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**HRD's INITIATIVES FOR LITERACY – AN OUTLOOK****N.K. Pradeep Kumar\*; Prof. P.Mohan Reddy\*\***

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**ABSTRACT**

*Human resource development, in short, means investment in human capital. Human capital means people can act as capital assets which yield a stream of economic benefits over their working life. An improvement in the mental capability, skill, and physical capacity of the people constitutes an increase in the human capital because this enables the human factor to produce more. For improving the pace of capital formation, human resource development was essential, in the form of change in existing educational structure and system and by more expenditure on education. Literacy, an important indicator of economic development has, long been considered a major tool for empowerment and nurturance of democratic values and peace among people. Literacy is an integral and indispensable element of educational development. Literacy can pave way for reduction in population growth, child mortality and poverty, and facilitate in attaining gender parity, sustainable and holistic growth. It provides for nurturance of democratic values and peace among people. The study gives the impression of the role of Ministry of HRD in the uplift of education. It can thus be concluded that the three pillars of expansion, equity, excellence has been the thrust areas to bring India's education sector up to global standards.*

**KEYWORDS:** *H R D, Higher Education, Literacy, School Education.*

**INTRODUCTION**

Human resource development, in short, means investment in human capital. Human capital means people can act as capital assets which yield a stream of economic benefits over their working life. An improvement in the mental capability, skill, and physical capacity of the people constitutes an increase in the human capital because this enables the human factor to produce more. Two types of expenditure is called as investment in human capital. One is expenditure on

education i.e., general education and technical training and the other is expenditure on the provision of health care services likes hospitals, medicines etc. For optimum utilization of existing physical capital, investment in human resources is essential, as because technical, professional and administrative people are required to make effective use of material resources. The basic objective behind development of human resources is to increase the productivity of labour. Productivity of labour can be raised either by more and more use of capital intensive tools and machines, and it can also be raised by imparting education both technical and non-technical, to the laborers for skill-generation. Macaulay under the British regime gave a system of education to India which produced only clerks. But for improving the pace of capital formation, human resource development was essential, in the form of change in existing educational structure and system and by more expenditure on education.

### **AIM OF THE PAPER**

The present paper aims at focusing role of Ministry of Human Resource Development towards the expansion, growth, development and progress of literacy.

### **THE GOAL AND MISSION OF TOTAL LITERACY**

Literacy is an integral and indispensable element of educational development. Literacy can pave way for reduction in population growth, child mortality and poverty, and facilitate in attaining gender parity, sustainable and holistic growth. It provides for nurturance of democratic values and peace among people. Literacy is all the more important to those sections of population, who have been historically neglected. Achieving universal adult literacy is a fundamental goal of adult and continuing education programmes that have been envisaged from time to time. After all, the basic literacy programmes are intended not only to enhance reading and writing capabilities, but also to develop comprehensive life skills to access all developmental resources. The National Literacy Mission was initiated by the Government of India with the objective of eradicating illiteracy, by imparting functional literacy among non literate population. It was intended to provide three R's – Reading, Writing and Arithmetic. Further, through Total Literacy Campaign (TLC), NLM has adopted several strategies for favorable public opinion and involving people and creating awareness about development issues affecting society.

### **CLASSIFICATION OF EDUCATION DEPARTMENTS**

The essence of Human Resource Development is education, which plays a significant and remedial role in balancing the socio-economic fabric of the Country. Since citizens of India are its most valuable resource, our billion-strong nation needs the nurture and care in the form of basic education to achieve a better quality of life. This warrants an all-round development of our citizens, which can be achieved by building strong foundations in education. In pursuance of this mission, the Ministry of Human Resource Development (MHRD) was created. Presently, the MHRD works through two departments:

- Department of School Education & Literacy
- Department of Higher Education
- While the Department of School Education & Literacy is responsible for development of school education and literacy in the country, it takes care of what is one of the largest Higher Education systems of the world, just after the United States and China. The Department of School Education & Literacy has its eyes set on the “universalization of education” and

making better citizens out of our young unit. For this, various new schemes and initiatives are taken up regularly and recently, those schemes and initiatives have also started paying dividends in the form of growing enrolment in schools.

- The Department of Higher Education, on the other hand, is engaged in bringing world class opportunities of higher education and research to the country so that Indian students are not finding lacking when facing an international platform. For this, the Government has launched joint ventures and signed MoUs to help the Indian student benefit from the world opinion.

## **OBJECTIVES**

The main objectives of the Ministry would be:

- Formulating the National Policy on Education and to ensure that it is implemented in letter and spirit
- Planned development, including expanding access and improving quality of the educational institutions throughout the country, including in the regions where people do not have easy access to education.
- Paying special attention to disadvantaged groups like the poor, females and the minorities.
- Provide financial help in the form of scholarships, loan subsidy, etc to deserving students from deprived sections of the society.
- Encouraging international cooperation in the field of education, including working closely with the UNESCO and foreign governments as well as Universities, to enhance the educational opportunities in the country.

## **SUBJECTS ALLOCATED TO THE DEPARTMENT**

- The following subjects are allocated to the Department of School Education and Literacy as per Second Schedule to the Government of India (Allocation of Business) Rules, 1961:

Elementary Education, Basic Education, Bal Bhavan, Children's Museum, Social Education and adult education, Audio Visual Education, Educational Research, Teachers training, National Council for Teacher Education, Secondary Education and Vocational Guidance, National Council for Educational Research and Training, Charities and Charitable Institutions, Charities and Religious Endowments pertaining to subjects dealt within the Department, Books and Book Development (excluding books, stationery paper and news print industries with which the Ministry of Information and Broadcasting, Commerce and Industry, is concerned).

- The following subjects are allocated to the Department of Higher Education, as per Second Schedule to the Government of India (Allocation of Business) Rules, 1961:

University education; Central Universities; Rural Higher Education, Foreign Aid Programme relating to Higher Education, Technical Education Planning, Institutions of higher learning (other than Universities), Audio Visual Education, Education and Welfare of Indian Students overseas, Education Departments of Indian Missions overseas. All Indian Council for Technical Education, including conduct of its National Diploma and National Certificate Examinations, Administrative Staff College of India, Indian School of Mines and Applied Geology, Indian Institutes of Technology, Indian Institute of Science, The Tata Institute of Social Sciences, International Students Houses in India and abroad etc.

## **PROGRAMMES AND SCHEMES**

The Government of India has taken various steps to uplift the education by implementing various programmes and Schemes.

### **ELEMENTARY EDUCATION**

Right of Children to Free and Compulsory Education (RTE) Act, 2009 and Central Rules framed there under, Sarva Shiksha Abhiyan (SSA) for universalizing access and retention, bridging gender and social category gaps and improving the quality of elementary education, Mahila Samakhya, Mid Day Meal Scheme, Teacher Education, Scheme for Providing Quality Education in Madarsas and Infrastructure Development in Minority Institutions.

### **SECONDARY EDUCATION**

Rashtriya Madhyamik Shiksha Abhiyan, Model School Scheme, Scheme of Girls Hostel for the Secondary Stage, Integrated Education for Disabled Children/Inclusive Education for Disabled at Secondary Stage, Information and Communication Technology in Schools, Vocational Education in secondary schools, National Means-cum-Merit Scholarship Scheme, National Scheme of Incentive to Girls for Secondary Education and Appointment of Language Teachers.

