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Managing the Human Resources for Poverty and Socio Economic Development of Mayurbhanj District In Orissa, India.

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Managing the Human Resources for Poverty and Socio Economic Development of Mayurbhanj District In Orissa, India.

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Abstract : One of the major concerns of Indian Planning has been the removal of disparities among different sections of population especially the weaker sections like the scheduled tribes and scheduled castes. The basic features common to these tribes as listed in the constitution were that they were having tribal origins, primitive ways of life, habitation in remote and less easily accessible areas and generally backward-socially and economically. The main objective is to analyse the present socio-economic conditions of the tribals in the district and to find out the innovative schemes for Human Resources Development by way of education, training and other social facilities to the tribals of Orissa in India.

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I. Introduction

Mayurbhanj is located at Northern region of Orissa in India . This study covers the district of Mayurbhanj where the concentration of tribal population is the highest (56.6 percent) among all the 30 district of Orissa. .The district is called Mayurbhanj after the name of the ex-state which on its merger with Orissa in 1st January, 1949 constituted the entire district. According to 2001 census, the district covers an area of 10418 sq. kms which constitutes 6.69 percent of the state territory. The total population was 22.34 lakhs that constitutes 6.08 percent of the state's total population. Density of population in the district is 213 per sq. km. of area as against 236 at the state level. It is rural based district where the rural population constitutes 93 percent as against state average of 85 percent. Mayurbhanj is said to be a land of tribals. Out of 62 tribal communities of Orissa, 45 communities are found in Mayurbhanj alone. Among the major tribes Santal, Ho, Bhumija, Bhuiyan, Bathudi, Kolho, Munda, Gond, Kharia and Lodha are important. The mountainous and forest in land regions of the district have been considered ideal by the tribal inhabitants for centuries.

Details of surveyed villages

Block	GP	Name of village	Total population	ST population	No. of BPL holders	Sl. No. of households surveyed
Shyamakhunta	Godipokhari	Kuchilaghaty	3786	2080	518	1-30
Kuliana	Dumurdiha	Andhari	1462	1268	305	31-50
		Tulasibani	1620	1415	418	51-65
		Jampada	1000	642	230	66-80
	Marangtandi	Bhuyangoda	1082	732	229	81-90
		Marangtandi	960	888	133	91-100
		Jhenei	1216	895	229	101-110
	Baiganabadia	Jaganathpur	214	202	32	111-120
		Balipal	432	147	68	121-130
		Bankasole	335	185	64	131-140
Bangiriposi	Bhuasuni	Purunapani	344	322	90	141-160
		Chakdar	492	480	94	161-180
		Bhuasuni	908	327	188	181-200

Source:Panchayat office of all villages.

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As per 2001 census Mayurbhanj district has a total population of 22,23,456 number of which rural population has 20,67,756 and Urban population has 1,55,700. Out of total population 12,58,459 belong to ST and 1,70,835 belong to SC and rests belong to other communities. The percentage of ST and SC to total population of the district is 56.6 percent and 7.68 percent respectively. The sex ratio shows a total of 980 female per 1000 males. The Tribal education in Mayurbhanj at present is obstacle by a number of factors like poverty, tribal eco-system, language and distance, etc. (Agarwal, Indian Economy, 2001)[1]

II. Review of Literature

According to "Orissa Human Development Report – 2004", jointly prepared by the Planning Commission, UNDP, State Government and Nabakrishna Choudhury Centre for Development Studies, the Human Development Index (HDI) of the state stands at 0.404 while Kerala tops the chart with 0.638 followed by Punjab 0.537 and Tamilnadu 0.531. Orissa occupies the fifth place from bottom among 15 major states. The analysis of the states' development is based on three basic parameters – livelihood, health and education. (The New Indian Express, 25th March, 2005).Mayurbhanj is vulnerable to repeated natural calamities like droughts, floods and cyclones.A large number of ST people of Mayurbhanj lack access to growth centers and service centers as they live in remote and hilly areas. Tribal communities residing in hilly terrains of Mayurbhanj are physically excluded, as they demand for connectivity and other infrastructural support. As a result, the poor in general and ST and SC people in particular lack access to growth centers and service centers. Though extensive forest resources are an important source of sustenance to a majority of rural poor especially tribals are highly degraded and lack desired financial and managerial inputs. Optimal exploitation of its vast natural resources demands heavy investment in infrastructural development. However, the State Government's capacity to develop infrastructure is very weak and limited. (Bairathi, Tribal Culture, Economy ,1991)[2]

III. Objectives of the Study

The main objectives of the paper is to examine the following:

i. To analyse the present socio-economic conditions of the tribals in the Mayurbhanj district of Orissa in India ;

ii. To assess the various problems faced by the tribals and to suggest suitable measures for solving them;

iii. To examine the Strategic planning such as developing an overall plans and programmes of government machineries and their implementation;

iv. To study the involvement of existing agencies and their support for upliftment of tribals;

v. To identify innovative strategies with regard to the Human Resources Development by way of education, training and other social facilities to the tribals.

