Commerce	12.5	10.5	10	12	12	11.4	15
Punjab & Sind Bank	11	12	7	11	15	11.2	14
Punjab National Bank	8	14.5	13.5	13	6.5	11.1	13
Syndicate Bank	11.5	11	11	13	3	9.9	8
UCO bank	14.5	16	17.5	16	13.5	15.5	19
Union Bank of India	14	9.5	7.5	8.5	3	8.5	5
United Bank of India	18	11.5	10.5	9	18.5	13.5	17
Vijaya Bank	10.5	7.5	7	8	14.5	9.5	7

Source: Same as Table 1.

The aggregate ranking of the public sector banks can be determined using the Composite Index. Composite Index takes an average of all the ranks of different CAMEL parameters. The least composite index gives the last rank or the best rank to the bank, which overall performs better. The Indian Bank tops with the least composite index of 5.3. Andhra Bank holds the second rank with a composite index of 7.3, followed by State Bank of India with a composite index of 7.6. UCO Bank holds the last position in the ranking with the highest composite index of 15.5.

2. ANALYSIS OF PERFORMANCE FOR PRIVATE SECTOR BANKS IN INDIA

A. CAPITAL ADEQUACY

TABLE 7: THE AVERAGE CAPITAL ADEQUACY RATIO (CAR) AND AVERAGE DEBT TO EQUITY RATIO OF PRIVATE SECTOR BANKS WITH RANKING FROM 2014-18.

PRIVATE SECTOR BANKS	ACAR	RANK	D/E	RANK	AVERAGE
Axis Bank Ltd	15.594	7	9.08	7	7
Bandhan Bank Ltd	28.95	1	6.6	3	2
City Union Bank Ltd	15.832	6	9.2	9	7.5
DCB Bank Ltd	14.6	9	9.18	8	8.5
Federal Bank Ltd	13.03	13	10.24	11	12
HDFC Bank Ltd	15.366	8	8.58	6	7
ICICI Bank Ltd	17.108	4	7.08	4	4
IDFC Bank Ltd	19.16	2	4.3	1	1.5
IndusInd Bank Ltd	14.352	10	7.82	5	7.5
Jammu & Kashmir Bank Ltd	11.858	16	12.2	13	14.5
Karnataka Bank Ltd	12.596	14	12.96	15	14.5
Karur Vysya Bank Ltd	13.27	12	12.6	14	13
Kotak Mahindra Bank Ltd	17.466	3	4.96	2	2.5
Lakshmi Vilas Bank Ltd	10.62	17	16.96	17	17
RBL Bank Ltd	13.952	11	9.69	10	10.5
South Indian Bank Ltd	12.264	15	14.74	16	15.5
The Dhanalakshmi Bank Ltd	10.546	18	18.42	18	18
Yes Bank Ltd	16.38	5	10.55	12	8.5

Source: Statistical Table relating to banks in India 2014-15 to 2017-18, Annual Reports and Author's compilation.

Bandhan Bank and IDFC Bank have average values for 3 years (2016-2018) as both of the banks started its operation in 2015. Based on the above table, the average value of CAR for the period 2014-2018, Kotak Mahindra Bank, ICICI Bank and Yes Bank holds the first, second and third rank. On the other hand, for 2016-18, Bandhan Bank holds the first rank with a value of CAR (28.25), followed by IDFC Bank (19.16). In terms of average Debt to Equity Ratio for 2014-18, Kotak Mahindra Bank holds the first rank (4.96), and for 2016-18, it is IDFC Bank with average value (4.3). The second and third rank for the average value of debt to equity ratio from the year 2014 until the year 2018 is bagged by ICICI Bank (7.08) and IndusInd Bank Ltd (7.82). For 2016-18, the second rank holder is Bandhan Bank (6.6). The Dhanalakshmi Bank is at the last position for both CAR and debt to equity ratio.

B. ASSET QUALITY

TABLE 8: THE AVERAGE NET NPA TO NET ADVANCES AND THE AVERAGE RATIO OF PRIORITY SECTOR ADVANCES TO TOTAL ADVANCES OF THE PRIVATE SECTOR BANKS FROM 2014-18.

PRIVATE SECTOR BANKS	NNPA/NA	RANK	PSA/TA	RANK	AVERAGE
Axis Bank Ltd	1.51	10	24.756	15	12.5
Bandhan Bank Ltd	0.34	2	78.35	1	1.5
City Union Bank Ltd	1.494	9	46.072	2	5.5

DCB Bank Ltd	0.836	6	41.734	3	4.5
Federal Bank Ltd	1.216	8	31.42	11	9.5
HDFC Bank Ltd	0.306	1	28.94	14	7.5
ICICI Bank Ltd	3.284	17	20.092	17	17
IDFC Bank Ltd	1.74	13	10.56	18	15.5
IndusInd Bank Ltd	0.38	3	32.008	10	6.5
Jammu & Kashmir Bank Ltd	3.412	18	30.79	12	15
Karnataka Bank Ltd	2.368	14	40.744	6	10
Karur Vysya Bank Ltd	1.686	11	41.156	5	8
Kotak Mahindra Bank Ltd	1.06	7	34.082	9	8
Lakshmi Vilas Bank Ltd	2.778	15	36.774	8	11.5
RBL Bank Ltd	0.518	5	29.768	13	9
South Indian Bank Ltd	1.736	12	37.85	7	9.5
The Dhanalakshmi Bank Ltd	3.128	16	41.574	4	10
Yes Bank Ltd	0.382	4	24.452	16	10

Source: Same as Table7.

In terms of average Net Non-Performing Assets to Net Advances value for the period 2014-18, HDFC Bank, IndusInd Bank and Yes Bank Ltd holds the first, second and third rank, with an average value of (0.306), (0.38) and (0.382) respectively. For 2016-18, Bandhan Bank holds the second position. For the average value of PSA to TA City Union Bank holds the first rank for the period 2014-18 with value (46.072) while for the year 2016-18, Bandhan Bank is in the leading position with value (78.35). DCB Bank and Dhanalakshmi Bank hold the second and third rank for 2014-18 with an average value of (46.072) and (41.734) respectively. The last rank is held by Jammu & Kashmir Bank for Net NPA to Net Advance with value (3.412). IDFC Bank holds the last rank for the average value of the priority sector advance to total advance with average value (10.56).

C. MANAGEMENT EFFICIENCY

TABLE 9: THE RANKING OF AVERAGE PROFIT AND BUSINESS PER EMPLOYEE OF PRIVATE SECTOR BANKS IN INDIA FROM 2014-18.

PRIVATE SECTOR BANKS	Profit /Employee	RANK	Business/Employee	RANK	AVERAGE
Axis Bank Ltd	1.108	5	139.38	3	4
Bandhan Bank Ltd	3.76	1	13.43	18	9.5
City Union Bank Ltd	0.842	9	104.82	11	10
DCB Bank Ltd	0.314	15	69.42	17	16
Federal Bank Ltd	0.542	12	129.46	4	8
HDFC Bank Ltd	1.552	4	115.66	8	6
ICICI Bank Ltd	1.046	7	91.78	14	10.5
IDFC Bank Ltd	2.4	2	230.13	1	1.5
IndusInd Bank Ltd	1.078	6	73.432	16	11
Jammu & Kashmir Bank Ltd	0.16	16	117.56	7	11.5

Karnataka Bank Ltd	0.5	13	111.52	9	11
Karur Vysya Bank Ltd	0.658	11	120.06	6	8.5
Kotak Mahindra Bank Ltd	1.02	8	86.28	15	11.5
Lakshmi Vilas Bank Ltd	0.076	17	108.22	10	13.5
RBL Bank Ltd	0.76	10	99.22	13	11.5
South Indian Bank Ltd	0.48	14	125.24	5	9.5
Dhanalakshmi Bank Ltd	-3.028	18	100.54	12	15
Yes Bank Ltd	2.11	3	157.63	2	2.5

Source: Same as Table 7.

Analyzing the average value of the profit per employee, it was found that Yes Bank (2.11), HDFC Bank (1.552) and Axis Bank Ltd (1.108) holds the first, second and third rank respectively for the period 2014-18. For 2016-18, it is held by Bandhan Bank with average value (3.76), followed by IDFC Bank (2.4). In terms of the average value for business per employee for 2014-18, the first rank is held by Yes Bank Ltd (157.63), and for 2015-18 it is IDFC Bank. The second and third rank holders are Axis Bank (139.83) and Federal Bank (129.46). Bandhan Bank holds the last position regarding the average value of business per employee (13.43).

D. EARNING QUALITY

TABLE 10: THE RANKING OF AVERAGE RETURN ON ASSET AND AVERAGE OPERATING PROFIT TO TOTAL ASSETS OF PRIVATE SECTOR BANKS FROM 2014-2018.

PRIVATE SECTOR BANKS	ROA	RANK	OP to TA	RANK	AVERAGE
Axis Bank Ltd	1.204	8	3.01	5	6.5
Bandhan Bank Ltd	3.456	1	5.35	1	1
City Union Bank Ltd	1.506	6	2.808	8	7
DCB Bank Ltd	1.138	9	1.862	12	10.5
Federal Bank Ltd	0.936	12	1.87	11	11.5
HDFC Bank Ltd	1.944	2	3.248	3	2.5
ICICI Bank Ltd	1.47	7	3.23	4	5.5
IDFC Bank Ltd	0.953	11	1.246	17	14
IndusInd Bank Ltd	1.876	3	3.266	2	2.5
Jammu & Kashmir Bank Ltd	0.244	16	2.052	10	13
Karnataka Bank Ltd	0.722	14	1.706	14	14
Karur Vysya Bank Ltd	0.86	13	2.24	9	11
Kotak Mahindra Bank Ltd	1.686	5	2.95	6	5.5
Lakshmi V Bank Ltd	0.176	17	1.536	16	16.5
RBL Bank Ltd	0.996	10	1.778	13	11.5
South Indian Bank Ltd	0.622	15	1.664	15	15
Dhanalakshmi Bank Ltd	-1.064	18	0.434	18	18
Yes Bank Ltd	1.738	4	2.818	7	5.5

Source: Same as table 7.

The first rank for the average value of Return on Assets is held by HDFC Bank (1.944) for the period 2014-18 and Bandhan Bank for 2016-18 with value (3.456). The second and third rank holders for 2014-18 are IndusInd Bank (1.876) and Yes Bank (1.738). The last rank is bagged by The Dhanalakshmi Bank (-1.064). Based on the average value of Operating Profit to Total Asset, IndusInd Bank holds the first rank for the year 2014-18 with average value (3.266), and for 2015-18 it is Bandhan Bank (5.35) followed by HDFC Bank with average value (3.248) and ICICI Bank with (3.23) respectively. The Dhanalakshmi Bank holds the last rank with an average value of (0.434).