### **ADULT EDUCATION**

Saakshar Bharat – new variant of National Literacy Mission (including basic education, vocational education and continuing education programmes) and Scheme of Support to Voluntary Agencies for Adult Education and Skill Development.

### **SOME OF THE MAJOR THRUST AREAS**

Monitoring of the implementation of NCF (2005) in the States and Collaboration with the States who have not yet implemented NCF (2005), Creating network of institutions/ agencies involved in the dissemination of NCF, Short-term training for Key functionaries, Advocacy targeting community, parents, teachers, teacher educators, planners and stakeholders, In-service training/capacity building of teachers and teacher educators, Studies on career aspirations among rural girls, Evaluation of the curriculum of Madrasas and Maktabas from a gender perspective, Focus on continuous and comprehensive evaluation; Introduction of grading system and Achievement surveys at school stage, Conducting research in priority areas of school education, Promoting educational research in the country by providing financial support, Bringing out Educational Research surveys, Capacity building for action research and training of DIET faculty for educational research, Strengthening international cooperation in the field of school education and teacher education, Development of teaching learning material in content specific areas and other curricular resources.

### **ISSUES AND CHALLENGES**

Though there is much development and elaboration in education sector by Ministry of Human Resource Development still, there are some prevalent issues and challenges such as, the gap between the socially disadvantaged groups continues to remain, teaching quality, inter-regional differentials in educational development, the gap of gender i.e. male and female literacy, drop outs after X<sup>th</sup> Standard. And other areas of concern are the regional disparities in access to higher education, poor employability, delay in implementing the schemes, negligence in providing facilities, poor administration etc.

## PREVANTIVE STRATEGIES

In relevance to the above said issues and challenges Ministry of Human Resource Development has taken the appropriate preventive measures to overcome the concern. Special attention has been paid to improving school infrastructure and teacher quality. As a result not only has the Gross Enrolment Ratio (GER) gone up for boys, girls and socially disadvantaged groups but also the drop-out rates have gone down both at the primary and upper primary levels. Steps have been taken to promote participation of girl child, bringing in out-of-school children and children with special needs within the ambit of RTE. Measures have been taken for both quality teacher recruitment, teacher training and management. In order to address the inter-regional differentials in educational development, 258 Special Focus Districts have been identified for targeted interventions to improve educational quality in these districts and bring them at par with other developed districts. In order to ensure that the issues of exclusion and disadvantage are addressed properly, a three pronged strategy was followed they are:

- Developing appropriate school curriculum and ensuring inclusive classroom transaction.
- Training all major stakeholders – teachers, head teachers, resource persons, and educational administrators for treating disadvantaged children with greater sensitivity and to address such issues in the School Development Plans and
- Re-conceptualizing the term ‘incentives’ (given to these disadvantaged groups of children) to “entitlements”, in the light of the new perspective of ‘education as child right’.

## CONCLUSION

Literacy, an important indicator of economic development has, long been considered a major tool for empowerment and nurturance of democratic values and peace among people. The Census definition of literacy as ‘a person with age seven and above, who can both read and write in any of the languages’ has now been extended to imparting comprehensive life skills to access all developmental resources. Special attention is now given not only to women, but also SCs, STs, Minorities, other disadvantaged groups, and adolescents in rural areas of low literacy states with greater community participation. Both male and female literacy in the country have gone up since last Census. Education has always been accorded top priority in our development plans. The Directive Principles of State Policy in the Indian Constitution also provided for free and compulsory education to all children up to the age of fourteen years. This has been further supported by series of policy and programmes for ensuring quality and equity in education with free and compulsory education for all children of the ages six to fourteen years, a fundamental right. Consequently, initiatives have been taken to create awareness about the Right of Children to Free and Compulsory Education (RTE) Act 2009. Innumerable reforms have not only been initiated for improving access, equity and quality of school education but also higher education. So much so that India today stands at number one in the world in terms of number of higher education institutions and number three in terms of enrolment, coming next to only China and the U.S. . The Rashtriya Madhyamik Shiksha Abhiyan (RMSA) was launched with definite time targets of achieving universal secondary school access by 2017 and universal retention by 2020. It can thus be concluded that the three pillars of expansion, equity, excellence has been the thrust areas to bring India’s education sector up to global standards. The shift in the focus from quantity to quality is clearly evident in all its endeavors.



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## **ANALYSIS OF CUSTOMER EXPECTATION FROM ORGANIZED RETAIL USING CLUSTER ANALYSIS**

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### **ABSTRACT**

*Customer expectation is the perceived-value that customers seek from the purchase of a good or service. The liberalization, privatization and globalization of market has given pace for organized retail sector to grow. Consumer choice and expectation has increased substantially. Customer expectations are rising faster and companies are responding slower in meeting customers' new expectations and thus affecting the tarnished reputation of the organization. The purpose of this study is to investigate the customer expects from organized retail store. In order to accomplish the objectives of the study, a sample of 273 consumers was taken by using convenience and justified sampling technique. The study reveals that there is a significant difference in the mean of different expectation of customers. Researchers have made some suggestions for organized retail to meet customer expectation.*

**KEYWORDS:** *Customer expectations, organized retail, perceived-value etc.*

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### **INTRODUCTION**

Indian retail industry has a potential and opportunities which can contribute to growth in Indian economy. Indian Retail industry is the largest sectors in India and providing huge employment opportunities. The word retail is taken from the French word retailer, which mean to cut a piece off or to break bulk. In simple terms, selling of goods and services to end user. Retail is the sale of goods and services from individuals or businesses to the end-user. Retailing can be categorized as of different sectors like food and grocery, clothing and textiles, consumer durables, footwear, furniture and furnishing, catering services, jewellery and watches, books, music and gifts, mobile handsets etc. In India retail market dominated by both organized and unorganized retail sector, majority of the share being under unorganized retail sector in India but organized retailing has finally emerged from the unorganized retailing and it's significantly

contributing to the growth of Indian retail sector. India has done significant growth in the organized retail store format in the last 13 years.

Organized retailing refers to trading activities which is done by licensed retailers those who are registered under the sales tax income tax etc. Organized retailing comprises of the corporate retail formats of the exclusive brand outlets, hypermarkets, supermarkets, departmental stores and shopping malls that provide a large variety of product range, services, décor, music and products quality, Physical facilities (rest rooms, trial rooms) and value of money etc.

The customer has change its consumption pattern due to change in lifestyle, income, age, easier access etc. In present scenario it has been drastic change in the behavior of the consumer because of their expectation and perception from the retail outlet. The customer expectation from organized retails outlet something like modern equipment & fixtures, Physical facilities (rest rooms, trial rooms) convenient parking, employees should be polite and humble and always willing to help customers, good quality product, retail store willingly handles returns and exchanges and expected the retail store should provide discounts and attractive schemes etc. customer satisfaction can be enhanced only when their expectations are fulfilled and there remains no gap in what they experience and expect from retail outlet. In present Indian shoppers 'are moving towards organized retails because of comfort, style and time etc. So now days organized retailing has continuous increase of its market share from the past. This study has done with intention to find out the customer expectation from organized retail and to know the factors that attract the customer towards organize retail store.