IV. Sources of Data

Consistent with the objective of the study different techniques are used for the analysis of the primary data collected by authors from 200 selected respondents of thirteen villages by direct observation and interview of the tribal people according to a well set questionnaire under three blocks of Mayurbhanj District in the year 2008. The secondary data (1998 to 2008) are collected from several published sources such as books, journals, bulletins, reports and publications of Government and Research Institution.

V. Statistical Methodology

The data analysis is undertaken mostly with the help of several managerial and statistical devices, comparative and experimental methods of analysis are adopted. Various statistical tools like Coefficient Variation, t-test, Correlation coefficient, Regression analysis & Analysis of Variance (ANOVA) are adopted for analysis. Economics-Statistics like Human Development Index (HDI), which is an innovative method, have been used to calculate to know the development rank. Here, for analysis the statistical tools SPSS (Statistical Package for Social Science) software package is used for calculation in order to plot different graphs and charts.(Bajpai , Methods of Social Survey and Research)[3].

VI. Empirical Results

The data after collection has been processed and analysed in accordance with the outlined laid down for the purpose. The computerized processing implies editing, coding, classification and tabulation.

Family Size

Family Size of Respondents in the Study Area	
Member Size	Percentage(%)
Upto 2	5.0
3 to 4	23.0
5 to 6	40.0
7 to 8	30.0
Above 8	2.0

Land Holding

Land Holding of Respondents in the Study Area	
Size in Acres	Percentage(%)
0 to <1	47.5
1 to <2	16.5
2 to <3	19.5
3 to 4	10.0
> 4	6.5

It reveals that the majority of the respondents have more family members who helps in earning from different sources.

Own Land Cultivated

Own Land cultivated by the Respondents in the Study Area	
Size in Acres	Percentage(%)
0 to <1	40.0
1 to <2	24.5
2 to <3	20.0
3 to 4	10.0
> 4	5.5

Main Occupation

Main occupation of Respondents in the Study Area	Percentage (%)
Agriculture	44.5
Collection of MFP	12.5
Daily Labour	25
Business	11.5
Others	6.5

The majority of respondents have cultivated their own land having less than one acre,Hence it is observed that most of the respondents depend on agriculture. Daily labour is the second main occupation and the collection of minor forest produce is the third occupation.

Subsidiary Occupation

Subsidiary occupation of Respondents in the Study Area	Percentage(%)
Agriculture	22
Collection of MFP	28.5
Daily Labour	23.5
Business	19.5
No subsidiary occupation	6.5

Annual Earnings During The Year 1998 & 2008

ANNUAL EARNINGS DURING THE YEAR		
Earnings in Rs.	1998(% of Respondent)	2008(% of Respondent)
Upto Rs.5,000/-	21.5	1.0
Rs.5,000/- to Rs.10,000/-	51.0	5.5
Rs.10,000/- to Rs.15,000/-	20.0	39.0
Rs.15,000/- to Rs.20,000/-	3.0	33.0
Above Rs.20,000/-	4.5	21.5

The majority of respondent's subsidiary occupation is from the collection of minor forest products (MFP). The earnings of the respondents has increased due to implementation of several poverty alleviation programmes adopted by the Government during 9th & 10th Plans in the year 2006.

Earning from Agriculture

During the Year 1998 to 2008

Earning from Agriculture during the Year	% of Respondents	
in Rs.	1998	2008
Upto Rs.2,500/-	53	34
Rs.2,500/- to Rs.5,000/-	24.5	16.5
Rs.5,000/- to Rs.7,500/-	15	26.5
Rs.7,500/- to Rs.10,000/-	4	11
Above Rs.10,000/-	3.5	12

It indicates that the agricultural income of the respondents has increased significantly.The comparative figure from secondary source of data indicates there is no such difference in earnings from

Earning from MEP

(collection of minor forest products)

During the Year 1998 to 2008

EARNINGS FROM MFP (collection of minor forest products)	% of Respondents	
in Rs.	1998	2008
Upto Rs.2,500/-	87	76
Rs.2,500/- to Rs.5,000/-	6.5	9
Rs.5,000/- to Rs.7,500/-	6	6
Rs.7,500/- to Rs.10,000/-	0.5	4
Above Rs.10,000/-	0	5

collection of minor forest produce between 1998 and 2008. Only few respondents were able to earn above Rs.10000. It is observed from this the dependency on forest still exists in the study area.

