



## Impact of sustainable eco-tourism over local communities of maredumilli tribal village on quality of life and other associated factors as perceived by local community.

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### KEYWORDS

### Abstract:

Eco-tourism in other words is sustainable and responsible tourism <sup>1</sup>. Ecotourism points towards socially responsible travel along with personal growth of the local communities, and environmental sustainability<sup>2</sup>. It helps in educating travellers on local environments and natural surrounding and thus conserves natural resources. Eco tourism helps the local communities to develop economic opportunities without hampering the nature. Empowerment of local communities by making them financially stable and inculcate respect to various cultures is the hidden agenda of eco-tourism <sup>3</sup>. Tourism in India is very important for the country's progress and development. The World Travel and Tourism Council said that tourism creates about 16.91 lakh crore and 9.2% of India's Gross Domestic Product in the year 2018 and generated 42.673 million. The tourism sector is forecasted to grow at an annual rate of 6.9% to 32.05 lakh crore by the year 2028 <sup>4</sup>.

### INTRODUCTION

Eco-tourism in other words is sustainable and responsible tourism <sup>1</sup>. Ecotourism points towards socially responsible travel along with personal growth of the local communities, and environmental sustainability<sup>2</sup>. It helps in educating travellers on local environments and natural surrounding and thus conserves natural resources. Eco tourism helps the local communities to develop economic opportunities without hampering the nature. Empowerment of local communities by making them financially stable and inculcate respect to various cultures is the hidden agenda of eco-tourism <sup>3</sup>. Tourism in India is very important for the country's progress and development. The World Travel and Tourism Council said that tourism creates about 16.91 lakh crore and 9.2% of India's Gross Domestic Product in the year 2018 and generated 42.673 million. The tourism sector is

forecasted to grow at an annual rate of 6.9% to 32.05 lakh crore by the year 2028 <sup>4</sup>.

Maredumilli is a large village located in the dense forest of Eastern Ghats in Maredumilli Mandal of Alluri sitaramaraju district, Andhra Pradesh with total 764 families residing and with a population of 3664 as per Census 2011 and most of the village population (68.15 %) is from Schedule Tribe <sup>5</sup>. Maredumilli village has higher literacy rate (83.38 %) compared to Andhra Pradesh. Andhra Pradesh Forest Department with the help of indigenous tribal community of Valamuru, Somireddypalem and Valmeekipeta Vana Samrakshana Samithi, manages the Eco-tourism project of Maredumilli area <sup>6</sup>.

The financial support of World Bank aided Andhra Pradesh Community Forest Management Project played a vital role in completing this project successfully in a short span the Community participation in project completion was also commendable. This opened up the



scope and opportunity for the native ethnic community to campaign the message of conservation and advantages of eco-tourism to nearby villages. Jalatarangini waterfall, Amruthadara waterfall, Manyam viewpoint, Sokuleru viewpoint, Bhupathipalem Reservoir and Rampa Falls are the popular tourist places in Maredumilli. Valmiki Valley Vana Vihara Sthali is another famous spot in Maredumilli. Around 203 plant species including medicinal and rare plants have been identified in this area. APFDC coffee and pepper plantations are also attractive tourist spots of this area <sup>7</sup>.

Maredumilli is also famous for Bamboo chicken and bamboo biryani which are exclusive for the place and also a source of income for the local communities. Two resorts namely the jungle star campsite and the Woods resort are located near to the Valamuru river <sup>7</sup>. A stream of Valamuru flows on 3 sides of the vali-sugriva konda, believed to be the battle ground of the vali-sugriva during the Ramayana period. The vali-sugriva konda is a grass land, encircled by forests, which brings about the remarkable variation of the battle ground, making this a major tourist attraction <sup>8</sup>.

Maredumilli Forest Rest House named Abhayaranya was constructed in the year 1914 as a part of Tourism Development. People of Maredumilli depend on eco-tourism as the main source of income, besides which they rely on agriculture, forest resources through plantation and regeneration of forest to sustain their livelihood <sup>9</sup>. ITDA also promotes ecotourism, which can support local livelihood and conservation of forest resources. Maredumilli area has prime value for recreation, cultural richness, and wilderness, making it potential for ecotourism <sup>10</sup>.

## MATERIALS AND METHODS

### Study area

Maredumilli mandal is a growing eco-tourism spot of Alluri Sitaramaraju district and has an area of 913.96 km<sup>2</sup>. The maredumilli mandal has 71 villages covering a vast area of reserve forest which made maredumilli village a potential destination for ecotourism. The Maredumilli Forests of East Godavari District are having rich biodiversity and the area is having semi evergreen forests with undulating terrain, which forms part of the Eastern Ghats. The Maredumilli Community Conservation & Eco Tourism Area is situated on Maredumilli – Bhadrachalam road, nearly 4 Km. away

from Maredumilli village. The area is having many streams flowing over the undulating rocks in the deep woods and any visitor feel thrilling experience in the Nature.