E. LIQUIDITY

TABLE 11: THE RANKING OF THE AVERAGE CREDIT TO DEPOSIT RATIO (CDR) AND AVERAGE LIQUID ASSETS TO TOTAL DEPOSIT RATIO OF PRIVATE SECTOR BANKS FROM 2014-18.

PRIVATE SECTOR BANKS	Credit to Deposit Ratio	RANK	Liquid asset to total deposit	RANK	AVERAGE
Axis Bank Ltd	90.13	4	0.148	2	3
Bandhan Bank Ltd	87.703	6	0.078	6	6
City Union Bank Ltd	77.836	12	0.068	9	10.5
DCB Bank Ltd	83.024	10	0.086	4	7
Federal Bank Ltd	75.14	14	0.064	10	12
HDFC Bank Ltd	83.642	9	0.064	10	9.5
ICICI Bank Ltd	99.716	2	0.054	11	6.5
IDFC Bank Ltd	262.37	1	0.068	9	5
IndusInd Bank Ltd	92.772	3	0.074	7	5
Jammu & Kashmir Bank Ltd	69.384	16	0.218	1	8.5
Karnataka Bank Ltd	69.218	17	0.048	13	15
Karur Vysya Bank Ltd	78.292	11	0.082	5	8
Kotak Mahindra Bank Ltd	87.656	7	0.05	12	9.5
Lakshmi Vilas Bank Ltd	75.22	13	0.034	14	13.5
RBL Bank Ltd	86.672	8	0.094	3	5.5
South Indian Bank Ltd	73.594	15	0.07	8	11.5
Dhanalakshmi Bank Ltd	60.326	18	0.032	15	16.5
Yes Bank Ltd	87.944	5	0.032	15	10

Source: Same as Table 7.

Based on the average value of CDR for 2014-18, ICICI Bank (99.716) holds the first rank, and for 2016-18, it is IDFC Bank (262.37), followed by IndusInd Bank (92.722) and Axis Bank (90.13). The last rank is held by The Dhanalakshmi Bank (60.326). In terms of the average value of Liquid asset to Total deposits, Jammu & Kashmir Bank holds the first rank (0.218), the second rank is occupied by Axis Bank (0.148), and RBL Bank (0.094) holds the third rank. Yes Bank and The Dhanalakshmi Bank has the last position with both having an average value of (0.32).

F. COMPOSITE INDEX RANKING FOR PRIVATE SECTOR BANKS**TABLE 12: THE COMPOSITE INDEX RANKING FOR THE PRIVATE SECTOR BANKS FROM 2014-18.**

PVT SECTOR BANKS	CAR	ASSET AVG RANK	MANAGEMENT AVG RANK	EARNING AVG RANK	LIQUIDITY AVG RANK	COMPOSITE INDEX	RANK
Axis Bank Ltd	7	12.5	4	6.5	3	6.6	3
Bandhan Bank Ltd	2	1.5	9.5	1	6	4	1
City Union Bank Ltd	7.5	5.5	10	7	10.5	8.1	6
DCB Bank Ltd	8.5	4.5	16	10.5	7	9.3	8
Federal Bank Ltd	12	9.5	8	11.5	12	10.6	11
HDFC Bank Ltd	7	7.5	6	2.5	9.5	6.5	2
ICICI Bank Ltd	4	17	10.5	5.5	6.5	8.7	7
IDFC Bank Ltd	1.5	15.5	1.5	14	5	7.5	6
IndusInd Bank Ltd	7.5	6.5	11	2.5	5	6.5	2
Jammu & Kashmir Bank Ltd	14.5	15	11.5	13	8.5	12.5	13
Karnataka Bank Ltd	14.5	10	11	14	15	12.9	14
Karur Vysya Bank Ltd	13	8	8.5	11	8	9.7	10
Kotak Mahindra Bank Ltd	2.5	8	11.5	5.5	9.5	7.4	5
Lakshmi Vilas Bank Ltd	17	11.5	13.5	16.5	13.5	14.4	15
RBL Bank Ltd	10.5	9	11.5	11.5	5.5	9.6	9
South Indian Bank Ltd	15.5	9.5	9.5	15	11.5	12.2	12
Dhanalakshmi Bank Ltd	18	10	15	18	16.5	15.5	16
Yes Bank Ltd	8.5	10	2.5	5.5	10	7.3	4

Source: Sameas Table 7.

On an aggregate basis, the lowest composite index gives the best position to the bank. On that basis, Bandhan Bank is at the top, while IndusInd Bank and Axis Bank bag the second and third position. The Dhanalakshmi Bank holds the last position having a higher composite index.

MAJOR FINDINGS

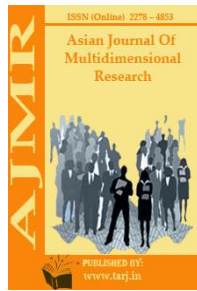
1. Indian Bank, Andhra Bank, State Bank of India, Canara Bank and Union Bank of India hold the top five position on the basis of the CAMEL composite index ranking in the public sector.
2. Bandhan Bank, IndusInd Bank Ltd, Axis Bank Ltd, Yes Bank, and Kotak Mahindra Bank hold the top five position based on CAMEL composite index ranking in the private sector.
3. UCO Bank and The Dhanalakshmi Bank hold the last positions in the composite index ranking from the public sector and private sector banks respectively.

CONCLUSION

A significant change can be seen in the Indian Banking Sector due to improvement in supervision, financial performance, and credit rating measures followed by RBI. CAMEL acts as a performance check for the banks through ranking. The determination of the CAMEL parameters of 21 public sectors and 18 private sector banks in the above study has been useful to know the various financial ratios of the respective banks and accordingly helped in ranking them from highest to lowest. The composite index with the least value holds the highest rank among all the banks. Though the CAMEL model uses various parameters and sub-parameters, which determines the overall performance of banks with the help of ranking, the model itself suffers from indeterminacy and inconsistency. The model sometimes is unable to identify the weaknesses of the banks before any crisis due to the inadequate supervisory and management systems of the banks. The problem of indeterminacy occurs when 'best' and 'worst' indicators are easy to identify, but it is challenging to determine the 'in-between' factors. The model did not throw light on some of the factors like the growth rate of loans and core deposits. It also did not mention about bank's strategy for effective management and risk control measures.

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PRODUCTIVITY GROWTH ASSESSMENT OF PRIMARY AGRICULTURAL CREDIT SOCIETIES IN WEST BENGAL

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ABSTRACT

The importance of primary agricultural credit societies (PACS) in the cooperative structure of the country is known to all. The present study makes an analysis of total factor productivity growth of PACS working under their respective District Cooperative banks (DCBs) in thirteen districts during 2010-2017. The productivity growth assessment is made with the help of efficiency change due to technical and technological reason and Malmquist index. With regard to the first measure, only four districts show that there is positive impact of efficiency change. However, the impact is minimal in most of the cases except Burdwan. With regard to the effect of technological change, it is observed that except for Dakshin Dinajpur and Jalpaiguri, the effect is positive. In fact, the districts that show a higher positive effect of technological progress include Burdwan (6.4%), Raiganj (2.7%) and Howrah (2.2%). The result of Malmquist index shows that ten districts show a progress with Burdwan dominating with a growth of 34.5%. For the remaining others, the growth is not significantly high.

KEYWORDS: Productivity, Agricultural, Assessment

1. INTRODUCTION

The history of co-operative movement in India is more than a century old. The Indian cooperative sector completed 115 years of its existence in 2019. The movement started in India with a view to encourage and promote thrift and mutual help for the development of persons of small means such as agriculturists, artisans and other segments of the society. It was also aimed

at concentrating the efforts in releasing the exploited classes out of the clutches of the money lenders. Keeping this as one of the objectives, credit societies were formed under the Co-operative Societies Act of 1904. The Act was largely based on the English Friendly Societies Act, 1896. Under this Act, only primary credit societies were permitted to register and non-credit and federal organisations of primary co-operative credit societies were left out. This lacuna was bridged by the Co-operative Societies Act, 1912 which paved the way for the organisation of central co-operative banks throughout the country. But the provisions of this Act were inadequate to meet the requirements of those states where co-operative movement had made considerable progress. Bombay (presently Mumbai), the pioneers in this regard passed a new Act, viz., the Bombay Co-operative Societies Act, 1925 for serving the many sided development of the state. Later on, Madras (presently Chennai), Bihar and Bengal passed their own Acts in 1932, 1935 and 1940 respectively. The Multi-Unit Cooperative Societies Act was passed in 1942, which delegated the power of the Central Registrar of Cooperatives to the State Registrars for all practical purposes.

The state patronage to the cooperative movement continued even after 1947. Independent India accepted the concept of planned economy and cooperative organizations were assigned an important role. In the post-Independence era, different committees were formed and important Acts were also passed some of which include the NABARD Act, 1981, Multi-State Cooperative Societies Act, 1984 (modified in 2002), Model Cooperatives Act, 1990 and National Cooperative Policy (2002) for the development of the cooperative sector.

1.1 Structure of Cooperatives in India

The Short term Co-operative Credit Structure (STCCS) in India is pyramidal in nature. It has a three-tier structure: (i) Primary Agricultural Credit Societies (PACS) at the bottom, (ii) Central Co-operative Bank (CCB) at the middle and (iii) State Co-operative Bank (StCB) at the top. The primary societies function in various towns and villages, the Central Banks at the district headquarters and the State Cooperative Banks at the state capitals forming the apex of the system. The Reserve Bank of India assists the co-operative structure by providing concessional finance through NABARD in the form of General Lines of Credit for lending to agricultural activities. Thus, the whole system is integrated with the banking structure of the country. The STCCS functions as a three-tier structure in 16 states; while in 13 smaller states & union territories, PACS are directly affiliated to the StCB and the STCCS functions as a two tier structure. In three states, a mixed structure, i.e. two tiers in some districts, and three-tier in the other districts is in operation.