Earning from wages
During the Year1998 and 2008

EARNINGS FROM Wages during the Year	% of Respondents	
Earnings in Rs.	1998	2008
Upto Rs.2,500/-	66.5	50
Rs.2,500/- to Rs.5,000/-	17	8
Rs.5,000/- to Rs.7,500/-	13	14.5
Rs.7,500/- to Rs.10,000/-	3	9
Above Rs.10,000/-	0.5	18.5

The comparative figure shows that there is a increasing trend in earnings from wages due to implementation of NREGS programme by the Government in recent

Earning from Business
During the Year1998 and 2008

EARNINGS FROM Business during the year	% of Respondents	
in Rs.	1998	2008
Upto Rs.2,500/-	67.0	58.0
Rs.2,500/- to Rs.5,000/-	14.0	5.5
Rs.5,000/- to Rs.7,500/-	14.0	8.5
Rs.7,500/- to Rs.10,000/-	4.0	4.5
Above Rs.10,000/-	1.0	23.5

years.It is also observed that the paying capacity of the respondents has increased due to their increase in income.

Education Status of Children of Respondents

Education STATUS OF CHILDREN OF RESPONDENTS	
Qualification	% of Respondents
Undermatric	57
Matriculate	25
Graduate	4
Dropout	14

The education status of children of respondents shows that there is a trend up dropout from UP & ME classes.It also observed that the respondents have not to move

Drinking Water Facility
Sources of Drinking Water

Sources of drinking water	
Water Sources	% of Respondents
Dugwell	46.5
Tubewell	53.5

for distance places to acquire water for drinking, which they had faced earlier. As the supply of safe drinking water is prioritized by the government the safe drinking water is available is all the villages under study.

Major Diseases
(Sufferings from a disease by the respondents and their family members)

MAJOR DISEASES	
Sufferings from a disease	% of Respondents
Malaria	41
Other Diseases	20.5
No-Disease	38.5

Health Centers

HEALTH CENTERS	
Health Centre Facilities Available	% of Respondents
PHC	18.5
CHC	6
Anganwadi Centre	75.5

The major diseases table shows that in spite of several precautions are taken by the district malaria office the percentage of sufferings from malaria is not reduced to that extent.More persons are dependant on anganwadi as compared to PHCs and CHCs. So anganwadi workers should be more service oriented and dutiful to provide their reliable service in desired time.

Sanitation	
Awareness of sanitation	% of Respondents
Yes	24
No	76

Child Mortality	
Child mortality during pregnancy	% of Respondents
Yes	6.5
No	93.5

Only few respondents are residing in good sanitary condition. They are aware of insanitation and its causes. But majority of the respondents are residing in poor sanitary condition. They are ignorant about the consequences of poor sanitation and unhygienic condition. The unhealthy practices of personal and environmental hygiene resulting the suffering of the respondents in different diseases which sometimes causes death.The Child Mortality table shows that only 6.5 percentage of respondents have faced child mortality and 93.5 percentage of respondents have no child mortality during pregnancy. Hence , the tribal people even if they reside in remote and forest area, they are now aware of different health measures through the anganwadi workers of their locality.(Bakshi & Bala Kiran, Development of Women, Children , 1999)[4].

VII. Use of Medicines

From the preference of medicines at the time of disease by the family members of the respondents, it reveals that 54.5% respondents prefer allopathic medicines, 34% respondents prefer ayurvedic

medicines, 7% respondents prefer homeopathic medicines and only 4.5% respondents prefer prayer being upon superstitious during their sufferings from any disease. It also is observed that the tribal people are also stepping towards scientific development as majority preferred to allopathic medicines which is prepared scientifically.

NREGS

(Respondents listed under NREGS)

Respondents listed under NREGS	
facility of NREGS	% of Respondents
No	70
Yes	30

The above NREGS table reveals that 30% of the respondents are listed and getting jobs under NREGS. Whereas 70 respondents are not availing the facility of NREGS. This indicates that the respondents are unaware of this new scheme which can give 100 days guaranteed wage to each listed labourer. As the scheme is newly introduced at the time of survey, mass advertise has not been done, so ignorance regarding the scheme has increased the percentage of non-listed wage earners. (Chaku., Tribal Communi., 2005)[5].