## **REVIEW OF LITERATURE**

The literature review is about customer expectations, customer perceptions and customer satisfaction and their association with the services they receive. The key aspect of customer satisfaction is to know customer expectations. Thus, Parasumaran et al. (1991) claim that all the customers expect is the basic service that service provider is promising to deliver, i.e. fundamental service. Furthermore, Parasumaran et al. (1991) categorize customer service expectations into five service dimensions: reliability, tangibles, responsiveness, assurance and empathy. Reliability is concerned with an outcome of a service, whereas the rest of dimensions are concerned with service process. The authors note that while reliability is a key in meeting customer expectations (i.e. deliver the result as promised, such as clean hotel room or timely flight to destination), process dimensions are a key in exceeding customer expectations. Dr. Amit Malik and Bhawana Gupta (2015) in their study customer expectation and perception about Big Bazar. This study has done in Indirapuram New Delhi India. The study found gap between expectation and perception of customer in Big Bazaar retail chain. They used SERVQUAL model for service quality to know the customer expectation. It was found the respondent have very high level expectation in service area from the Big Bazaar retail chain. The study revealed there was low gap in perceived and expected services quality. The customer found satisfied with infrastructure and outlook availability of services and employee behavior who available for them.

Dr. Sunil Dutt(2012) in his study on title "customer expectation and perception in organized retail sector" studied how organized retailing has increase their way to target the customer. This study has done in Noida Delhi. The researcher used SERVQUAL model to measure the expectation and perception toward service provide by organized retailer. The five dimension were used reliability, responsiveness, assurance, empathy, tangible activity. The study revel that

there is no significant difference between the customer expectation and perception for any dimension in services of organized retail.

Dr. Girish K Nair and Harish K Nair (2013) Studied An analysis of customer perception toward service quality variable in selected organized retail outlets. The study done in Kerala India. The study is done to know the customer perception on retailer service quality variable aim to identify the dimension that organized retailer offer to its customer. The study analysis the various service quality variable and try to explore the factors that attract the customer toward organized retail. The researcher used retail service quality scale and identify five dimension of RSQS physical aspect, reliability, personal interaction, problem solving, policy. The study reveals that perception of service quality is influence by various nature of customer like personal interaction and physical aspect etc.

Sunil Atulkar and Dr. Bikrant Keseri (2014) A study on a review of customer preference toward organized retail. They tried find out the preference of customer toward organized retail sector and how the customer behave at purchasing time. The study showed that some element like product information, customer involvement, customer attribute and choice play vital role during the purchasing decisions. Majority of customers show their preference for organized retail shop to variety of products under one roof easy availability, cleanness, entertainment etc.

Rupa Gunaseelan and R Chitra (2014) in their study Customer Expectation toward shopping behavior in retail outlet. The researcher found the store attribute are more influence to customer when they make decision where to shop in retail segment in Coimbatore district. The study identifies five store attribute store ambience, merchandise attribute, service procedure, convenience satisfaction and promotion. The customer expecting more service in retail outlet during shopping. The study proved that there is positive relationship between store attribute toward customer.

P. Ravilochanam and B. Shyamala Devi (2012) a study of analysis of customer preference in organized retail store. The study revealed that some useful facts they found multiple regression analysis the income and young customer have favorable effect on the choice of retail store. The study showed the consumer preference at organized store some item like books cars two wheeler etc. are not preferred. It also showed in the study the gender is play a very vital role in the choice of retail.

Dr. Dhirij Jain and Monika Talerja (2013) the study on changing consumer perception towards organized retail form unorganized retails. The study identifies the factors influence the perception toward organized retail to unorganized retail. This study done in Udaipur district in Rajasthan India. It reveals the customer attitude toward organized retail to unorganized retail show the difference the customer perception regarding their store image, range of product, brand choice, price, store atmosphere etc. The study observed that due to the change in disposal income increase the awareness of quality. So that the consumer perception is differ on organized and unorganized retail on the basis of quality and price. Even unorganized retailing have good market share in market but due to some other factors like price, quality, variety of product etc. the consumer perception about organized is better than unorganized retail.

Jones & Sasser (1995) argue that only full customer satisfaction secures customer loyalty as well as ensures long-term profitability. Especially it is important on markets with intense competition. However, there is a difference between true long-term loyalty and false loyalty. Lau et al; (2006)

he mentioned in his editorial that there are numerous factors which influenced consumers brand loyalty towards a particular brand. The factors are; brand name, product quality, price, promotion and service-quality. These studies will significantly look at product quality as a feature that influences brand loyalty. Duff (2007), A research conducted by Duff “expressed the niche market in women’s cosmetics, and the outcomes explored that cosmetics buyers were faltering, more fashion aware and the customers were demanding for the products which are more attractive and new designed; furthermore, consumers have an inclination to use special makeup designs for different occasions”. Andotra, Neetu, Pooja (2009), The paper through the usage of canonical discriminated function, K-means clustering procedure and multidimensional scaling technique, measures the nature and extent of customer dissonance across demographic groups, clusters, and brand stimuli for operationalization of existing pattern of preference and accordingly redesigning the existing bundle of brand stimuli for strategic orientation of retailers selling SSI products. Lovelock (2010) ) indicated that store’s environment is also one of the features that might play a vital role in consumer’s decision-making. On the other hand there are some of features that influence the customer assessment and satisfaction with a specific brand.

### **OBJECTIVES OF STUDY**

It is quite evident from the viewpoints mentioned above that service is a broad term which includes elements or dimensions like performance, the way customer queries and issues are entertained and safety of their belongings, ambiance, product variety, product assortment, staff behavior and their responsiveness. Hence these services not only play a key role in success of retail store but also shape up the expectations of customers. with this into mind, present research work has been taken up with the following objectives.

- To know the customer expectation from organized retail store.
- To study factors that attract the customer towards organize retail store.
- To know the customer satisfaction with service provide by the retail store.

### **ASSUMPTION OF HYPOTHESIS**

It was hypothesis that mean of various customer expectation towards organized retails services does not differs significantly across the demographic characteristics of respondents.

### **METHODOLOGY**

The research methodology is the vein of every research. Present study is descriptive in nature. A structure questionnaire was designed covering different expectation of customer in to consideration and was piloted on 400 respondents in different organisaed retail store in Dehradun. Total 315 response were received thus response rate was 78.75%. after editing 273 response was found fit and taken for the study. Data were feeded into spss softwre and reliability test wwas carried out and found to be .961 indicating that response were reliable enough to go for further statistical analysis. To analyze the strength of association among variables the Kaiser-Mayer-Olkin (KMO) measure of sampling adequacy was applied. The KMO measure of sampling adequacy was computed to determine the suitability of using factor analysis it certifies whether data are suitable to perform factor analysis. The value of KMO varies from 0 to 1 and high values (close to 1.0) generally indicate that a factor analysis may be satisfactory with the data. KMO sampling adequacy should be greater than 0.5 for satisfactory analysis or

testing. The value of KMO found to be .887 indicates that data is fit for factor analysis. Table 1 indicates the demographic characteristics of the respondents

**TABLE –1 DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS**

Variable	Description	Number of Respondents	Percentage
<b>Age</b>	15 to 25	115	42.1
	26 to 35	139	50.9
	36 to 45	15	5.5
	46 to 55	4	1.5
<b>Gender</b>	Male	223	81.7
	Female	50	18.3
<b>Marital status</b>	Married	100	36.6
	Unmarried	173	63.4
<b>Income level</b>	below 10000	102	37.4
	10000 to 15000	90	33.0
	15000 to 25000	51	18.7
	25000 to 35000	25	9.2
	above 35000	5	1.8
<b>Education</b>	No formal education	1	.4
	Under graduate	70	25.6
	Graduate	106	38.8
	post graduate	63	23.1
	professional and other	33	12.1
<b>Occupation</b>	Student	77	28.2
	business	19	7.0
	Service	127	46.5
	professional	39	14.3
	house wife	11	4.0

The demographic profile of the respondents presented in the above table 1 indicates that sample is the composition of young respondents as more than half of respondents are in the age group of 25-35 years. Majority of them are male and falls in the married category. Sample is the combination of respondents earning in the range up to 15000PM. It is seen in the above table the sample is the combination of high educated people as majority of them are having PG or other professional education to their credit. The table also depicts the occupational status of the respondents and it is seen that majority of the respondents are from service (46.5%) categories thus it seems that sample is the composition of diverse category of respondents.