1.2 Concept and Role of PACS

In principle, PACS are expected to mobilize deposits from its members, and use the same for providing crop loans to the needy members. However, as deposits in PACS are not enough to meet the loan requirements of its entire farmer borrowing members, they draw support from the federal structure, viz., the CCB/StCB. The CCBs were therefore, constituted as a small bank working in small towns to mobilize deposits from public and provide the same for supporting the credit needs of PACS and its members. As part of the federal structure, the CCBs were also expected to provide guidance and handholding support to these institutions. StCBs were set up in each state not only to mobilize deposits but also to provide liquidity support for agricultural activities. Moreover, whenever required, the StCBs were also expected to mobilize liquidity and refinance support from the higher financing institutions like NABARD for supporting the crop

loan operations of CCBs and PACS affiliated to it. Over time, ST CCS has also been providing medium-term loans for investments in agriculture and for the rural sector, often with refinance support of NABARD. PACS, being financial intermediaries, render financial services with the objectives of growth, profit and services. These intermediaries which conduct their business mainly using borrowed funds play a crucial role in improving the economic and social condition of the common masses and provide short-term and medium-term loans to the members/farmers at reasonable interest rate to meet their needs. They provide credit to the farmers for agriculture purposes at cheap and easy terms. PACS, therefore, form the foundation of the Cooperative Credit System on which the super structure of the short term cooperative credit system is built.

The banking scenario is changing constantly and significantly due to rapid and radical reforms taking place in the industry. With the pace of the changing banking scenario, the co-operative credit system is also affected. The present study reviews the situation by looking at the performance aspect of PACS from the angle of total factor productivity growth.

2. REVIEW OF LITERATURE

There have been several studies and research work done on the co-operative banking sector of our country. Here is the summary of a few articles on the performance of short term co-operative credit structure as well as the performance of PACS in the Indian context which are cited below.

Bhaskaran and Josh (2000) conclude that the recovery performance of co-operative credit institutions continues to be unsatisfactory which contributed to the growth of non-performing assets even after the introduction of prudential regulations. **Jain (2001)** in the comparative study on District Central Cooperative Banks (DCCBs) of Maharashtra, Gujarat and Rajasthan found that the institutions of Rajasthan perform better in terms of profitability and liquidity. **Kulandaiswamy and Murugesan (2004)** study thirty PACS using thirteen performance parameters in the selected development blocks of western Tamil Nadu using field survey data. They identify working capital, total loans outstanding, total business turnover, overdues, net worth and loans to weaker sections as the key performance indicators. **Cahalam and Prasad (2007)** in their empirical study looked at the liquidity, operational, productivity and profitability ratios to study the financial performance of nine select PACS in Andhra Pradesh. **Shah (2007)** makes an attempt to measure the viability of PACS during the pre- and post- economic reforms period. **Basak (2009)** examines the case of Contai Co-operative Bank Ltd. West Bengal to identify and analyze their trend, progress and problems. The study for 1995-96 to 2006-07 uses ratios, percentage, average, trend analysis, chi-square test and multiple regression for analysis. **Misra (2009)** identifies the factors that contribute to the unstable financial condition of PACS. The study finds that the government contribution to the share capital of the cooperatives adversely affects the recovery performance. It also finds that larger membership size has a negative effect on recovery performance which was the same as seen in the case of higher proportion of non-borrowing.

Chander and Chandel (2010) make a study on the financial viability, efficiency and performance of four DCCBs operating in Gurgaon division in Haryana (India) for a period of twelve years from 1997-98 to 2008-09 by financial analysis and z-score analysis. They conclude that though District Central Co-operative Banks (DCCBs) play a pivotal role in the rural banking and the failure/bankruptcy of these banks raise doubts about their viability and sustenance. **Jadhav (2010)** in the study on co-operative banks identifies lack of awareness among the

customers about their rights to various banking facilities, lack of knowledge and skills of the employees of the banks and also comments that resistance against change in the system by all levels of the employees and management including top executives of the banks is posing problem for the cooperative banks. **Rachana (2011)** makes a detailed study on financial inclusion and performance of Rural Co-operative in Gujarat. The researcher comments that since Regional Rural Banks (RRBs) and Primary Agriculture Credit Societies (PACS) run into losses despite having wide coverage, commercial banks should seize this opportunity rather than looking at it as a social obligation. **Agrawal and Solanke (2012)** make a study on cooperative banks to find out the problems in Indian perspective. **Babu and Selkhar (2012)** in their study on the performance of urban cooperative banks (UCBs) find that though it is quite satisfactory, there is a reduction in their number since 2004. **Bansal and Thakkar (2012)** point to the problems like undue government interference, poor governance, high overdues and lack of deposits, financial indiscipline and accumulating non-performing assets. **Bhatt (2013)** determines the efficiency of cooperative banks operating in Jammu and Kashmir by looking at their technical efficiency. **Das (2013)** evaluates the performance of the West Bengal State Cooperative Bank Ltd. for 2001 to 2010.

Soni and Saluja (2013) in their study on Cooperative societies of Chhattisgarh for 2009-12 attempt to analyze the role of co-operative banks in agricultural credit. **Thirupathi (2013)** makes a thorough analysis of financial performance of select PACS in Tamil Nadu. The study recommends the need for improvement of owned funds, deposit mobilization, deployment of funds and diversification of lending, management information system and marketing arrangements. **Avhad and Chintamani (2014)** analyze the performance of DCCBs by looking at their membership, number of offices, capital, deposits, advances, reserves and overdues for a the period 2002-03 to 2011-12. **Attri and Paul (2015)** make a study on state co-operative banking in India. The paper focuses on branch networking, capital, advances, deposits, working capital and recovery performance of these banks in India. The research reveals that the overall performance shows that the banks are working efficiently, increasing profits and using the managerial talent judiciously. However, the study brings to light that till 2007-08, the bank's liquidity position was not safe as it concentrated on credit dispensation rather than on deposit mobilization. **Chandrashekar (2015)** looks into the growth and structure of cooperative credit societies in India and also studies the financial health and overall performance of UCBs in the country. **Majumdar et al. (2015)** conduct a critical assessment of select two PACS by looking at their financial position and also their role in promoting the agri-business of farmers and self-help groups.

Research gap -

From the above cited review of literatures, it is evident that there are a substantially good number of studies on cooperative banking in India. A concise summarization, however, shows that:

- (i) Only a handful of researches have been done on the financial performance of PACS operating during the pre- and post- economic reforms period in India.
- (ii) The review of literature reveals that no research has been conducted on the assessment of financial performance of Primary Agricultural Credit Societies (PACS) in West Bengal.
- (iii) Further, the researchers have not come across any study that looked into the productivity aspect of PACS in West Bengal.

Hence the present research aims to fill the gap by looking at the productivity growth of Primary Agricultural Credit Societies (PACS) of selected districts in West Bengal.

3. Objectives Of The Study

- (a) To look at the contribution of technical progress towards productivity growth.
- (b) To assess at the contribution of technological progress towards productivity growth.
- (c) To determine the total factor productivity growth.

4. Research Design

This is a very important section of any research as the correctness of the inferences depends upon the design framed by the researcher for the investigation. The components of the design for the present study are as follows:

- Data type: The study is based on secondary data on PACS of thirteen selected DCBs of West Bengal (out of total 17 DCBs).
- Data source: The secondary data is collected from the Annual reports released by the State Cooperative Bank of West Bengal at the Central Cooperative Banks' Conference in different years.
- Data period: The period of the study is from 2010 to 2017.
- Sample Design: The selection of the districts is on the basis of (i) descending order of deposit mobilized by PACS and (ii) availability of data for all years of study.
- Research Methodology: The findings are based on the application of Malmquist Index which is used for determining factor productivity growth. For the purpose, the input used is deposits and the outputs are investments and loans. The output-oriented model is used under the variable returns to scale assumption as it is realistic in contrast to the constant returns to scale which assumes that outputs and inputs are going to change in the same proportion.

5. Findings And Analysis

The results of factor productivity growth focus on three dimensions which are (i) growth due to technical progress, (ii) growth due to technological progress and (iii) productivity growth. The first is referred to as the catching effect whereas the second is known as frontier effect. The former captures the progress due to technical efficiency which assesses whether the movement is towards the frontier (in case value is more than one) or away from it (if value is less than one). This component (called efficiency change) identifies how well the process of production transforms the inputs into outputs. The frontier effect, however, looks at the growth aspect resulting due to shift in the frontier (from improvement in production technologies) obtained for all the firms put together which is the outcome of technological advancement in the industry. The following paragraphs give the results.

5.1 Technical Efficiency Change

The following table (No. 1) gives the result of progress due to technical efficiency change. The overall position of PACS of different districts shows that there is progress in only three districts namely Burdwan, Mugberia and Murshidabad. There are four districts which show an overall

decline which are Howrah, Malda, Purulia and Raiganj. The remaining six districts show stagnation in this regard with the geometric mean to be one during the period.

In the case of Burdwan, the overall growth of 26.4% is due to the abnormal growth in 2010-11 (415%). If we consider that do be an outlier and recompute the growth, it is found to be nil. Hence, the overall condition of PACS with regard to growth due to technical efficiency change is not so sound. It is expected that there is a need to grow by producing more outputs using the same/lesser amount of inputs. With respect to the trend in efficiency change, the mean score shows progress of 12.7% in 2010-11 to a regress of 5.6% in 2012-13 and 2.3% in 2016-17. The study period shows an overall progress of 1.2%.

TABLE 1: TECHNICAL EFFICIENCY CHANGE

District	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	Geo. Mean
Bankura	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Burdwan	5.150	1.000	1.000	0.987	1.013	1.000	1.000	1.264
Dakshin Dinajpur	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Howrah	0.973	0.943	0.971	0.950	1.103	0.905	0.911	0.963
Jalpaiguri	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Malda	0.972	0.991	0.934	1.081	0.977	1.045	0.954	0.992
Mugberia	1.015	0.899	1.053	0.970	0.997	1.092	1.000	1.002
Murshidabad	1.078	0.992	1.071	1.000	0.997	0.960	1.044	1.020
Nadia	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Purulia	0.905	1.106	0.476	2.005	1.017	0.922	0.900	0.970
Raiganj	0.986	0.970	0.979	1.078	0.866	1.090	0.900	0.978
Tamluk-Ghatal	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
VCCB	1.000	1.000	0.991	0.986	1.024	1.000	1.000	1.000
Geometric Mean	1.127	0.991	0.944	1.059	0.998	1.000	0.977	1.012

Source: Calculated by the researchers

5.2 Technological Efficiency Change

The following table gives the result of the change arising from technological improvement during the period which is computed on the basis of year-on-year change. It is interesting to see that in this parameter the performance shows a considerable improvement in respect of growth. Of the sample districts, PACS of eleven show an improvement. Burdwan district that shows maximum growth in respect of the earlier measure enjoys the highest in this respect as well (6.4%) which is closely followed by Nadia (4.4%). However, the main reason for growth in Burdwan district is the jump in 2010-11. Excluding that year, the growth stands at a meager 1.99% which is quite low. The other districts show a growth rate that falls in the range of 0.2% to 2.7%.