The above table shows the sources from which the respondents are borrowing money for their livelihood. It reveals that 75% of respondents are borrowing money from the local money lenders. It also found at the time of survey they expressed due to excessive law imposed by the banks, they preferred to take loan from the money lenders even at high rate of interest. Due to lack of land deeds bank also refused them for sanction of loan. 4% of respondents are availing loan from Co-operatives some are specifically from TRCS for tasar rearing and only 3% of respondents taken loan from LAMPs for agriculture purpose.(Datt Tara, Tribal Development in India (Orissa),2001)[6].

1) Benefited From Government Development Programmes

It is found that 85% of the respondents are benefited by different development programmes undertaken by the government through its schemes like IAY, JRY, SGSY, SGRY, PMRY, NREGS and ITDA and DRDA programmes. Only 15% are not availing these facilities due to lack of their awareness and ignorance. As they are very simple and ignorant they are not able to understand the objectives of the programmes which are specifically implemented for them.

2) Electrification of Houses

Even though all the villages under study are electrified the respondents are not able to get the electric connection due to lack of land records in their own name and lack of funds as well.

Sources of Borrowings

(Loans availed by the respondents from different sources)

Sources of Borrowing Money	
Borrowing Money	% of Respondents
Moneylender	75
Bank	9
Co-operatives	4
LAMP	3
No borrowing	9

3) Postal Services Availed

Most of the respondents are not availing postal services in their villages due to poor communication .

4) Facilities Availed By The Respondents From The Lamps(Large Area Multi Purpose Cooperative Societies)

It is found that 70% of the respondents have their scope to get the facilities from LAMPs established in their areas. But 30% of the total are not able to get assistance from LAMPs, as no activities of LAMPs are functioning in their area.

5) Old Age Pension Facility

It is observed that 11.5% family have availed old age pension benefit from the government through their Panchayat. But due to improper selection of beneficiaries at the panchayat level some respondents are debarred to get such benefit.

6) Benefits availed from Antyodaya Anna Yojana

Under Antyodaya Anna Yojana (AAY) the poorest of the poor families in the State are supplied with 35 kg of rice per family per month at Rs.3/- per kg since September, 2001. It reveals 91 percentage respondents are getting benefits from Antyodaya Anna Yojana and the rest are not availing this benefit as they belong to APL group. Thus this study observed that all BPL families under study are getting subsidized rice as per government norms.

7) Expenditure incurred in food and beverages

It reveals from the study that 12.5% of total respondents spend the major earnings on drink. Generally there people are very poor and totally ignorant

about the different development programmes undertaken for their up-liftment. They spend the total amount on drinks. The percentage of respondent who spend money on food is 87.5%.

VIII. Major Findings

Mayurbhanj is a tribal concentrated district, which is covered with dense forest and hilly areas. It is not possible to contact with the tribals of the remote areas of the district. Co-efficient of variation is used to know the data variation collected from thirteen selected village of the district. The data are primarily collected by direct oral investigation from the respondents through interview with the help of a well set questionnaire.

Mean, Standard Deviation and Coefficient of Variation (C.V.) and t-test of the indicators

Mean (or $\bar{X} = \frac{\sum X_i}{n}$), Where $\bar{X}$ = The symbol we use for mean

Σ = Symbol for summation, X_i = Value of the ith item X, i = 1,2,...,n

n = total number of items

Standard deviation *(σ) = $\sqrt{\frac{\sum f_i \left(X_i - \bar{X} \right)^2}{\sum f_i}}$ where f_i means the frequency of the ith item

Indicators	Mean	S.D.	C.V	t-test
Health (X_1)	1.83	± 0.08	4.53	5.89
Income (X_2)	2.31	± 0.29	12.71	6.43
Education (X3)	0.59	± 0.20	33.44	7.15
Family Size (X4)	3.03	± 0.59	19.45	6.29
Socio-Economic Status (X5)	1.76	± 0.18	10.39	4.67

The collected data are clubbed into five indicators such as Health, Income, Education, Family Size and Socio-economic Status and its consistency and variation are tested by the help of t-test with a tabulated value given in the table at 5% and at 1% level of significance.

coefficient of variance is

$$C.V. = \frac{\sigma}{x} x100 .$$

From the above table it is observed that there is a less variation in the data collected in case of indicators like Health (X_1) and Socio-economic Status (X_5) which are 4.53 and 10.39 respectively. It is also found that there is a slight variation in case of Income (X_2) and Family Size (X_4) that is 12.71 and 19.45 respectively. Finally, the indicator Education (X_3) shows more variation that is 33.44 which results a less consistency of the data in the study area.