**TABLE-2 RESPONDENTS INTENTION TO VISIT THE STORE**

	Frequency	Percent	Valid Percent	Cumulative Percent
I visit store because I enjoy shopping	141	51.6	51.6	51.6
Valid I visit store only to purchase	132	48.4	48.4	100.0
Total	273	100.0	100.0	

From the above table it has been revealed that most of respondents visit store because of enjoying shopping which percentage is 51.6 while other respondents visit the store only to purchase 48.4 percent.

**TABLE 3 ROTATED COMPONENT MATRIX AND ASSOCIATED FACTORS**

	Components				
	staff adequacy skill and competency and their responsiveness related expectation	Store issues(layout, product variety and availability) related expectation	Store ambiance comfort related expectation	store location parking and convenient related expectation	
Documentation and records must be transparent and accurate	.776				.723
Employee should be suggestive and give right advise	.750				.722
The employee should understand the specific need of their customer	.742				.738
They should provide their services at the time they promise to do so.	.693				.661
Customers should be able to feel safer in their transactions	.680				.767
Employees should be polite and humble and always willing to help customers.	.674				.799
Employee should be responsive and prompt	.668				.774
The physical facility of the retail outlet should be proper and appropriate	.652				.739
The behaviour of employees in retail stores should instill confidence in customers	.648				.605
Employees of Retail outlet has attractive appearance	.610				.612
Employees are able to handle customer complaints For customer problem, store shows a sincere interest in solving	.591				.738
	.563				.667

Retail Store willingly handles returns and exchanges		.796			.799
Product availability is high in the retail store		.782			.805
Overall I am satisfied with the service provide by the retail store and my experience is well up to my expectation		.772			.821
The store layout should be such that it makes easier for customers to find what they need and makes it easier		.721			.686
The products in retail stores should be of good quality		.593			.544
Employees should be comfortable and easy accessible to respond to customer's requests		.574			.756
I expect everything under the one roof		.564			.646
Retail outlet has modern equipment & fixtures			.698		.698
Physical facilities (rest rooms, trial rooms) are sufficient			.656		.739
It is expected that the retail store should provide Attractive schemes & Discounts			.654		.650
Location of Retail outlet is convenient and easily accessible				.781	.742
Retail outlet should be neat and clean and have sufficient moving space				.729	.706
Retail outlet should have convenient parking for customers				.670	.742
Total	12.997	2.019	1.659	1.267	
% of Variance	51.988	8.076	6.637	5.07	
Cumulative %	51.988	60.064	66.7	71.77	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.



a. Rotation converged in 20 iterations.

The above table indicates the number of factors that expected by customers from organized retail store and factors that attract the customer towards organize retail store. From the rotation method the four factors were obtained. After applying SPSS, the principal component analysis (PCA) was carried out to explore the underlying factors associated with 25 items. Table reveal that factor 1 for 51.988% variance of the total variances and factor 2 carried 8.076% while factor 3 account 6.637% variance of the total variances and factor 4 obtain 5.07% variance of the total variances.

**TABLE 4 MEAN OF DIFFERENT EXPECTATION RELATED TO ORGANISIAED STORE ACROSS THE DIFFERENT AGE OF THE RESPONDENTS**

Age by classification	Staff adequacy skill and competency and their responsiveness related expectation	Store issues(layout, product variety and availability) related expectation	Store ambience comfort related expectation	Store location parking and convenient related expectation
15 to 25	3.9819	4.2870	4.0174	3.9449
26 to 35	4.0299	4.2962	4.1847	4.1751
36 to 45	3.8923	4.0333	3.8444	3.9556
46 to 55	3.7692	4.2083	3.8333	4.2500
Total	3.9983	4.2766	4.0904	4.0672

From the above table it is seen that expectation like Store issues (layout, product variety and availability) related expectation has scored highest mean among all the categories of respondents. It was followed by Store ambience comfort related expectation and store location parking and convenient related expectation and then staff adequacy skill and competency and their responsiveness related expectation

Further one way ANOVAs was carried out to check whether mean of different expectation of customer differs significantly assuming null hypothesis there is no significant difference in the mean of different expectation of customer across the different age. Data thus calculated using SPSS software is presented in the table below:

**TABLE 5 ONE WAY ANOVA ACROSS AGE**

		Sum of Squares	Df	Mean Square	F	Sig.
staff adequacy skill and competency and their responsiveness related expectation	Between Groups (Combined)	.548	3	.183	.565	.639
	Within Groups	86.942	269	.323		
	Total	87.490	272			
* age by classification						
Store issues(layout,	Between Groups (Combined)	.972	3	.324	1.130	.337

product variety and availability) related expectation * age by classification	Within Groups		77.120	269	.287		
	Total		78.092	272			
Store ambiance comfort related expectation * age by classification	Between Groups (Combined)		3.020	3	1.007	2.670	.048
	Within Groups		101.418	269	.377		
	Total		104.438	272			
store location parking and convenient related expectation * age by classification	Between Groups (Combined)		3.657	3	1.219	3.798	.011
	Within Groups		86.334	269	.321		
	Total		89.991	272			

Degree of freedom-3 Tabulated value- 2.60

### INFERENCE

We see from the table that the value of f of the different expectation of respondents is greater than the tabulated value of F i.e.2.60 at 3 degree of freedom and 0.05 level of significance in case of expectations like Store ambiance comfort related expectation and store location parking and convenient related expectation. . Therefore null hypothesis (H0) is rejected and it is concluded that significant difference in the mean of different expectation across age of respondents. However null hypothesis is accepted in the case of factor like staff adequacy skill and competency and their responsiveness related expectation and Store issues (layout, product variety and availability) related expectation.