TABLE 2: TECHNOLOGICAL EFFICIENCY CHANGE

District	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	Geo.Mean
Bankura	1.000	1.000	1.023	1.000	1.026	1.000	1.072	1.017
Burdwan	1.376	1.000	0.975	1.039	1.061	1.006	1.041	1.064
Dakshin Dinajpur	1.000	1.000	1.000	0.971	1.022	0.962	1.000	0.993
Howrah	0.997	1.061	1.000	1.037	1.031	1.003	1.029	1.022
Jalpaiguri	1.000	0.996	1.000	1.000	0.925	1.000	1.000	0.988
Malda	0.999	1.002	1.026	0.988	1.028	0.976	1.059	1.011
Mugberia	1.000	1.057	1.009	1.014	0.997	1.028	0.996	1.014
Murshidabad	1.008	1.025	1.018	1.008	0.997	1.013	1.032	1.014
Nadia	1.043	1.088	1.058	1.000	1.034	1.021	1.067	1.044
Purulia	0.988	0.976	1.023	0.981	1.030	0.978	1.040	1.002
Raiganj	0.995	1.061	1.015	1.012	1.028	0.996	1.088	1.027
Tamluk-Ghatal	1.000	1.000	0.909	1.126	1.049	1.073	1.000	1.020
VCCB	0.996	1.076	0.999	1.003	1.040	1.000	1.017	1.019
Geometric Mean	1.027	1.026	1.004	1.013	1.020	1.004	1.034	1.018

Source: Calculated by the researchers

In respect of the technological efficiency change, the mean score in each year is more than one which points to a growth. However, the growth rate is quite low (lying in the range of 0.4% and 3.4%). The study period shows an overall technological efficiency change of 1.8%. The districts of Bankura, Burdwan, Mugberia, Nadia and Tamluk-Ghatal show the most consistent performance because either the figure is at least one in all the years or there is a continuous slow improvement over the years.

5.3 Malmquist Index

The third measure that forms the scope of the study is the total factor productivity growth computed using the Malmquist Index which is the multiplicative result of the two performance measures viz. technical efficiency change and technological efficiency change. The overall factor productivity growth during the period is the geometric mean of the individual year-on-year Malmquist indices.

TABLE 3: MALMQUIST INDEX FOR TOTAL FACTOR PRODUCTIVITY GROWTH

District	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	Geo. Mean
Bankura	1.000	1.000	1.023	1.000	1.026	1.000	1.072	1.017
Burdwan	7.085	1.000	0.975	1.026	1.074	1.006	1.041	1.345
Dakshin Dinajpur	1.000	1.000	1.000	0.971	1.022	0.962	1.000	0.993
Howrah	0.970	1.001	0.971	0.986	1.137	0.907	0.937	0.985
Jalpaiguri	1.000	0.996	1.000	1.000	0.925	1.000	1.000	0.988

Malda	0.970	0.993	0.958	1.068	1.004	1.019	1.011	1.003
Mugberia	1.015	0.950	1.063	0.984	0.994	1.123	0.996	1.016
Murshidabad	1.087	1.017	1.090	1.008	0.994	0.973	1.078	1.034
Nadia	1.043	1.088	1.058	1.000	1.034	1.021	1.067	1.044
Purulia	0.894	1.079	0.488	1.967	1.048	0.902	0.937	0.972
Raiganj	0.981	1.030	0.993	1.092	0.891	1.085	0.979	1.005
Tamluk-Ghatal	1.000	1.000	0.909	1.126	1.049	1.073	1.000	1.020
VCCB	0.996	1.076	0.990	0.990	1.065	1.000	1.017	1.019
Geometric Mean	1.158	1.017	0.947	1.073	1.018	1.004	1.009	1.031

Source: Calculated by the researchers

The overall position during the period shows that almost 30% of the districts show a negative growth with only four of the thirteen districts depicting a rise in factor productivity. Burdwan district in this case also dominates with a growth of 34.5%. However, if the first year is excluded for Burdwan, the growth comes down to 1.98%. In most of the other cases, the districts show a low growth that falls in the range of 0.3% to 4.4%. The Malmquist index for all the districts put together shows a productivity growth of 3.1%. PACS of Purulia district show the minimum factor productivity growth of negative 2.8%.

6. CONCLUSIONS

The story of cooperative movement in the country dates back to many decades. If we look at the different tiers in the cooperative structure of India, it is clear that there are three tiers which are State Cooperative Banks at the state level, District Cooperative Banks at the district level and Primary Agricultural Credit Societies at the lowest level. The present academic contribution focuses on the performance assessment of the institutions at the lowest tier in the state of West Bengal. The study uses secondary data for the period 2010 to 2017. The researchers focus on the issue of total factor productivity growth. For the purpose, the investigators use three measures to get a total picture of growth which are technical efficiency change, technological change and malmquist index. The catching effect for the different PACS shows that improvement in efficiency is observed in the case of Burdwan, Mugberia and Murshidabad. There are four districts which show an overall decline which are Howrah, Malda, Purulia and Raiganj. The remaining six districts show stagnation or no growth. In the case of Burdwan, the overall growth of 26.4% is due to the abnormal growth in 2010-11 (415%). If that year is excluded and the result is recomputed, it is observed that even Burdwan experiences a case of stagnation. Hence, the overall condition of PACS with regard to growth in technical efficiency is not that rosy. There is a need for the PACS to focus on increasing efficiency by ensuring better mobilization of funds.

In order to look into the reason behind productivity progress or regress, investigators also look into technological efficiency change. The year wise figures show that there is a progress over the years though it is quite low at 1.8%. In fact, towards the later part of the study period, there is a progress to the extent of 3.4% in 2016-17. An assessment of the performance of PACS of the individual districts shows that except Dakshin Dinajpur and Jalpaiguri, all districts depict a

growth in technological efficiency which varies from district to district. The change is however maximum in the case of Burdwan followed by Raiganj and Howrah districts.

With regard to the total factor productivity growth, the PACS all together experience a rise in 3.1%. An observation on all the districts individually shows that Burdwan is better placed with a rise of 34.5%. However, if we exclude the first year of the study, this district also reveals a similar trend as found in the other cases. But, the productivity growth is very low (close to nil) in most of the cases. With regard to the total factor productivity growth, all PACS together experience a rise of 3.1%. An observation on the individual districts shows that Burdwan is better placed with a rise of 34.5%. However, if we exclude the first year of the study, the district reveals a similar trend as found in the other cases. But, the growth assessment shows a position of stagnation in most of the cases. Thus, the overall picture of PACS provides evidence of the need to do more for PACS. Else they will slowly perish and will be considered as unviable entities.

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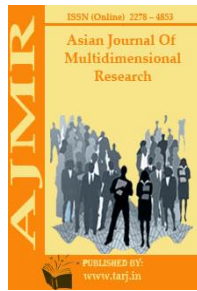
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MAKE IN INDIA – A STEP TOWARDS INCLUSIVE GROWTH

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ABSTRACT

The Department of Industrial Policy and Promotion, Ministry of Commerce and Industries launched the 'Make in India' programme with an aim to transform India. The aim is to create a worldwide architecture and promote foreign investment by turning India into a production hub. The concept behind "Make in India" is to work on growth of skills, and to promote innovation, to safeguard so as to invite Foreign Direct Investment. Creating and simplifying laws has been scheduled to make it easy to carry on business in India. This article based on 'Make in India' will evaluate the government's strategy on its clarity and create an atmosphere to welcome multinational corporations to visit the country and set up production facilities in India'. This article will also examine the different schemes that the government offers in different industries. The article will evaluate methods to make the programme a success, and the government initiatives to allow policies to be implemented smoothly. The research includes conceptual framework, public policies, multiple equipment provided by the Indian government to promote global investment in multiples industries, problems and difficulties in its execution, and suggestions for smooth execution of the 'Make in India' programme. It is an effort to make an objective assessment of the projects and opportunities campaign.

KEYWORDS: *Make in India, Challenges, Opportunities and Appraisal, Policy initiative.*

OBJECTIVES OF THE STUDY

The main goal is to study the Indian economy view, effect and possibilities of Make in India initiative. Other goals of this research are as follows:

1. Studying the idea of 'Make in India'.
2. Evaluating the progress of Make in India till date, and the campaign.

3. Identifying difficulties in India when launching and implementing the initiative.
4. Suggesting methods of overcoming difficulties in its application; use it as a gateway to global progress.

RESEARCH METHODOLOGY

In nature, the article is primarily descriptive. For the purpose of data on Make in India idea, problems, difficulties and advancement of Make in India have been referred to numerous sources like websites of the government of India, published data in news and research papers. Assessment of distinct programmes, initiatives, plans were researched from distinct sources and referred to distinct research material and articles published by authors and scientists in this sector.

Objectives of 'Make in India' Campaign

'Make in India' was introduced with certain goals as a significant domestic programme. The task is to turn India into a hub of worldwide design and production. Some of its main goals are as follows: To give a major fillip to manufacturing activities in India and make India a global design and manufacturing hub.

1. Inspire trust in the capacities of India among prospective partners around the globe, the Indian company community and the public in general.
2. Creating a new job market by providing 100 million job opportunities by the year 2022, in the manufacturing sector being the strongest in domestic job creation.
3. Twenty five main industries and sectors are recognized as a part of 'Make in India'. Providing a framework for a vast quantity of technical data on the significant industries and sectors. Creating possibilities for rural skill growth so as to make poor individuals employable, leading to poverty alleviation.
4. People between 15 to 35 years of age will be targeted and high quality training will be given in important fields like welding, painting, masonry, etc. 1000 training centres will be opened in India to serve this purpose.
5. Maintaining high quality and standards with no adverse impact on the environment.
6. To ensure Make in India initiative to make substantial contributions to the GDP.

INTRODUCTION

Make in India as an initiative was introduced by Government of India under Prime Minister Narendra Modi's governance in 2014 with a goal of converting India into a worldwide design and an industrialized hub by promoting multinational as well as domestic businesses to produce their products within India. The initiative aimed to increase the production sector's contribution from its present 16% to 25% of the GDP by the year 2025. This initiative has implemented several fresh measures to promote foreign direct investment, implement intellectual property rights and develop the production sector.