All the indicators values are tested with t-test at 5% level of significance = 1.782 and for 1% level of significance = 2.681. Since, the t-test values of all the indicators are more than that of 5% and 1% level of significance. So we accept the variation and the level of consistency.

IX. Karl Pearson's Coefficient of Correlation

Correlation in statistics refers to relationship between any two, or more variables. Two variables are said to be correlated if with a change in the value of one variable there arises a change in the value of another variable.Economic development means sustained and sustainable growth in per capita income, accompanied by diversion of production, reduction of absolute poverty and expanding economic opportunity for all the tribals of the district.

Karl Pearson's Coefficient of Correlation (r) =

$$\frac{N\sum XY - \sum X.\sum Y}{\sqrt{N\sum X^2 - (\sum X)^2}.\sqrt{N\sum Y^2 - (\sum Y)^2}}$$

X = given, or reduced values of the first variable
Y = given, or reduced value of the second variable, and
N = number of pairs of observations of X and Y.
The value of 'r' lies between ±1.

Positive value of 'r' indicates positive correlation between two variables, changes in both the variables take place in same direction, where as negative values of 'r' indicates a negative correlation i.e. changes in the two variables taking place in opposite direction.

Correlation Coefficient (`r' value) between indicators in the study area

Categories	Health (X_1)	Income (X_2)	Education (X3)	Family Size (X4)	SES (X5)
Health (X_1)	1.00				
Income (X_2)	0.41	1.00			
Education (X3)	0.10	0.79	1.00		
Family Size (X4)	0.50	0.87	0.75	1.00	
Socio-Economic Status (X5)	0.23	0.79	0.80	0.93	1.00

Inferences

There is a strong correlation between family size and socio-economic status as co-efficient of correlation where r = 0.93. Also the table reveals that there is a strong and positive correlation between the family size and income which is 0.87. As because the family size is on an average is 6 and the members are able to earn more from different source of income like from agriculture, collection of MFP, wages and business etc. collectively and managed themselves with their combined incomes keeping all the expenditure in a balanced way.Development of education system means introduction of mass education that is education for all, DPEP, mid-day meal system, Ekalabya Model School with an aim to increase class room enrolments and attendance. In Mayurbhanj Govt. as well as NGOs are constantly utilizing their resources to uplift the tribals through education and awareness and organizing various cultural programmes. It show a strong between education and socio-economic status in the study area. For a society, a transition from high incidence of morbidity and mortality to a state where people generally enjoy long-term and disease free lives is desirable. But in the study area the major disease like malaria (41%) child mortality (7%) are marked due to very poor health care facilities. Even though the Govt. and NGOs try their level best to educate the tribals, their health to education relation is only 0.10, which is a very poor correlation. As they are unable to avail the health

facilities in time due to bad communication and transportation, they are affected indirectly, which caused their relation family size to health 0.50 and health to income 0.41. So due to the poor health and income, the social status sometimes dropped abruptly, which shows a weak correlation (r = 0.23) between health and social status.(Dubey: India's, 1967),[7].

X. Multiple Regression

The simple correlation between two variable is sometimes misleading and may be erroneous if there is little or no correlation between the variables other than that brought about by their common dependence upon a third or several variables. Since a combination of variables usually results in a more accurate prediction than two variables, prediction studies often result in a prediction equation referred to as a multiple regression equation.

The hypothesis is tested with available evidence and a decision is made whether to accept this hypothesis or reject it. In the context of hypothesis there are basically two types of errors occur.

We may reject H_0, when H_0 is true (Type-I, error)

We may accept H_0, when H_0 is not true (Type-II, error)

Type-I error means accepting the hypothesis which should have been rejected and denoted by alpha (α)

Type –II error means accepting the hypothesis which should have been rejected and denoted by beta (β).

Below table describes the main regression results. It shows the effect of the indicators adopted for the study.