**TABLE 6 MEAN OF FACTORS ACROSS THE RESPONDENTS OF DIFFERENT GENDER CATEGORIES**

Gender by classification	Staff adequacy skill and competency and their responsiveness related expectation	Store issues(layout, product variety and availability) related expectation	Store ambiance comfort related expectation	Store location parking and convenient related expectation
Male	3.9496	4.2429	4.0493	4.0463
Female	4.2154	4.4267	4.2733	4.1600
Total	3.9983	4.2766	4.0904	4.0672

**TABLE 7 ONE WAY ANOVA ACROSS GENDER**

		Sum of Squares	df	Mean Square	F	Sig.
staff adequacy skill and competency	Between Groups	2.884	1	2.884	9.239	.003
	Within Groups	84.606	271	.312		

and their responsiveness related expectation	Total	87.490	272			
Store issues(layout, product variety and availability) related expectation	Between Groups	1.379	1	1.379	4.872	.028
	Within Groups	76.713	271	.283		
	Total	78.092	272			
Store ambiance comfort related expectation	Between Groups	2.049	1	2.049	5.424	.021
	Within Groups	102.389	271	.378		
	Total	104.438	272			
store location parking and convenient related expectation	Between Groups	.528	1	.528	1.598	.207
	Within Groups	89.463	271	.330		
	Total	89.991	272			

Degree of freedom-1

Tabulated value- 3.84

### INFERENCE

we see from the table that the value of (f)of the different expectation of respondents is greater than the tabulated value of F i.e.3.84 at 1 degree of freedom and 0.05 level of significance in case of expectations like staff adequacy skill and competency and their responsiveness related expectation Store issues(layout, product variety and availability) related expectation , Store ambiance comfort related expectation Therefore null hypothesis (H0) is rejected and it is concluded that significant difference in the mean of different expectation across gender of respondents. How ever null hypothesis is accepted in the case of factors like store location parking and convenient related expectation

**TABLE 8 MEAN OF FACTORS ACROSS THE RESPONDENTS OF DIFFERENT EDUCATION CATEGORIES**

Education by classification	Staff adequacy skill and competency and their responsiveness related expectation	Store issues(layout, product variety and availability) related expectation	Store ambiance comfort related expectation	Store location parking and convenient related expectation
No formal education	3.7692	4.3333	4.3333	4.0000
Under graduate	3.7989	4.1000	4.0095	3.8810
Graduate	4.2271	4.4403	4.1635	4.2484
post graduate	4.0159	4.3810	4.2275	4.0635
professional and other	3.6597	3.9242	3.7576	3.8889
Total	3.9983	4.2766	4.0904	4.0672

**TABLE 9 ONE WAY ANOVA ACROSS EDUCATION**

			Sum of Squares	Df	Mean Square	F	Sig.
staff adequacy skill and competency and their responsiveness related expectation	Between Groups (Combined)		12.190	4	3.048	10.846	.000
	Within Groups		75.300	268	.281		
	Total		87.490	272			
Store issues(layout, product variety and availability) related expectation	Between Groups (Combined)		9.808	4	2.452	9.624	.000
	Within Groups		68.284	268	.255		
	Total		78.092	272			
Store ambiance comfort related expectation	Between Groups (Combined)		5.924	4	1.481	4.029	.003
	Within Groups		98.514	268	.368		
	Total		104.438	272			
store location parking and convenient related expectation	Between Groups (Combined)		6.964	4	1.741	5.620	.000
	Within Groups		83.027	268	.310		
	Total		89.991	272			

Degree of freedom-4

Tabulated value- 2.37

**INFERENCE**

we see from the table that the value of (f)of the different expectation of respondents is greater than the tabulated value of F i.e.2.37 at 4 degree of freedom and 0.05 level of significance in case of expectations like staff adequacy skill and competency and their responsiveness related expectation , Store issues(layout, product variety and availability) related expectation , Store ambiance comfort related expectation store location parking and convenient related expectation Therefore null hypothesis (H0) is rejected and it is concluded that significant difference in the mean of different expectation across education of respondents.

**TABLE 10 MEAN OF FACTORS ACROSS THE RESPONDENTS OF DIFFERENT INCOME CATEGORIES**

Income by classification	Staff adequacy skill and competency and their responsiveness related expectation	Store issues(layout, product variety and availability) related expectation	Store ambiance comfort related expectation	Store location parking and convenient related expectation
below 10000	4.0196	4.3382	4.1536	4.0686
10000 to 15000	4.0316	4.2574	4.1296	4.1222
15000 to 25000	3.8778	4.2157	3.9346	3.9935

25000 to 35000	4.1108	4.2600	4.1467	4.0267
above 35000	3.6308	4.0667	3.4000	4.0000
Total	3.9983	4.2766	4.0904	4.0672

**TABLE 11 ONE WAY ANOVA ACROSS INCOME**

			Sum of Squares	df	Mean Square	F	Sig.
staff adequacy skill and competency and their responsiveness related expectation	Between Groups	(Combined)	1.878	4	.470	1.470	.212
	Within Groups		85.612	268	.319		
	Total		87.490	272			
Store issues(layout, product variety and availability) related expectation	Between Groups	(Combined)	.837	4	.209	.726	.575
	Within Groups		77.255	268	.288		
	Total		78.092	272			
Store ambiance comfort related expectation	Between Groups	(Combined)	4.246	4	1.061	2.839	.025
	Within Groups		100.192	268	.374		
	Total		104.438	272			
store location parking and convenient related expectation	Between Groups	(Combined)	.614	4	.153	.460	.765
	Within Groups		89.377	268	.333		
	Total		89.991	272			

Degree of freedom-4

Tabulated value- 2.37

**INFERENCE**

we see from the table that the value of (f)of the different expectation of respondents is less than the tabulated value of F i.e.2.37 at 4 degree of freedom and 0.05 level of significance in case of expectations like staff adequacy skill and competency and their responsiveness related expectation Store issues(layout, product variety and availability) related expectation , store location parking and convenient related expectation Therefore null hypothesis (H0) is accepted and it is concluded that no significant difference in the mean of different expectation across income of respondents. However null hypothesis is rejected in the case of factors like Store ambiance comfort related expectation

**SEGMENTATION OF CONSUMERS USING CLUSTER ANALYSIS**

The Cluster Analysis is an explorative analysis that tries to identify structures within the data. Cluster analysis is also called segmentation analysis or taxonomy analysis. More specifically, it tries to identify homogenous groups of cases, i.e., observations, participants, respondents. Cluster analysis is used to identify groups of cases if the grouping is not previously known. The Cluster Analysis is often part of the sequence of analyses of factor analysis, cluster analysis, and finally, discriminant analysis. First, a factor analysis that reduces the dimensions and therefore

the number of variables makes it easier to run the cluster analysis. Also, the factor analysis minimizes multi collinearity effects. The next analysis is the cluster analysis, which identifies the grouping Cluster analysis is a major technique for classifying a 'mountain' of information into manageable meaningful piles. It is a data reduction tool that creates subgroups that are more manageable than individual datum. Like factor analysis, it examines the full complement of inter-relationships between variables. Using cluster analysis, a investor 'type' can represent a homogeneous segment. Identifying their particular needs allows products to be designed with greater precision and direct appeal within the segment. Targeting specific segments is cheaper and more accurate than broad-scale marketing. Customers respond better to segment marketing which addresses their specific needs, leading to increased market share and customer retention.