### Data collections

The target population for this study consisted of local communities living in the Maredumilli village. Out of 764 households (10% of the total households) rounded off to 80 households were interviewed, to generalize the results at 95% confidence level with 5% margin of error. The study was carried out during March- April 2023. Stratified random sampling technique was used. The sample interval was 10. Stratified random sampling technique is appropriate for the present study. Questionnaire was answered by the head of the family. Single person from each house hold is interviewed. In the absence of head of the family, any other person above the age of 18 years in the family is interviewed. A pretested pre designed semi-structured questionnaire was used for data collection. Confidentiality was maintained and verbal consent was obtained prior to questionnaire survey. Time allocated for each respondent was 25–30 minutes. Questionnaire survey had details about respondent's demographic characteristics, like gender, age, education, socio economic-status, income source, house hold-income. Details regarding respondents' perceptions of various aspects of ecotourism were also embedded in the questionnaire.

### Data analysis

All the statistical analysis was done by using SPSS Software version 20.0 and M.S excel 2007. Descriptive Statistical data was presented as mean  $\pm$  Standard deviation and Percentages. Data also tabulated and graphically represented. Chi-Square test was used to assess the association among categorical variables. For all statistical analysis,  $p < 0.05$  was considered as statistically significance.

## RESULTS:

Demographic details of the study population were shown in Table no: 1. Out 80 participants from the selected households 60% were male and majority (35%) respondents were above the age of 60 years and only 3.75% were below the age of 20 years. 42.5% have secondary education, 20% have higher education and 12.5% subjects were illiterates. 37.5% subjects were doing business and 30% were doing exclusively



agriculture. 57.5% subjects belong to Schedule Tribes, open category.  
21.3% belong to Schedule Caste and 16.5% belong to

**TABLE 1: SHOWING SOCIO DEMOGRAPHIC FACTORS OF THE STUDY POPULATION**

SOCIODEMOGRAPHIC CHARACTERISTICS	CATEGORY	FREQUENCY	PERCENT
GENDER	FEMALE	32	40.0
	MALE	48	60.0
EDUCATIONAL STATUS	HIGHER	16	20.0
	ILLITERATE	10	12.5
	PRIMARY	20	25.0
	SECODARY	34	42.5
OCCUPATION	AGRI	24	30.0
	BUSSINESS	30	37.5
	EMPLOYEES	12	15.0
	OTHERS	14	17.5
CASTE	OBC	4	5.0
	OC	13	16.3
	SC0	17	21.3
	ST	46	57.5
AGE	<20	3	3.75
	21-40	24	30
	41-60	25	31.25
	>60	28	35

Table: 2 shows the impact of eco-tourism on socio economic status in relation to various demographic factors. Age of the respondents is not significantly associated with socio economic status with a p-value of  $>0.05$ . 29.20% & 33.33% belonged to upper class in the age groups of 21-40 years and below 20 years respectively. Majority, 36% belonged to middle class in the age group of 41-60 years. 10.71% were in lower class in the age group of  $>60$  years. the association between educational status and socio economic status were also not statistically significant with a p-value of  $>0.05$ . 25% of the respondents with higher education

belonged to middle class and 50% of the illiterates were in lower middle class. Occupation of the respondents was also not significantly associated with the socio economic status. 33.33% of the employees were in upper middle class and 29.20% of respondents with agriculture as profession were in upper class. The association between caste and socio economic status was significant statistically with a P- value of  $<0.05$ . 38.5% of OCs were in upper class in contrast to 11.8% and 17.4% in SCs and STs respectively. 75% of BCs belonged to middle class while none of them were in lower and lower middle class.

**TABLE 2: ASSOCIATION BETWEEN DIFFERENT SOCIO-DEMOGRAPHIC CHARACTERISTICS AND IMPACTS OF ECOTOURISM ON SOCIO ECONOMIC STATUS.**

SOCIO DEMOGRAPHIC FACTOR	SOCIO ECONOMIC STATUS						TOTAL	P-VALUE
		LOWER	LOWER MIDDLE	MIDDLE	UPPER	UPPER MIDDLE		
AGE	<20	0	1	0	1	1	3	0.395
		0.00%	33.30%	0.00%	33.30	33.30%	100.00	