The specification and justification of variables included in the analysis are used as

$$Y = f(X_1\ X_2\ X_3\ X_4\ X_5)$$

Where Y = Dependent variables, X_i = Independent variables,
C_i = Constant, X_1 = Health
X_2 = Income, X_3 = Education
X_4 = Family Size, X_5 = Socio-economic status

The form of equation fitted for production is given below linear model

$$Y = C_0 + C_1X_1 + C_2X_2 + C_3X_3 + C_4X_4 + C_5X_5$$

Regression results – Effect of indicators in case of development in the study area

(i) Dependent Variable – All Development

Coefficients

Indicators	Standardized Coefficients	t-statistic
	Beta	
X_1	.238	9444.624
X_2	.235	5184.304
X_3	.247	6158.273
X_4	.236	5356.842
X_5	.259	7361.506

Inferences

In the present observation more than two independent variables (Health, Income, Education, Family Size and Socio-economic Status) are studied against each other with respect to dependent variable (All Development).(Jhingan : The Economic of Development and Planning, 2006),[11].

For that multiple regression with T-Statistics is implemented.

Null Hypothesis H_0 :- Standard health services is worst even though there is a proper education environment and awareness created by Govt. and NGOs, with an average family size which results with a satisfactory income in group or family as a whole results a developed socio-economic status.

H_1 :- There is a good health facility availed by all the family members, as all the family members are educated with the help of Govt. and NGOs, their income increases significantly. Even though they have good income, due to lack of communication, transportation and other socio-economic factors, their socio-economic status does not contribute much to the all development in the study area.

The calculated value of the co-efficient β of variables in the multiple regression is either perverse or insignificantly different from Zero. The value is tested with respect to the t-statistics and is found that the socio-economic status (β=0.259) have more impact on the overall development is the study area.

So finally it is observed that the indicator socio-economic status has significant contribution towards the development in the study area, which accepts the hypothesis H_o .

XI. Analysis of Variance (ANOVA)

In the present study two way ANOVA Technique is used i.e. data are divided into both columns and rows to study the effect. The dependent variable 'All Development' is assumed and classified on the basis of the independent variable indicators Health, Income, Education, Family-Size and Socio-economic Status, in order to determine which one of the above indicator is more effective on 'All Development' of the tribals of the Mayurbhanj district.

It is important to understand the principles and techniques of analysis of variance (ANOVA) to test the hypothesis by calculating F-statistics. It involves the computation of F-ratio.

Analysis of Variance (ANOVA) for the indicators in the study area

Source of variation	Sum of Square	Degree of Freedom	Mean Square	F-statistic (Calculated)	Table value of F	
					5% level	1% level
Between Row	4.0200	12	0.3350	8.3750	3.2592	5.4119
Between Column	0.2704	4	0.0676	1.6913		
Residual (error)	1.9182	48	0.0400			
Total	6.2086	64	0.0970			

F-statistic is computed as $$F = \frac{\text{Mean sum of square of explained sum square}}{\text{Mean sum of square of residual sum square}}$$

Inferences

From the ANOVA table it is found that in between row and column, the row indicator is significant. The calculated value of between the row is 8.3750.

The calculated 'F' Ratio value is higher than the table value of 'F' values, both at 1% and 5% level of significance. So it is concluded that from the row indicators the socio-economic status has more significant contribution towards the 'All Development' of the tribals of study area.(Khare :Impact of Planning and Economic Development, 1991)[13].

XII. Human Development Index

Human Development Report (HDR) broadly focuses on the overall human well being. According to UNDP's HDR 2001, India placed 115th rank among the 162 countries. The report also examined the progress made by developing countries towards targets set in the UN Millennium Declaration goals for poverty eradication. The report notes that around one-third of people in developing countries continue to live in 'income poverty' Since human development includes several factors contributing towards human welfare, measuring human welfare poses a great problem. The most recent endeavour in this line of approach is the Human Development Index (HDI) as formulated by UNDP to measure relative deprivation in overall perspectives (UNDP 1990). Among many indicators to measure relative deprivation, five indicators like health, income, education, family size and socio-economic status of the respondents of thirteen villages of Mayurbhanj District under survey are brought into focus.

$$HDI = \frac{(X_i - X_{min})}{X_{max} - X_{min}}$$

Where X refers to each variable for the ith village X_{min} to the lowest value of the variable and X_{max} the highest value.

We have worked out a physical quality of life index using indicators like Health (X_1), Income (X_2), Education (X_3), Family Size (X_4) and Socio-Economic Status (X_5). It shows the distance of the concerned village from the most developed village with a view to measuring its backwardness in regard to each one of the variables, besides working out a simple composite index. The deprivation with regard to the five indicators for each village are next indexed in a scale. By construction the scale ranges from the minimum value of 'zero', in case of minimum deprivation to the maximum value of 'one' in case of maximum deprivation for these indicators and the human development index is calculated as per the formula given in the methodology. The thirteen villages of Mayurbhanj District are ranked in a descending manner as per their indicator on the basis of the overall measure of backwardness. The calculated index is given in the following table.