Make in India program aims at enhancing skills and creating jobs in significant areas. It focuses on 25 sectors of the economy like, automobiles, automobiles components, aviation, biotechnology, chemicals, construction, defense manufacturing, electrical machinery, electronic systems, food processing. It also includes information technology and process management, media and entertainment, leather, mining, pharmaceutical, oil and gas, ports and shipping,

railways, renewable energy, roads and highways, space and astronomy, textile and garments, thermal power, tourism and hospitality and wellness sector. The initiative also believes in introducing high quality standards and reducing its effect on the environment.

According to experts, it is an open invitation to potential partners and investors from around the globe. Top corporate houses such as Vodafone, Honda, Tata Group, Wipro, Samsung, Beacon and many others from various parts of the world. It represents a comprehensive patch up of procedures and policies, which has caused a complete change in the mindset of the Government portraying a shift from issuing authority to business partner. The Make in India initiative has been built on layers of collaborative effort.

According to the World Bank annual ratings, India has been ranked 77 among 190 economies in terms of doing business with ease. The Ease of doing business index ranks countries against each other based on how the regulatory environment is conducive to business operations. The rank of India improved to 77 in 2018 from 100 in 2017. Ease of Doing Business in India averaged 124.82 from 2008 until 2018, reaching an all-time high of 139 in 2010 and a record low of 77 in 2018. This will help India to lead to higher growth in forthcoming years and also help the government, in terms of inflows of foreign capital which will help the nation in attracting more resources and investment at the global level.

The government is aiming to create an auto response mechanism, procedural clearance which will help create an optimistic industrial environment with the foreign investment pouring into the country; innovative skills and the technical expertise of our country will also improve. The campaign will create massive opportunities for other countries as well, as the exports to those countries will grow. This in the long run will expand GDP, creation of employment opportunities, alleviate poverty and cause welfare of the general public at a large scale.

LITERATURE REVIEW

Review of literature basically recapitulates the research conducted by various scholars, economists and public policy specialists on Make in India campaign. Sangwan (2015) studied – The impact of Make in India on FDI inflows and industrial growth rate. It was found that there exists a high correlation between the industrial production and FDI inflows, it indicated that the impact of FDI on economic development activities range from increase in productivity to greater technology transfer. Agarwal (2017) studied the impact of relaxing FDI restrictions on FDI inflow in India. It was found that owing to Make in India initiatives and relaxation of FDI norms, FDI inflow reached at the top in the NDA government in the year 2016-17. It was further suggested that the market forces should decide the flow of FDI to a particular sector rather than regulating FDI flow through policies and regulations towards a particular sector. Kalaivani (2015) found significant, positive and meaningful relation between the Make in India campaign and the HRM practices followed in the Indian corporate sector. It was found that through creative and exciting HRM practices, new culture can be facilitated that will pave the way for smooth implementation of Make in India programme. Shettar in 2017 studied the impact of Make in India campaign on foreign investment., it showed that the percentage of FDI flowing to manufacturing sector, which was in the range of 35-40% for four years, dropped to 23% in 2015-16. Rather than manufacturing, services like e-commerce providers i.e. Amazon, Snapdeal and Flipkart, ride sharing services like Uber and Ola seem to have drawn a greater share of the investment.

Opportunities offered by Make in India

To make our country an inevitable part of the supply chain at the global level, the campaign 'Make in India' was launched. The aim is to excel in the globalized work space for which India is trying to open the economy as per the prospects of the international investors, to invite foreign direct investment in the areas of defense, railways, construction, insurance, automobiles and many other sectors. India is becoming an appealing manufacturing and investment destination in the world. The world business community is regarding India as a massive market with great potential as India can procure rich benefits from its demographic divide. It is one of the world's fastest growing economies. India is also first among the 100 countries on the index of innovation growth and leadership and it is also the first among the 110 investment destinations globally.

Why should people invest in India, why should they come here to Make in India? are a few important questions in the backdrop of the above. The answers to these questions are explained in the form of reasons for investment in India. We may discuss briefly the reasons to invest in various sectors:

1. Reasons to invest in aviation industry

The international passengers coming to and going from India are estimated to be more than 16 million in 2018, which makes India the 9th largest civil aviation market. India has more than 85 international airlines and the flights go around 40 countries in the world. India is going to be the third largest market for civil aviation by the year 2020 and the demand for the aircraft will grow every year.

2. Reason to invest in automobile industry

India is the 7th largest producer of automobiles in the world and also the 4th largest automobile market by volume. The automobile sector contributes about 7% towards the GDP. It not only has the potential for export but also has the potential for domestic consumption keeping in view of growing population and rising incomes.

3. Reason to invest in Biotechnology industry

India's growing population drives the demand for biotechnology products and services is, to a large extent, which is predicted to reach 1.45 billion by 2025. Changing lifestyles will not only give rise to lifestyle-related ailments like diabetes, stroke and cancer, but also the growing economic prosperity and consciousness towards physical well-being will enhance the demand for good healthcare services. Huge pool of skilled manpower in this sector and favorable government policies are some of the reasons to invest in this sector.

4. Why invest in chemical industry

India is the 6th largest producer of chemicals in the world and it also holds the 6th position in Asia in terms of output. Due to its closeness to the Middle East, petroleum industries for the availability of raw material, India is considered as the ideal place for chemical production.

5. Reasons to invest in construction industry

The real estate sector is the second-largest sector in the country. India has an acute shortage of residential houses. The government has launched a new urban development mission, according to this mission, the government plans to redevelop 500 smart cities. India is making huge

investments in infrastructural projects for growth and employment generation. Indeed, the construction industry is a priority sector for the government.

6. Reasons to invest in defense sector

India is one of the major importers of defense material which leads to a wide scope for investment in the defense sector. The government is promoting self-reliance, up-gradation of technology and development of defense capabilities and export of defense material, which makes it a natural choice for the foreign investors to invest in India and participate in the Make in India programme.

7. Why to invest in electrical machinery sector

India is attempting to develop effective power systems with the objective of taking power to each household and being self-reliant. Indian manufacturers are trying to be competitive, as there is a possibility of pooling of technology and human resource in this sector which makes it a huge opportunity for foreign investment. India is seen as a direct exporter of electrical machinery from the perspective of its neighboring countries.

8. Reasons to invest in renewable energy sector

India ranks 5th in terms of power generation portfolio across the world as it has the power generation capacity of around 2045 GW. As India is progressing the need of production of power is growing. Under the 'Make in India' campaign, the government of India aims to raise the renewable capacity from 45 at present to 175 GW by the year 2022, which includes 100GW of solar power and 60GW from Wind power. Thus, there is a huge opportunity for development in renewable energy sector.

9. Reasons to invest in food processing sector

India is a rich agriculture country, because of the availability of diversified and abundant resources, there is a need for the development of technological infrastructure to set up the food processing industries which will help to cater to the world's food crisis.

Make in India: The Appraisal

Liberalization started in the year 1991, following which the economy opened up to the world, in the form of Foreign Direct Investment (FDI). We've seen the responses of people investing in India after the launch of Make in India campaign. The project launched by the Prime Minister, created an impact globally, and the Government has been promoting the initiatives to fetch results. Companies like Fox Con, Mercedes, BMW, Volvo, Honda, Reliance, Airbus, Pride and Richie are contributing in the different sectors of our economy.

Growth in FDI is much greater as compared to previous years. Some of the highlights can be described as having done by various corporate giants. The Spice Group launched a mobile phone manufacturing unit in Uttar Pradesh with investment of US\$78 million investment in January to June 2015. Hitachi started its projects in February 2015 and Zooming in Andhra Pradesh between July and December 2015, In 2015, Nova announced the production of Motorola smartphone, Fox Corn announced its investment in research and development and high tech semiconductor facilities in Maharashtra. Qualcomm announced the start of designing in India in December 2015, and concentrated on hardware firms.

If we can boost of some contribution of Make in India's contribution to our economy's growth as well as GDP growth, there are certain goals that it could accomplish and financial circumstances have not become as good as anticipated and the country's job scenario isn't great. It can be observed that the GDP growth fell down from 9.2 percent in the third quarter of 2016 to 5.7 percent in the third quarter of 2017. The government's policy of demonetization and implementation of GST have been considered as one of the reasons for its fall in the GDP in our country. The unemployment rate has grown from 3.8 percent in 2011-12 to 5 % in 2015-16, fewer jobs have been added. The job creation in the various major sectors like construction, education, health, transportation, adduction, IT and manufacturing has not been very impressive. About six lakh forty thousand jobs have been created between July 2014 and July 2016, while comparing it with the previous period in July 2011 to December 2013 128 lakh jobs were created; the unemployment rate in the country has gone up from 3.39 percent in July 2017 to 6.23 percent in March 2018 and it is not going to change, as per the Centre for Monitoring Indian Economy (CMIE) data, it is expected to increase further. Under the governance of PM Modi a lot of measures and activities have been taken in some of industries, to reduce red tapism and bureaucratic delays. India has gained its position in terms with the ease to do business ranking. Due to certain schemes which were launched and provision of better propositions in mind like demonetization or GST, the result has not been as appropriate as anticipated. The manufacturing industry has shown a fall in its contribution towards the overall GDP of the nation.

Make in India: The Challenges

Our country has numerous strengths, due to which it has made express development, undertook many constructive and efficient economic initiatives, endowed with huge human capital. Despite such progress, the Make in India initiative faces certain challenges like: (1) the challenges perceived when the programme was launched and (2) ongoing challenges.

The challenges perceived at that time of launching the programme:

1. Lack of Trust

Broken trust between the industry and the government is one of the major challenges; policy implementation and existence of infrastructure bottlenecks was improper, the continuous issues of environmental clearances and bureaucratic hurdles created trust deficit in the minds of the investors.

2. Scarcity of Skilled Labour

The ability to meet the demand for skilled labour in the manufacturing industry to make the programme a success was a major challenge.

3. Multiple Tax Regime

One of the major hindrances in industrialization is the multiple tax regime. Multiple layers of taxes levied by the central and state level government are considered as an obstruction by the industry.

4. Infrastructural Bottlenecks and ease of doing business.

Poor infrastructure, improper logistic network for supply of goods and material were creating lot of problem for the manufacturing industry. There were hurdles in getting procedures and regulatory clearances for the new entrepreneurs, the processes were complex. India was ranked

much below in the rank in ease of doing business index conducted by many international agencies.