**TABLE 10 NUMBER OF CASES IN EACH CLUSTER**

	1	142.000
Cluster	2	9.000
	3	119.000
	4	3.000
Valid		273.000
Missing		.000

**TABLE 13 FINAL CLUSTER CENTERS**

	Cluster			
	1	2	3	4
staff adequacy skill and competency and their responsiveness related expectation	3.85	2.96	4.33	1.08
Store issues(layout, product variety and availability) related expectation	4.10	3.28	4.64	1.33
Store ambiance comfort related expectation	3.91	2.30	4.52	1.33
store location parking and convenient related expectation	3.89	3.22	4.41	1.33

A cluster analysis was run on 4 expectation shorted out of 25 variable each responding to different expectations from organized retail store. . A K-mean cluster analysis method produced four clusters, between which the variables were significantly different in the main. From the table it could be seen that cluster 1 has 142 respondents. For them Store issues (layout, product variety and availability) related issue is the prime expectation (4.10) followed by Store ambiance comfort related expectation (3.91). The other two expectations such as store location parking and convenient related expectation and staff adequacy skill and competency and their responsiveness related expectation (3.89) and status (3.85) are important as well. In cluster 2 there are 9 respondents. Their prime motives are Store issues(layout, product variety and availability) related expectation (3.28) and store location parking and convenient related expectation (3.22), followed by staff adequacy skill and competency and their responsiveness related expectation and Store ambiance comfort related expectation with mean 2.96 and 2.30 respectively. In cluster 3 there are 119 respondents, for them the prime motive is Store issues(layout, product variety and availability) related expectation (4.64) followed by Store ambiance comfort related expectation (4.52), store location parking and convenient related expectation(4.41) and staff

adequacy skill and competency and their care (4.33). In cluster 4, there are 3 respondents whose prime expectation Store issues (layout, product variety and availability) related expectation (1.33) Store ambiance comfort related expectation (1.33) store location parking and convenient related expectation (1.33) and staff adequacy skill and competency and their responsiveness related expectation (1.08).

## CONCLUSIONS AND SUGGESTIONS

In today's competitive environment, the knowledge of customer expectation are the vital factor leads to customer satisfaction. It is essential to know which factors cause customer satisfaction, which variables change customer satisfaction in which ways and how these variables can be managed, for which segments which activities can be designed are the main questions that marketing managers must consider. It is considered that gaining new customers create four times more costs than protecting existing customers from leaving. Customer expectations are rising faster and companies are responding slower in meeting customers' new expectations and thus affecting the tarnished reputation of the organization. Hence knowledge of customer expectations becomes necessary. The study reveals four important customer expectations like staff adequacy, skill and competency and their responsiveness, Store issues (layout, product variety and availability) related expectation Store ambiance comfort related expectation and store location parking and convenient related expectation. Cluster analysis reveals that expects that Store issues (layout, product variety and availability) related expectation is the main expectation of the customers. The study reveals that there is significant difference in the mean of different expectation of customer. It is suggested that company must focus on updating store related issue to meet the customer expectation and enhance their satisfaction,

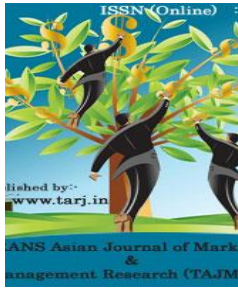
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## IMPACTS OF COMMERCIAL ORANGE CULTIVATION ON SOCIO-ECONOMIC VARIABLES IN LOWER DIBANG VALLEY DISTRICT OF ARUNACHAL PRADESH

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### ABSTRACT

*Orange being one of the most important commercial fruit of Arunachal Pradesh has tremendous impacts on lives of its cultivators. It has generated employment opportunities, increased income and investment as well as improved living standard of orange cultivators of Lower Dibang Valley. The study revealed that most of orange cultivators of the study area have invested their income in maintenance of orange field which account for 36 percent of total income earned from oranges. Likewise, consumer durable goods, education, health & sanitation, capital goods account for 31 percent, 23 percent, 8 percent, and 2 percent of share in the order. Further, hired labor is found to be major chunk of workforce being used in orange field. It is revealed that each orange cultivator has used an average of eight hired persons in orange field in each year during the reference period. Circle wise analysis shows that highest numbers of persons in the orange field is employed in Dambuk Circle. Altogether, 16 persons are found to have worked in the field in each year which comprises of family members, relatives and hired labors.*

**KEYWORDS:** Arunachal Pradesh; Lower Dibang Valley; Orange Cultivation; Socio-economic Variables.

## INTRODUCTION

### ORIGIN OF RESEARCH PROBLEM

The varied agro-climatic zone of India ensures availability of all varieties of fresh fruits and vegetables. India ranks second in fruits and vegetables production in the world, after china. As per national horticulture database published by national horticulture board, during 2012-13 India produced 81.285 million metric tons of fruits and 162.19 million metric tons of vegetables. The area under cultivation of fruits stood at 6.98 million hectares while vegetables were cultivated at 9.21 million hectares. According to national horticulture board, during 2012-13 India produced 10,089.74(000 tonnes) of citrus production. If we compare state wise production of citrus in India it reveals that Andhra Pradesh stood at first position (38,800,590 tonnes) which is 37.67 percent of country share. And again if we take account Arunachal Pradesh in terms of citrus production it has found that eleventh position among the state of India. As per national horticulture board, during 2012-13 Arunachal Pradesh produced 1, 76,710 tonnes which is 1.75 percent of country share.

Citrus industry in India is the third largest fruit industry of the country after Mango and Banana. Orange (citrus reticulate Blanco) is most among citrus fruits in India and occupies nearly forty percent of the total area under citrus cultivation. Besides, fresh fruits and a much valued food preservative, orange has earned the fame of transnational delicacy having been in strong demand around the year throughout the world. The strong demand for oranges on both national and international level has been attributed to the appreciation of its nutritional importance and as a rich source of vitamins C (ascorbic acid). Orange also provides significant amounts of antioxidants, such as betacarotene, and flavonoid compounds.

Arunachal Pradesh, the largest hilly state in the northern hilly region of India located between 26 35' northern latitude and 91 35' to 97 27' east longitude with elevation range 250 to 7090 meters above sea level. Arunachal Pradesh has vast potential for the development of horticulture. The climate and the terrain provides immense scope for growing a wide variety of tropical, sub-tropical and temperate fruits, vegetables, spices and other cash crops such as medicinal and aromatic plants, ornamental flowers etc. Owing to its enormous available land resources, favorable agro-climatic conditions, and hard-working farmers, and constant efforts of the department of horticulture through implementation of various centrally sponsored schemes there is immense scope for further growth and development of horticulture products in Arunachal Pradesh. As a matter of fact that Horticulture is the backbone and future of rural economy. It generates income and employment opportunities. However, much more yet remains to be done to develop the full potential for development of horticulture sector in Arunachal Pradesh. Hence, there is huge opportunity for farmers, entrepreneurs and traders to take up horticulture as source of self employment and income generate in Arunachal Pradesh.

The Lower Dibang Valley district has been bestowed with rich agro-climatic condition with abundant cultivable land which helps the farmers in making profits in spite of having limited inputs. After West Siang and Upper Subansiri district, Lower Dibang Valley district in Arunachal Pradesh has created a record of 1,200 metric tons orange production from the area of 1,045 hectares during the year 2005-06 (news.oneindia.in). The Kapang and Balek village under Dambuk and Roing circle respectively are leading in terms of orange production. However, the large scale cultivation of orange is concentrated mainly in these selected circles, hence Roing,

Dambuk and Koronu circle was purposively selected for this study as it has larger area under orange cultivation.