Human Development Index of the villages in the study area

Vill_code	Health (X_1)	Income (X_2)	Education (X3)	Family Size (X4)	SES (X5)	All Develop-ment	HDI Rank
3	0.8295	1.0000	0.9465	1.0000	0.4991	0.8550	*1*
8	0.7209	0.7803	0.8036	0.8276	1.0000	0.8265	*2*
4	0.2403	0.9306	1.0000	0.6897	0.9480	0.7617	*3*
5	0.4419	0.8324	0.9375	0.7759	0.8073	0.7590	*4*
6	1.0000	0.5896	0.8840	0.5690	0.5076	0.7100	*5*
2	0.5581	0.5636	0.8974	0.8017	0.5775	0.6797	*6*
12	0.8140	0.5289	0.3080	0.7241	0.2294	0.5209	*7*
7	0.5817	0.5029	0.4822	0.4655	0.3853	0.4835	*8*

9	0.3023	0.6069	0.6935	0.3103	0.3431	0.4512	*9*
1	0.1783	0.4046	0.4822	0.3966	0.0000	0.2923	*10*
13	0.0000	0.1040	0.5739	0.2586	0.2584	0.2390	*11*
11	0.7209	0.2254	0.0000	0.1034	0.0734	0.2246	*12*
10	0.1628	0.0000	0.2143	0.0000	0.0000	0.0754	*13*

INFERENCES

The human development index of thirteen villages of three blocks against five indicators i.e. Health, Income, Education, Family Size and Social Development of Mayurbhanj District are studied and found with the following observations. The index is ranked in descending order with respect to the column 'All Development' index and the villages are ranked from 1 to 13 accordingly. As far as HDI is concerned Tulasibani village is ranked one where as Bankasole village is ranked thirteen, both the villages are under Kuliana block. This indicates the physical quality of life of tribals of Tulasibani village is best among the 13 villages surveyed and the physical quality of life of tribals of Bankasole is worst. Similarly in case of health index, Marangtandi village ranked one, which indicates the tribals of that village are more cautious regarding health and hazards. But tribals of Bhuasuni village are more prone to disease like Malaria and ranked last as it comes under forest area of Bangiriposi block. Tulasibani village is also indexed top as regards income and family size of the respondents. It is because out of 20 respondents, surveyed in that village, four are well placed as government servant and coming under APL group. Statistical table shows that most of them are literate and aware of birth control. Hence, their family size is also small. But the income and family size of respondents of Bankasole village is very precarious, the respondents are mostly landless and are marginal labourers. Their income is also very poor due to their ill health. The respondent and their family members are illiterate, even though the scope of education facility is nearer to them, they are unable to avail such facility due to their acute poverty. As they are illiterate and unaware of the birth control, their family size is big which again drug them to poverty.

The HDI rank of education status of the children of the household of Jampada village is highest. It is possible due to the said village is sorrunded with UP, ME, High School and one college. But as Purunapani village is situated in forest area of Bangiriposi Block, the education status of the children of that village is very poor. There is more dropout and children are generally prepared to collect minor forest produce instead of going to school.The socio-economic index of the respondents of Jagannathpur is highest as compared to Bankasole village, which is lowest so far as HDI is concerned.(Mohapatra:, Economic Development of Tribal India, 1987),[16].

XIII. Summary and Conclusions

The scheduled tribe population continues to have nearly double the incidence of poverty compared to the non-tribals of Mayurbhanj district of Orissa in India. The incidence of poverty is more in northern and southern regions of Orissa compared to the coastal region.The growth rate of tribal population in Mayurbhanj district during the year 1998 was 10.30 percent, which increased to 17.98 percent during 2008 .The per capita income of Orissa is very low. Agriculture under Primary sector continues to be the mainstay of the rural economy. (Padhi., The Challenges of Tribal Development, 2000),[18].