Make in India: Current Challenges

1. Non-availability of skills

Non-availability of skills is a major hindrance in creating the employment and without which manufacturing activities cannot be carried out. There are jobs, as well as people who can be offered good salaries and perks but the matching of skills as required by the job is not forthcoming. The gap between the requirement of manpower and skills possessed by the people of the country is one of the major hindrances in the campaign. A small percentage of Indian workers are qualified according to the mastery in the probable skill, as compared to workers in other Asian countries.

2. Quality of human capital

The key challenge for our nation is quality of human capital. India needs to raise the capabilities and capacities of the younger generation. The success of such campaigns are directly linked to the quality of human capital. India is lagging behind in comparison to other nations in passing training to its workers, to enhance their capabilities. The growth of various engineering and non-engineering colleges and institutes are mushroom in nature as they claim to give industry specific technical knowledge, they are not able to produce such results in real industry situations, which are expected out of them. Shortage of vocational education facilities and training has impacted India's industrial scene. The deficiency of non-availability of technical institutes, non-inclusion of course in the education system by the colleges and universities is a major problem. Even if, they have included, it has not been able to produce results because of non-implementation of standards.

3. Global Competition

The Global market is being dominated by the countries like Britain, China, Japan, USA, and Korea as well as by India. However, there is a stiff competition among the companies of various countries. To compete with the other countries India, needs to manufacture qualitative products in the sector of vehicles, electronic goods, and home appliances. To create a space in the market, the technology has to be updated and the scheme of the new product development is also necessary to stay in the market. We need to do the research upon sketch, technology and technical areas. In the field of defense, the production is restricted to a few areas, where we need to expand in this sector so that even more defense related products can be manufactured in India. We need to work hard upon the quality of our products, so that they're accepted at the global level, in order to promote other countries to setup their manufacturing units in India.

4. Scarcity of Energy Resources

Energy resources in India need to be diversified and aim at lowering down the vagueness in the manufacturing industry. Additionally, India needs to work on sustainable resources and practice the policy of sustainability.

5. Other Challenges

To make sure that Make in India is a success, other challenges also need to be addressed. Huge investments in research and development are required, while it has a low priority in India long term global competitiveness in industry requires. When compared to many other developing and

developed countries, India is still considered as not a very business friendly country. India has very safe labour laws and trade unions that ascertains to be a major difficulty in setting up manufacturing units here. Funding is also an issue with immature financial markets, unlike other countries. Lack of infrastructure is an unfavorable factor for those who want to start manufacturing facilities.

Suggestions for Smooth Implementation

- 1. Creation of and sustenance of jobs.** India aims to increase manufacturing, and it is expected to create job opportunities. The question arises is that whether those jobs will stay or it will be taken away by technological support or artificial intelligence as technology and the different support systems are replacing the human being due to which the jobs will not sustain. The human employment will turn into a challenge and the question will be whether the human will be competitive as far as the cost is concerned.
- 2. Industrial relations.** Industrial relations in our country has always been a challenge. The strike, protest in the manufacturing plants have hampered the working of industries and has not allowed it to grow smoothly. It is not easy to change the laws of the country, so the challenge is how to handle the adamant trade unions and bring them on terms of negotiation to work for the benefit of the industries. Culture of not working and not working hard is a big challenge in our country.
- 3. Challenges of research:** India has reached to a different level of economic development with the help of public sector companies following a protected regime of rules and regulations. We need to compete with global players, and we need to invest huge sums of money in research and development. India is an epitome for the research and development facilities for different countries but even then, India is very slow to the research and development. Corporate giants, like Tata and Mahindra are coming forward but still more is needed to be done. The State run councils of scientific industrial research needs to create infrastructure and hire more people. Bureaucratic delays and red tapism need to be handled.
- 4. Academia Roll:** The academic world should study the needs of the industry in the coming twenty years. There needs to be a coordination in planning and execution between the Universities, thinkers, government and the people who are seeking jobs. We should be aware of what is needed and they must work together to improve the various facilities for the availability of those skills, knowledge and competence. The training programmes need to be designed and should be based on technology. The manpower needs to be trained through ITIs as well as other specialized institutes.
- 5. Digital Competence:** Corporate as well as the industries should focus on digitizing India. India cannot think of achieving the objectives of Make in India, without emphasizing and developing Digital India, because it is necessary to compete with the world as far as the capabilities of other people working in other countries viz-a-viz digital way of doing the thing is concerned. The information base needs to be developed, we need to develop I-biz high-ways, so we need to work to ensure that optical fiber networks are developed. We can only dream of a developed India through digital network. It is not the question of employment, it is a question of employability. We need to combine skill India and make in India to make a significant impact on the industry and the economy. Digital India can also make a significant contribution to promoting skills of the people. It is necessary to connect Skill India, Make in India and Digital India.

Network: It has been seen that the network of roads, rail and airport connectivity with the various ports is not as promising as it should be. We need to develop them as a bunch so that the development of different factors for the logistic movement and storage is proper and industrialists are able to derive benefits of that. The imbalance between export-import and the current account deficit can only be met through the activities for the export promotion. Export promotion is the way of creating a balance between that. Thus, different types of partnerships are required at all levels. The States, Centre, corporates, universities all need to work collaboratively and enter into a memorandum of understanding to develop India as a place as a manufacturing hub inviting other countries to come to our countries.

We need to create an environment in which manufacturers as well as outsiders, feel comfortable and are willing to come to our country to transform Indian manufacturing sector and to create employment, generate investment and innovation. It will lead to the making of a vibrant economy and we will be able to get the objectives of higher level of GDP and other infrastructural support.

CONCLUSION

Growth in the manufacturing sector is essential in case a country wishes to climb the stairs of success and earn higher level of income and this cannot be achieved until we all focus on how to make it a success. Policy and the vision stated by the Government of India through 'Make in India' initiative can benefit immensely and in a better way if the inter-relationship with other departments and stakeholders is better. Though, the Indian government is developing solutions to these obstructions, the state governments too needs to be equally pro-active in attracting business in their respective states. The focus of our government is on the practices of merger and acquisition. The SME owners need to expand their businesses in India so that there is a participation of local industrialists also in the campaign of Make in India. Startup India programme also needs to be strengthened and made as an inter-linked programme with Make in India

It is further felt that this initiative should not be a simple initiative by DIPP but a separate department or ministry should be created to initiate and manage such programmes and projects which can attract investments from abroad. All necessary organizational structure should be revised to see to it that plan of moving from vision to implementation becomes successful and we are able to achieve the target of contribution of manufacturing sector to the GDP from 16 percent to 25 percent by the year 2022.

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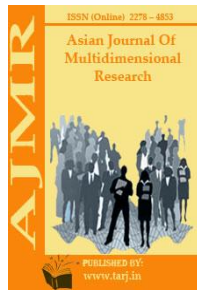
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A STUDY ON PROBLEMS OF WOMEN TEA WORKERS AND THEIR UNION PARTICIPATION IN PANDALUR TALUK WITH SPECIAL REFERENCE TO NILGIRIS

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ABSTRACT

Women participation in the tea business has remained essentially high alongside other plantation crops, for example, coffee and rubber. In any case, the nature of women's employment inside such manor yields needs genuine evaluation in the light of current worries on declining female work participation rate (Abraham 2013). With the arrangement of family employment, both women and their children were occupied with tea leaf culling (plucking), weeding and clearing and so on in the plantations. The Nilgiris district is mostly an agriculture district and its economy for the most part relies on the achievement or disappointment of yields particularly the ranch harvests like tea and espresso (Coffee). The fundamental center is to comprehend the women's agency of labour in their numerous circles of work and work puts through their lived involvement as a specialist, as an acquiring individual from the family and as a key player in the industry (Rinju Rasaily, 2014). The climatic situations and troposphere of the region make the Nilgiris District the fitting spot in South India for development of tea thus the zones under tea development in Nilgiris are monstrous and spread. The development of tea is essentially founded on the tea manor workers (Jaganathan and Palanichamy, 2015). Women workers are an advantage and spine of the tea business and notwithstanding their commitment, they acquire pitiful incomes, experiences low dimensions of human services and individual prosperity, lives captured in destitution and are cutoff from the standard (Mamta and Sanchari Roy, 2018) Thus

the present study focus on the problems faced by the women tea workers and also helps to understand their union involvement in Pandalurtaluk.

KEYWORDS: *Permanent Workers, Tea plantation, Temporary workers, Trade Union, Women, Work Problems.*

INTRODUCTION:

The participation of women in the plantation labour-force has been high. In 1994 the tea plantations in India employed 10,28,694 permanent workers of whom 4,96,505 were women and 4,80,067 were men. The high extent of women workers in this industry is in opposition to the general pattern in the organized sector where the ratio of women labourer in the work power will in general be declining (Kanchan and Bhowmik 1998). Women's work has customarily been partitioned into the territory of creation (both financial and social) and multiplication from days of yore. With the force of specialization, women's work turned out to be increasingly isolated and sexual division of work turned into a predominant plan. Their interest in the economy and commitment to the household income turned out to be increasingly clear. Such support has anyway added more to their weight of work with less increment in wages/acknowledgment particularly in the organized sector. Women's work is vital to the economies of creation, all the more so on account of generation of plantations products, for example, tea and coffee. Employment of women in plantations generally was looked for by the grower so as to "contain the male work power" and to "guarantee a steady multiplication of 'shabby' work" as enrolment expenses were costly. Subsequently, one of the significant highlights of tea industry in India is the proportionately more elevated amount of female work in development and generation. Commitment of women's work is higher in tea plantations as a result of their gendered-ascribes to the assignment of picking tea leaves specifically and for keeping up a steady social reproduction of labour. The governmental issues of predominance and subservience work especially in estate life that directs their employment status just as their ordinary public activity. The shapes of sexuality likewise underlines inside this subservience for women particularly through the orders of intensity. Given the way that some had political worker's organization associations so she could defend her standard employment as against a couple of women workers who lost their normal employment in another tea garden as they had battled for their entitlement to cultivable land (Rinju Rasaily, 2014). The vast majority of the tea workers in Pandalur taluk were tribal, schedule castes and repatriates. So they are not ready to secure against the barbarities and to appreciate the extraordinary status as they are squashed. For a tea estate labourer whose ancestors were obligated settlers and where conceived and raised inside the tea gardens and rejection implies the loss of livelihood as well as danger to their general presence. Despite the fact that the manor workers are considered to Tea worker and Ex-tea working community, their children are constrained to join the Tea. Women Labourer constrained as unskilled workers in the wake of going from the primary schools of gardens. What's more, the children not get any instructive and elective employment opportunity, generally certain slight exceptions are occurring in this district (Jaganathan & Palanichamy, 2015). Thus the researcher throws light on the sad plight of women tea workers and their trade union involvement in the plantation sector.