In Lower Dibang Valley district, since the oranges are produced every year in a huge quantity but then due to excess production and lack of marketing they do not get a good price during its season and, therefore, oranges are sold in a very less price to the middlemen. During the production season the price of an orange is Rs 2 at market price and Rs 1 at the garden (news.oneindia.in), owing to a healthy upsurge of demand in the neighboring states. The present study try to investigate the impact of commercialization of orange on socio-economic development in Lower Dibang Valley district, particularly in Roing, Koronu and Dambuk circles. The four basic research questions for the study are as follow: Do the orange cultivation contribute to socio-economic development of the Lower Dibang Valley? Is orange cultivation really helpful in generating employment opportunities for the people of the study area? What is the annual average income earned by the people from orange? How many people are engage in orange cultivation? Any assistance from government while cultivating it? Thus, the study makes attempts to seek answers to these research questions.

### **OBJECTIVES**

The paper endeavor to

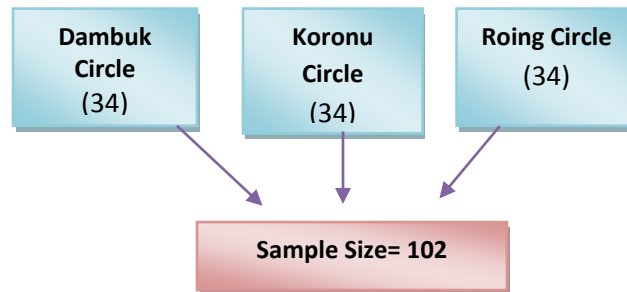
1. Analyze Impact of Orange Cultivation on some Economic Variables in the Study Area.
2. To examine Status of Employment in Orange Cultivation in the Study Area.

### **RESEARCH METHODOLOGY**

**RESEARCH METHOD AND TOOLS:** The study has been purely based on field Survey. Again, personal interview, internet social networking, telephonic contacts and observation method have been used during the field study. Structured schedules, digital camera, telephone, internet and other stationeries have been also be widely used to collect field data the present study.

**SOURCES OF DATA:** During field survey the data has been collected from both primary and secondary sources. To collect primary data, various tools has been used such as personal interview, telephonic survey, schedules, informal discussion, observation etc whereas; secondary data has been collected through magazines, newspapers, journals, thesis, dissertations and other unpublished information etc. Beside internet has been extensively used while collecting secondary information.

**SAMPLING TECHNIQUES & SIZE:** For the present study, stratified random sampling under probability sampling technique has been used. The study has been carried out in three out of seven circles under Lower Dibang Valley district namely- Roing, Koronu and Dambuk circles. 34 prominent orange growers each from three circles has been the unit of observation and interviewed. Altogether, the sample size of the present study is 102.

**SAMPLE DESIGN**

**UNIVERSE OF STUDY:** The study has been carried out in three circles of Lower Dibang Valley district (henceforth called as study area) of Arunachal Pradesh. In addition, the reference period of the study is 2012-13 to 2014-2015 which extend over three years of time duration.

**TOOL OF DATA ANALYSIS:** For analysis of data, bar chart, frequency distributions, pie chart, mean, correlation analysis etc., have been used to draw inferences on the Universe. Moreover, statistical packages like MS Excel, SPSS and Minitab have been used to analyze field data.

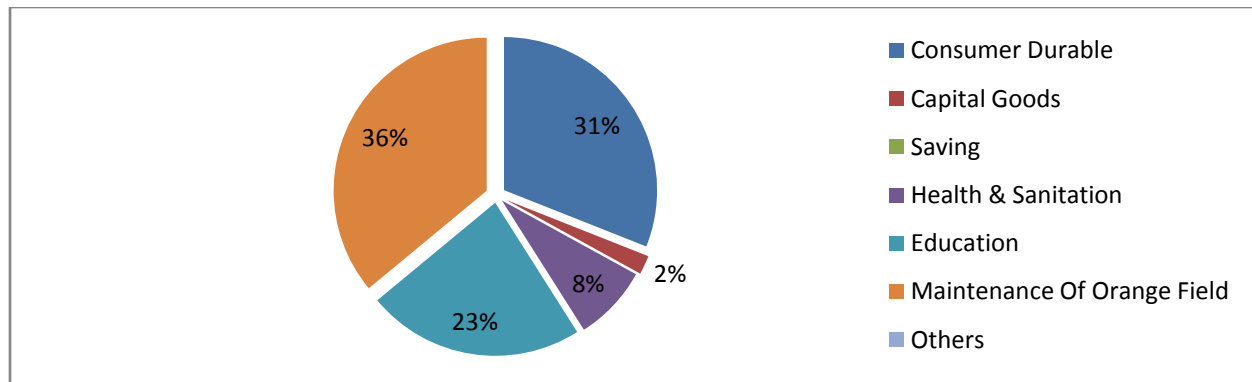
**ANALYSIS AND INTERPRETATION OF DATA****A. ECONOMIC IMPACT OF ORANGE CULTIVATION**

Orange cultivation is now occupying prominent status in the study area. It has become the main source of income and it generates employment opportunities for unemployed. The income earned from orange cultivation has impact on economic growth and development of the study area. There has been rise in living standard as well as education level in the study area due to commercialization of orange in Lower Dibang Valley. The economic impact of orange cultivation in the study area has been shown in table 1 and diagram 1 respectively.

**TABLE 1: INVESTMENT OF INCOME EARNED FROM ORANGE OVER VARIOUS ECONOMIC VARIABLES**

Sl.No.	Variables	Amount (In %)
1	Consumer Durable	31
2	Capital Goods	2
3	Saving	0
4	Health & Sanitation	8
5	Education	23
6	Maintenance Of Orange Field	36
7	Others	0
<b>Total</b>		<b>100</b>

Source: Compiled from Field Data, 2015

**DIAGRAM 1**

From Table 1 and Diagram 1, it is clear that most of orange cultivators have invested their income in maintenance of orange field (36 percent). Likewise, consumer durable goods, education, health & sanitation, capital goods account for 31 percent, 23 percent, 8 percent, and 2 percent, respectively. However, it is revealed that none of the orange cultivators have saved income earned from orange in bank.

Investment of income earned from orange cultivation on various economic variables has been discussed as under:

- 1. ACQUISITION OF CONSUMER DURABLE:** As a matter of fact, basic necessities of human being life are food, shelter and cloth. For the study, acquisition of consumer durable goods includes food items which are necessity for human being life. As observed from table 1 and diagram 1, it is reveal that the orange cultivators of study area have invested 31.17 percent out of 100 percent of their earned incomes from orange upon acquisition of consumer durable goods. It stood in second place.
- 2. CAPITAL GOODS:** The data revealed that out of 100 percent only 2 percent of the gross incomes earned by the cultivators in the study area are invested on capital good during study period.
- 3. EDUCATION:** Education is backbone of economic growth and social changes in the right direction. In the study area, 23 percent out of 100 percent of orange cultivators have made investment in their children education during study period. It has occupied the third position.
- 4. BANK DEPOSITS (SAVING):** It is revealed that 0 percent out of 100 percent of income earned from orange has been saved in banks by the orange cultivators. Infact, orange cultivator of the study area are found to have less conscious about the essence of bank deposit (saving).
- 5. MAINTENANCE OF ORANGE FIELD:** Orange cultivation has long gestation period. It takes long period of time to have first harvest from planting of saplings. Normally, it requires at least five to six years regular maintenance throughout the year without output or production. Moreover, regular maintenance affects the output or production in following period. In study area top priority has given on maintenance of orange field by the cultivators. It has been revealed that 36 percent out of 100 percent of their gross income has been invested for the maintenance of orange field. It remains on top place in terms of

investment made by the cultivators among various economic variables in the study area. For the present study, the maintenance of orange field includes grass cutting, pesticide spray, insecticides spray, construction of boundary wall etc.