The trend line shows the study concentrated towards urban area

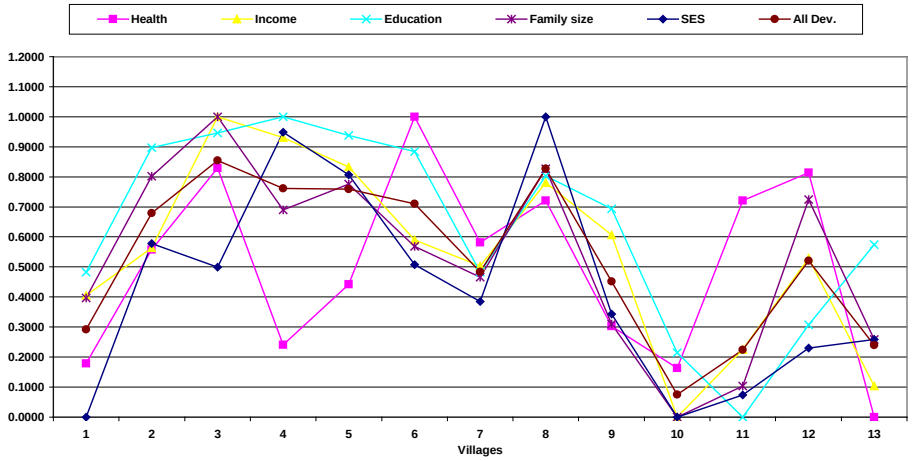

Fig.8.19 - The trend line shows the study concentrated towards urban area

The literacy rate of the district has been a steady improvement .So, there is an improvement in literacy rate, which can help in reducing the poverty among masses.The health picture of the district is far from the satisfactory. Further, while naturally female life expectancy should be more than male life expectancy it is the opposite case in Orissa. Pointing towards discriminatory practices against both the girl's child and women, leading to higher mortality then nature would otherwise determine.The tribals in the district depend mostly on collection of forest produce for their livelihood. Pisciculture has not been developed to a considerable extent for want of suitable fishery resources as most of the areas of the district are having lateriate soil & full of hill locks.The Child labour is a major obstacle in the path of educational development in the district. Cattle and goat rearing and agricultural work are the main activities of child labourers, whereas household work is done mainly by the girls and partly by term as maidservant. Most of the primary school of the district do not have the basic facilities like drinking water and sanitation, play ground, science equipments etc. The economically worse off tribal parents need the assistance of their children who contribute their share towards the family income.The estimates of average expenditure on various commodities spend by non-tribal families are higher proportion of income on consumption in comparison to tribal families. The largest item of expenditure was on food for both tribal and non-tribal BPL families. The Income/poverty gap ratio for tribal households was found to be higher as against the non-tribal families, which implies that the incidence of poverty among the tribals was higher than the non-tribal families.The tribals of the district become the victims of the profit oriented and tactful middleman who purchase the agricultural product and minor forest produce collected by the tribals in a very low rate. Development brought more purchasing power to the tribals to which the non-tribal neighbours and traders take advantage by applying their tactics and manage to siphon away the development benefits occurring to the innocent tribals.(Pati & Jagat, Tribal Demography in India,1991),[20].

Though Mayurbhanj considerably rich in some mineral resources, no heavy or medium scale industry have developed in this district. The pace of infrastructural and industrial development in adversely effected due to the inadequacy of railway connection. There is a scope for strengthening the tribal economy through small scale and medium scale industries with the optimal utilization of sabai grass, sal leaves, silk cocoons and various other forest products, which are plentily, available in this area.The development personal cannot have a through idea about the socio-economic status of the tribal because of lack of knowledge. They have the conception that the tribal societies are ideal community practicing some sort of primitive communism. As a result there is a growing development in the well to do families who win the confidence of development agents and the needy poor remains in dark making a wide gap between the two. In some cases the poor fellow tribals of the district are exploited. The negligence and failure for the upliftment of the tribals have given rise to the Maoist activities in the in the Similipal area who have become a constant threat to the civilization.The foregoing analysis reveals that the tribals of Mayurbhanj district of Orissa in India confront some major problems like poverty, illiteracy, unemployment, alienation, displacement, malnutrition, disease etc. The Central Govt. and State Govt. are putting sincere efforts to uplift the economic condition of the tribals through different ITDAs of the district under TSP approach and through DRDA of the district by implementing different anti-poverty schemes. Despite the fact, the tribal people in the district remain backward socially and economically.

Suggestions

1. As the tribals of the district have land problems minimum 2 acres of land should be distributed to landless or marginal tribals on priority basis to increase the agriculture income of the district as well as to reduce the dependency on forest by the tribals.
2. The district has possessed plenty of mineral resources and a good number of tribal labour forces. So steps may be taken by the government to include the district under SEZ.
3. More incentives should be given to SHGs especially to tribal women SHGs to undertake more income generating occupations.
4. To fulfill the object of 'Vision 2020', steps should be taken to educate all the children of the district above 7 years whole-heartedly by the local educationist, politicians, NGOs and government through awareness.

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