OBJECTIVES:

- To study the socio-economic conditions of women tea workers.
- To identify the various problems encountered by the women tea respondents.
- To examine the active participation of women in trade unions.

REVIEW OF LITERATURE:

Rowlatt (2016) studies the Indian tea workers' conditions remain very poor. He reported in his study that low wages and poor living and working conditions for the 155,000 people who live in vast estates owned by private plantations limited are leading to high level of malnutrition and ill health among women tea workers and their family were left malnourished and vulnerable to fatal diseases. His examination found that the bank had neglected to react methodically to issues in regards to housing and living conditions or to address genuine slips by in the utilization of pesticides with the outcome that workers are presented to unsafe synthetic compounds and low wages compelled to absence of nourishing prerequisite, social insurance and instruction, workers' ideal to unionize and their complaints were not met appropriately.

Mamta&Sanchari (2018) "Gender, Women and Work in the Tea Plantation: A case study of Darjeeling Hills". This paper manages the interest of women in the workforce and the effect on their financial life. It additionally inspects the manners by which women workers are underestimated on numerous fronts like representation of the workforce, upward word related portability and political space of worker's organizations.

Sabrina Miti Gain (2018) made a study on "Tea workers: The women's tale". The examination pictures the issues of women tea works in the tea estate. The tea business is reliant on the women tea networks, as almost 50% of the tea workers are women. A large portion of them are leaf pickers and others work tea factories. Numerous tea workers who are pregnant discovers hard to move to top slopes because of head turns and gets parched as well. No appropriate office for giving water in the tea gardens. They face multidimensional separation and novel arrangement of issues which are regularly disregarded. Their needs and requests stay stifled. A couple of women delegate are dynamic in the association to feature the one of a kind issues looked by the women workers.

STATEMENT OF THE PROBLEM:

Tea Ranch (Plantation) Industry is a significant industry in Nilgiris District (Tamil Nadu) and it assumes pivotal jobs in income generation, Remote Trade (Foreign Exchange) and Employment Generation both legitimately and in a roundabout way (P.Radha & G.Mary suji 2016). The transformation of Tea Plantation industry in Tamil Nadu has brought substantial changes in the level of competition, business environment, managing strategies, service quality and the advance technology front. The breezes of advancement, globalization and privatization have opened new vistas in this in the age of a seriously domain. Pandalur taluk is one of the known area for tea tribes and poor living conditions of tea workers, where dry and dull climate of tea leaves exist for food shortage. The women are discriminated in wage and other benefits as they are unorganized tea pickers, who lacks nutritional requirements, ignorant about their rights and equality, as hardly ever took part in the union negotiations. Of the most regular participants in union activities only few had attended these meetings. All of them told that they merely observed the proceedings and had never given their opinions. This research mainly focuses on the problem plaguing among Women workers in tea gardens and their involvement in unions.

LIMITATIONS:

This study is not free from limitations. The following are the important limitations:

- I. The examination is simply founded on the perspectives on 45 women respondents just and thus their outcomes may not be all around appropriate.
- II. The topographical zone of this examination is kept uniquely to Pandalur taluk, Nilgiris District.
- III. This is confined to the limited population and study period is specific.

METHODOLOGY:

The respondents to the investigation was chosen from Pandalur taluk as it is one of the denied and tribal populated taluks of Nilgiris, where women workers are stifled in the work environment and their wellbeing (Health) condition is in genuine talk because of the lower wage, less open to association exercises. The wellspring of information is essential which has been gathered from the workers through pre-structured poll strategy and auxiliary is gathered through books, journals and from the web. The samples were browsed the population using convenience sampling technique

Sample Size:

A total of 45 Women workers were selected from Pandalur taluk who are engaged in tea plantation sector.

STATISTICAL TOOLS:

The researcher has used the basic statistic tools like Percentage method, Chi-square, and Independent sample 'T' test for analysis purposes. Plantation workers having a place with various classes of work represents considerable authority in every one of the works other than culling of leaves and female workers has practical experience in tea leaf plucking. The examination on issues of women tea workers has numerous qualities and assume a noteworthy job in deciding the monetary status of every individual specialist has direct effect on poor living conditions clarified with the assistance of table.

RESULTS AND DISCUSSION:

The following tables show the results of the collected data.

TABLE 1 DEMOGRAPHIC PROFILE

Sl.No	Particulars	Frequency	Percent
1	Age		
	Below 30	5	11.1
	35-45	31	68.9
	Above 45	9	20
	Total	45	100.0
2	Marital status		
	Married	39	86.7
	Unmarried	3	6.7
	Widow	3	6.7
	Total	45	100.0
3	Nature of Family		

	Nuclear	8	17.8
	Joint Family	37	82.2
	Total	45	100.0
4	Type of House		
	Kachcha	33	73.3
	Semi-Pucca	12	26.7
	Total	45	100.0
5	Education		
	Illiterate	23	51.1
	Primary	20	44.4
	Secondary	2	4.4
	Total	45	100.0

Source: Primary Data

From the table 1, it is clearly found that 68.9 women tea respondent's fall under the age group of 35-45 years. As the marriage is a compulsory ritual, majority of them were married respondent say 86.7 percent, about 82.2 of the women respondents still prefers to stay in joint family culture as majority were tea tribes (Paniyans), Most of them 73.3 lives in kachcha type of house even today as many were not educated, so the percent of illiterate is high with 51 percent.

TABLE 2 OCCUPATIONAL DISSATISFACTION AMONG THE FEMALE RESPONDENTS

Dis-satisfaction	Nature of Employment	N	Mean	SD	t-value	P Value
Paid sick leave	Permanent	27	1.9259	.26688	1.173	.014
	Temporary	18	2.0000	.00000		
Bonus	Permanent	27	3.1111	.322026	2.272	.000
	Temporary	18	3.3889	.50163		

Source: Computed Data

Hypothesis 1

Null Hypothesis: There is no significant difference between occupational dis-satisfaction and Nature of Employment by the female Respondents.

Alternative Hypothesis: There is significant difference between occupational dis-satisfaction and Nature of Employment by the female Respondents.

The table 2 reveals that there is significant difference between occupational dis-satisfaction and Nature of employment by the female respondents. As the nature of employment both permanent and temporary tea workers not satisfied with bonus (irrespective of the experience in the plantation) provided by the management. They are not in asatisfied environment in the tea plantation as the occupation dis-satisfaction is significant in nature. So null hypothesis is rejected.

TABLE 3 IMPACT OF EMPLOYMENT TYPE ON RESPONDENTS' INCOME

Nature of Employment		Below 3000	3000-5000	Total
Permanent	N	0	27	27
	C	0.0	60.0	60.0
Temporary	N	18	0	18
	C	40.0	0.0	40.0
Total	N	18	27	45
	C	40.0	60.0	100.0

Source: Primary Data

N – Number, C - Percentage to Column Total

Chi-Square Tests					
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	45.000 ^a	1	.000		
Continuity Correction ^b	40.930	1	.000		
Likelihood Ratio	60.571	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	44.000	1	.000		
N of Valid Cases	45				
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.20.					
b. Computed only for a 2x2 table					

Source: Computed data

This table shows that majority of permanent tea worker receive wage between Rs.3000 - Rs.5000/- and majority of temporary workers gets wage less than Rs.3000/-. As low wage is an important feature of plantation workers, even women workers are not free from this disadvantage. In fact they are largely exploited and paid in meager. Due to low wages received by the Women tea workers (Wage discrimination), they find many problems like poor nutrition, nil benefits from social security measures and health care. Based on employment nature it is significant that monthly income (low wages) has an impact on nature of employment.

TABLE 4 REGISTERED TRADE UNION WOMEN TEA WORKERS

Member of trade union	Type of work (Leaf pickers)	Percent
Yes	10	22.2
No	35	77.8
Total	45	100.0

Source: Primary data

EDUCATIONAL IMPACT ON TRADE UNION PARTICIPATION AMONG WOMEN TEA WORKERS

Member of Trade Union		Education status of the Respondents			Total
		1.00	2.00	3.00	
Yes	N	0	8	2	10
	C	0.0	17.8	4.4	22.2
No	N	23	12	0	35
	C	51.1	26.7	0.0	77.8
TotalN		23	20	2	45
C		51.1	44.4	4.4	100.0

Source: Primary Data

N – Number, C - Percentage to Column Total

CHI-SQUARE TESTS

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.229 ^a	2	.000
Likelihood Ratio	20.753	2	.000
Linear-by-Linear Association	16.541	1	.000
N of Valid Cases	45		

The above table reveals that education has significant impact on membership of union participation among women tea workers. A majority of 51 percent of illiterate female tea workers failed to enroll in trade union activity and 22 percent of educated workers has shown interest on union activities as it helped them to know and understand equality in wage and their rights'.

SUGGESTIONS:

1. The wage of the female workers is very meagre. There is an immediate need for revising the existing wage policy and to hike the wage of the female workers in the estates.
2. Government should take immediate action on poor construction of line houses maternal medical facilities, clean pipe waters, and assistance to the school going children.
3. A widespread of awareness on gaining education should be made transparent and the female workers from remoteness of place of residence and long journey can be improved by regular transport facility by the management at free of cost.
4. A proper medical and safety measures includes vitamin tablets & capsules for anemic and pregnant workers, Gloves, scarf, raincoats and weather related clothing should be provided periodically provided to all female workers involved in tea plantation sector.
5. There is a need for strong union for female tea workers and active participation, incentives for union representatives and subscription fees should be made minimal. A strict action taken to protect female workers from domestic violence and even the complicated political issues to empower female workers through union.

CONCLUSION:

In the tea plantation, women have been doled out the activity of culling tea leaves which is a work serious work without the utilization of machines. Women are picked for this work in light of their particular 'feminine skill'. Their agile fingers have been recognized as being appropriate for culling tea leaves from time of beginning of the estate economy. Notwithstanding, no acknowledgment as far as monetary worth is given to this particular skill. The women workers performed unpaid local work and they worked in greenhouse for a compensation lower than the male workers. Besides, women for culling which is pre-dominantly done by them however not secured in high paid positions in tea plants nor found as managers in garden work. Further, it is seen as a defense for separating the women labourer and consigning her to the situation of an optional or strengthening specialist. Women as workers have been misused through the debasement of their common laborers status. It is important to note the response of the trade union which form the institutional safeguard of working class rights. Thus, the social conception of gender prevents the woman from getting her rights as a worker.