6. **OTHERS:** Under this category, those variables which are not included in the above variables are being covered up. As per the Table 1 and Diagram 1, it is observed that Other Category account for 0 percent in terms of investment made by orange cultivators of the study area.

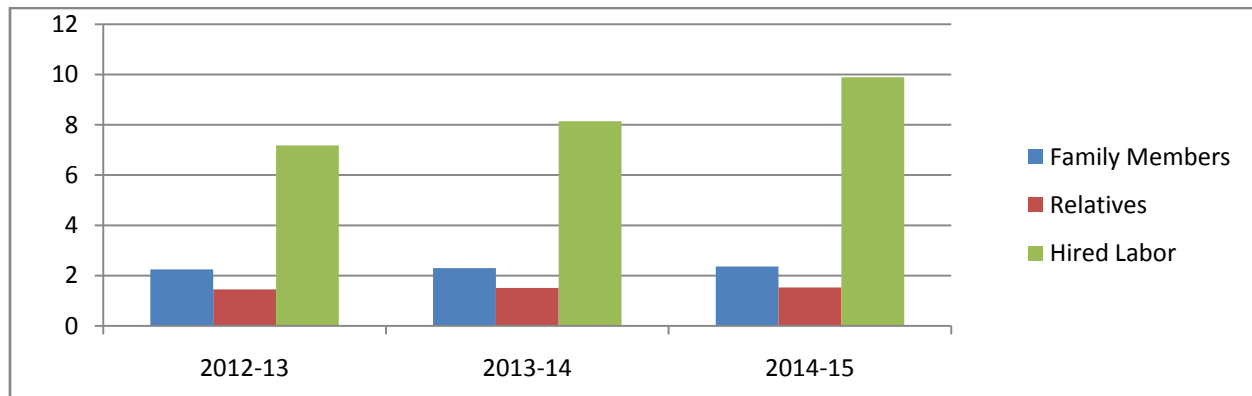
## B. EMPLOYMENT IN ORANGE FIELD

Orange is a seasonal horticultural fruit. Orange cultivation has long gestation period. It takes long period of time to have first harvest from planting of saplings. It may take at least five to six years regular maintenance throughout the year without output or production. Maintenance of orange field by single person or single family is not possible in case of large cultivation. So, it requires more human resource for maintenance of orange field. For current study purpose, employment in orange field is classified as family members, relatives and hired labors. Analysis of persons employed in orange field in the study area is shown under table 2, 3 and diagram 2, 3 respectively.

**TABLE 2: NO. OF PERSONS (PER HOUSEHOLD) WORKING IN ORANGE FIELDS IN THE STUDY AREA**

Sl.No.	Employee	2012-13	2013-14	2014-15
1	Family Members	3	2	2
2	Relatives	1	2	2
3	Hired Labor	7	8	10

Source: Compiled from Field Data, 2015



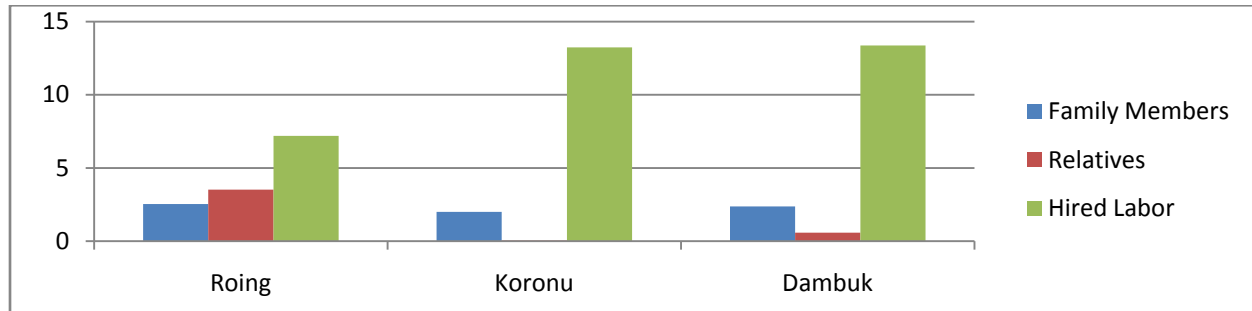
## DIAGRAM 2

It is evident from the table 2 that numbers of person employed per household in the study area vary from period to period and category to category. It is observed from table 2 and diagram 2 that the major chunk of workforce used in orange field is hired labor. It is revealed that each orange cultivator has used an average of 8 hired persons in orange field in each year during the reference period. Moreover, the numbers of hired workers is found to have been increasing by each year. Likewise, own family members and relatives stood at second and third place respectively.

**TABLE 3: NO. OF PERSONS (PER HOUSEHOLD) WORKING IN ORANGE FIELDS IN EACH CIRCLES**

Sl.No.	Circle	Family Members	Relatives	Hired Labor
1	Roing	3	4	7
2	Koronu	2	0	13
3	Dambuk	2	1	13

Source: Compiled from Field Data, 2015



### DIAGRAM 3

It is evident from table 3 and diagram 3 that highest numbers of persons in the orange field is employed in Dambuk Circle. Altogether, 16 persons are found to have worked in the field in each year which comprises of family members, relatives and hired labors. Likewise, Koronu and Roing Circles have occupied the second and third place in the order.

Moreover, the table 3 and diagram 3 revealed that highest numbers of family members and relatives have employed in Roing Circle. However, Dambuk and Koronu Circles are found to have used equal and higher numbers of hired workers for orange cultivation among three circles under present study.

### CONCLUDING REMARKS

Orange is one of the most important commercial fruit of Arunachal Pradesh. It grows almost in all districts of Arunachal Pradesh. Major Orange producing districts are East Siang, Lower Dibang Valley, Lohit, West Siang, and Upper Subansiri. Commercialization of oranges in the Lower Dibang Valley District has tremendous impacts on lives of the people. It has generated employment opportunities, increases income, and investment as well as improved living standard of the cultivators in the district. The study revealed that most of orange cultivators of the study area have invested their income in maintenance of orange field which account for 36 percent of total income earned from oranges. Likewise, consumer durable goods, education, health & sanitation, capital goods account for 31 percent, 23 percent, 8 percent, and 2 percent in the order. However, it is revealed that none of the orange cultivators have saved income earned from oranges in bank. Also, major chunk of workforce used in orange field has been the hired labor. It is revealed that each orange cultivator has used an average of eight hired persons in orange field in each year during the reference period.

Circle wise analysis shows that highest numbers of persons in the orange field is employed in Dambuk Circle. Altogether, 16 persons are found to have worked in the field in each year which comprises of family members, relatives and hired labors. Likewise, Koronu and Roing Circles have occupied the second and third places in the order.

Thus, the study area has promising potentiality for orange cultivation. The potentials may be optimized if, State Government provide required facilities to the cultivators in the forms of training, technical, financial and marketing supports.

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