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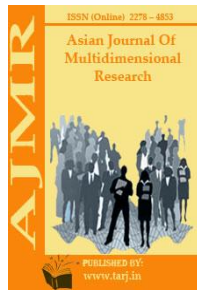
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ELECTORAL REFORMS IN INDIA SINCE INDEPENDENCE

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ABSTRACT

The most important feature of democratic governance is that elections are held at regular intervals. Elections are a sign of democracy. People's attitudes, values and beliefs towards the political environment are reflected through this. Elections allow people to govern and the government has the constitutional right to control those who choose it. Elections are a central democratic process for the selection and control of leaders. Elections provide people with the opportunity to express confidence in the government from time to time and change it when needed. Elections symbolize the sovereignty of the people and give legitimacy to the authority of the government. Thus, free and fair elections are necessary for the success of democracy. Free and fair elections are the mandate given by our Constitution for parliamentary democracy. The term 'democracy' coined in the preamble can be felt if our system has the content of an independent, fair and effective electoral process. Only free and fair elections of various legislators in the country can guarantee the development of democratic governance.

KEYWORDS: *Democracy, Elections, Politics, Reform.*

INTRODUCTION

The process of electoral reforms focuses mainly on broadening the core meaning of democracy, making it more citizen friendly.

Electoral reforms refer to the introduction of the best practices in ensuring better democracy, clean politics, fair elections, ideal members of legislative houses, true representation and so on. Elections are the most important and integral part of politics in a democratic system of government. Politics is the art and practice of dealing with political power, while elections are the process of legitimizing such power. Democracy can only function on the belief that elections are free and fair and not rigged and rigged, that it is an effective means of becoming popular, will be in both reality and form and will create the illusion of difference for public opinion. Rituals

don't just count. It does not exist without free and fair elections. Currently elections are not being held under ideal circumstances as a large amount of money and huge muscle power is required to win the elections. While the first three general elections in our country (1952–62) were large and free and fair, the sharp decline in standards began in 1967 with the fourth general election. No such incident was reported until the fourth general election. For many years, the Indian electoral system has suffered from severe weakness. The electoral process in our country is the father of political corruption. Distortions in its performance first occurred in the fifth general election in 1971 and multiplied in successive elections. Especially in the planning of the eighties and so on. Some candidates and parties participate in the election process to win them at any cost, regardless of moral values. Under ideal circumstances it is essential that an honest and sincere person who is enthusiastic for the masses and wants to serve the people will be able to contest and elect elections as the people's representatives. However, in fact, the person mentioned earlier either does not have a chance to contest the election or in any case to win the election.

Aspects of Electoral Reforms:

- ❖ Transparency about the background of the candidates
- ❖ Freeing the election processes from muscle and money power
- ❖ Prohibiting the nexus between business and politics
- ❖ Availing all the citizens, eligible to vote a comfortable, friendly and assured facilitation of vote casting
- ❖ Upholding the secrecy of voters
- ❖ Fair registration and recognition of the political parties and without any kind of influence

Electoral Reform Needed

The need for electoral reform has been felt mainly due to the removal of corrupt people and misdemeanor activities. Their need can also be explained in more detail.

Criminal in politics

- ❖ The electoral process should reflect today's situation and should not be imposed on contemporary society
- ❖ To prevent misuse of government machinery.
- ❖ Employing the use of technology to advance election processes and keep pace with modern day practices.
- ❖ To field non-serious candidates in elections
- ❖ The election process should be neutral and impartial for any political party
- ❖ Banning the criminalization of politics
- ❖ Some candidates contest from two seats, so there is a need for time that forces candidates to pay for their second constituency election expenses.
- ❖ Encourage money and muscle power to contribute to the electoral process
- ❖ To increase the confidence of the citizens in the electoral process.

Election Reforms

- Goswami Committee on Electoral Reforms (1990)
- Vohra Committee Report (1993)

- Gupta Committee on State Funding of Elections (1998)
- Law Commission Report on Reform of the Electoral Laws (1999)
- National Commission to Review the Working of the Constitution (2001)
- Election Commission of India – Proposed Electoral Reforms (2004)
- The Second Administrative Reforms Commission (2008)

Electoral reform in Indiasince Independence

Electoral reforms are required to clean politics, actual representation, and healthy democracy. Articles 324-329 deal with elections and electoral reforms.

- **Lowering the voting age:** The 61st Amendment to the Constitution has reduced the minimum voting age from 21 to 18 years. (Read about important amendments to the Indian Constitution in the next article.)
- **Increase in the number of proposers and security deposits:** The number of voters required to sign nomination papers for Rajya Sabha and State Legislative Council elections as proposers has been increased to 10% of the electorate or 10% of the constituency. Voters to stop vain candidates, whichever is less. Security deposits have also been increased to deter non-serious candidates.
- **Deputation of Election Commission:** Under the Representation of the People Act Amendment) Act, In 1988 a new section 13CC was inserted which provides it All staff working to prepare, revise and revise the electoral roll for elections will be considered on deputation of Election Commission for such employment period, and will remain as Superintendent by the Election Commission.
- **Electronic Voting Machine (EVM):** First introduced during the state elections in Delhi, Madhya Pradesh and Rajasthan in 1998, EVMs are now widely used as they are environmentally friendly, efficient and good alternatives.
- **Disqualification on Conviction for Violation of National Honors Act, 1971:** This will disqualify a person from contesting Parliamentary and State Assembly elections for 6 years.
- **Booth Capturing:** Section 58A has been inserted in the Representation of the Peoples Act, 1951 by Act 1 of 1989 providing for adjournment of poll or countermanding of elections because of booth capturing. Booth capturing has been defined in Section 135 A of the Representation of the Peoples Act, 1951. Election Commission on such report may either declare the poll at the polling station as void and appoint a date for fresh poll or countermand election in that constituency.
- **Restrictions on the sale of liquor:** No liquor or other drugs shall be sold at any shop, restaurant, or any other place in the polling stations, private or public, within the prescribed period at the end of the prescribed hours for the conclusion of the poll.
- **Death of candidate:** Earlier, there was a reaction to the death of a contesting candidate. In the future, there will be no reaction to the death of a contesting candidate. If the recognition of the deceased candidate is arranged by a national or state party, the party concerned will be given the option to nominate another candidate within 7 days of the notice of election commission of declaration to the party concerned.
- **Restrictions on contesting from more than 2 constituencies:** Candidate cannot contest from more than 2 constituencies.
- **Reduction campaign time:** The duration of the campaign has been reduced.

- **Paid Leave of employees:** On polling day, employees of organizations get paid leave and fines are levied for violations.
- **Deadline for by-elections:** By-elections for any House of Parliament or State Assembly will now be held within six months of the vacancy in that House. (Read the attached article about Parliament and State Legislature.)
- **Disallow weapons:** Going armed with any kind of arms as defined in Arms Act. 1959 within the neighborhood of a polling station is now a cognizable offence punishable with imprisonment up to two years or with fine or with both. It is illegal to go to or near the polling station bearing weapons. It carries a sentence of up to 2 years imprisonment.

Other Electoral Reforms

- ❖ **Limit on election expenses:** At present, there is no limit on what a political party can spend on elections or on a candidate. However, the commission has placed a rock on the expenses of individual candidates. For the Lok Sabha elections, Rs. - 50 – lakhs 70 lakhs (depending on the state they are contesting from the Lok Sabha seat), and Rs. 20- 28 lakh for assembly elections.
- ❖ **Increase in Security Deposits:** The amount of the security deposit that is for a candidate's state legislative assembly in an election has been increased as a measure to check the plurality of non-serious candidates. In case of an election for the house of the people, the amount of security deposit has been increased from Rs. 500 to Rs. 10,000 for general candidate and Rs 250 to Rs. 5,000 for a candidate who is a member of a Scheduled Caste, in case of election to the State Legislative Assembly, the candidates must deposit a sum of Rs. 5,000 if they are general candidates and Rs. 2,500 if they belong to Scheduled Castes or Scheduled Tribes then Rs. 250 and Rs. 125 as previously being deposited by him. The amended law provides that the nomination of a candidate in a parliamentary or assembly constituency should be given membership by 10 voters of the constituency, viz. If the candidate has not been established by a recognized national or state party.
- ❖ **Exit polls banned:** The Election Commission said in a statement before the 2019 Lok Sabha elections that the results of the exit polls could be released only after the end of the last phase of the elections. This was done so as not to mislead or prejudice potential voters in any way.
- ❖ **Voting by postal ballot:** In 2013, the EC decided to increase the scope of postal ballot voting in the country. Previously, only Indian personnel in missions abroad and defense personnel were limited to voting by postal ballot. Now, there are 6 classes of voters who can use the postal ballot: service voters; Special voter; Wives of service voters and special voters; Voters are subject to preventive detention; Voters on election duty and proposed voters.
- ❖ **Awareness Generation:** To mark the founding day of the Election Commission, the government has decided to celebrate January 25 as ' National Voters' Day '. Read more here on National Voters Day.
- ❖ **Report submitted above expend:** Political parties are required to report any contribution above Rs 20,000 to claim income tax benefits.
- ❖ **Candidates declare criminal case History:** Candidates are required to declare criminal evidence, property, etc. and disclosing false information in an affidavit is an offense punishable by imprisonment for up to 6 months or a fine or both.

CONCLUSION

It is very important that democracy forms the basic constitution of society. Must try Society has to be made a democracy. Democracy should be the value system of Indian citizens.

Responsibility for the survival of democracy cannot be transferred to state institutions alone. Citizens take equal part in the healthy functioning of democracy. Therefore, there is no doubt about it Electoral reform is the need of the hour to achieve a stable democracy in India. Electoral reform is the need of the hour to achieve a stable democracy in India. The people are the most powerful entity in democracy. If the masses do not vote in favor of criminals, dishonest and corrupt politicians who want to buy their vote with money or muscle power, everything will work effectively, and democracy will shine in the black glasses of a corrupt and criminal political system. Therefore, although the Election Commission is working hard in this direction, it will not be successful unless all political parties and voters realize their responsibility. After all there must be a proper mechanism, fully functional and fully equipped to fight any pettiness.

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