					%		%	
	21-40	5	4	2	7	6	24	
		20.80%	16.70%	8.30%	29.20%	25.00%	100.00%	
	41-60	2	7	9	2	5	25	
		8.00%	28.00%	36.00%	8.00%	20.00%	100.00%	
	>60	3	6	5	5	9	28	
		10.70%	21.40%	17.90%	17.90%	32.10%	100.00%	
EDUCATION	HIGHER	3	3	4	3	3	16	0.667
		18.80%	18.80%	25.00%	18.80%	18.80%	100.00%	
	ILLITERATE	1	5	1	0	3	10	
		10.00%	50.00%	10.00%	0.00%	30.00%	100.00%	
	PRIMARY	2	5	4	3	6	20	
		10%	25%	20%	15%	30%	100.00%	
	SECODARY	4	5	7	9	9	34	
		11.80%	14.70%	20.60%	26.50%	26.50%	100%	
OCCUPATION	AGRICULTURE	4	5	2	7	6	24	0.757
		16.70%	20.80%	8.30%	29.20%	25.00%	100.00%	
	BUSSINESS	3	9	7	4	7	30	
		10.00%	30.00%	23.30%	13.30%	23.30%	100.00%	
	EMPLOYEE	2	2	2	2	4	12	
		16.70%	16.70%	16.70%	16.70%	33.30%	100.00%	
	OTHERS	1	2	5	2	4	14	
		7.10%	14.30%	35.70%	14.30%	28.60%	100.00%	
CASTE	OBC	0	0	3	0	1	4	0.03
		0.00%	0.00%	75.00%	0.00%	25.00%	100.00%	
	OC	2	2	1	5	3	13	
		15.40%	15.40%	7.70%	38.50%	23.10%	100.00%	
	SC	1	8	2	2	4	17	
		5.90%	47.10%	11.80%	11.80%	23.50%	100.00%	
	ST	7	8	10	8	13	46	
		15.20%	17.40%	21.70%	17.40%	28.30%	100.00%	



TOTAL		10	18	15	16	21	80	
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47.6% belonged to lower and lower middle class according to B.G Prasad's scale of Socio Economic Status which later decreased to 45% as shown in Table no: 3. Similarly there was increase in the percentages of upper and upper middle class in last 5 years. Results showed significant improvement in the Socio Economic Status of subjects, with a P value of <0.05. Which

means the difference of SES before and after 5 years was statistically highly significant. Perception regarding Quality of life was bad in majority (37.5%) and very good in 10% respondents which improved drastically with very good opinion in 23.8% and with a bad opinion in 13.8%. And the difference is t statistically significant with a P value of less than 0.05.

**TABLE 3: CROSS TABULATION SHOWING IMPACT OF ECO-TOURISM ON SOCIOECONOMIC STATUS OF LOCAL PEOPLE**

LEVELS OF SOCIO ECONOMIC STATUS			AFTER 5 YEARS					TOTAL	P-VALUE
			LOWER	LOWER MIDDLE	MIDDLE	UPPER	UPPER MIDDLE		
SOCIO-ECONOMIC STATUS BEFORE 5 YEARS	LOWER	0	3	3	4	5	15	0.038	
		0.0%	20.0%	20.0%	26.7%	33.3%	100.0%		
	LOWER MIDDLE	3	5	4	3	8	23		
		13.0%	21.7%	17.4%	13.0%	34.8%	100.0%		
	MIDDLE	6	4	1	1	1	13		
		46.2%	30.8%	7.7%	7.7%	7.7%	100.0%		
	UPPER	1	1	4	5	4	15		
		6.7%	6.7%	26.7%	33.3%	26.7%	100.0%		
	UPPER MIDDLE	0	5	4	2	3	14		
		0.0%	35.7%	28.6%	14.3%	21.4%	100.0%		
TOTAL		10	18	16	15	21	80		
		12.5%	22.5%	20.0%	18.8%	26.3%	100.0%		

Impact of eco-tourism on quality of life of respondents in relation to various socio-demographic factors was depicted in table: 4. Quality of life of the respondents was significantly associated with their occupation. 41% of employees were satisfied with their Quality of life, while 25% graded their Quality of life very bad. 50% of respondents with agriculture as their profession graded

their quality of life good and very good. 36.7% business men graded their quality of life very good while 26.7% graded as very bad. Caste is not significantly associated with quality of life. 50% of OBs responded they have very good quality of life while other 50% said it was very bad.

**TABLE 4: ASSOCIATION BETWEEN DIFFERENT SOCIO-DEMOGRAPHIC CHARACTERISTICS AND QUALITY OF LIFE**



SOCIO	QUALITY OF LIFE							P-
DEMOGRAPHIC FACTOR		VERY BAD	BAD	SATIS-FACTORY	GOOD	VERY GOOD	Total	Value
EDUCATION	HIGHER	6	1	3	3	3	16	0.610
		37.5%	6.3%	18.8%	18.8%	18.8%	100.0%	
	ILLITERATE	4	2	0	2	2	10	
		40.0%	20.0%	0.0%	20.0%	20.0%	100.0%	
	PRIMARY	5	4	1	4	6	20	
		25.0%	20.0%	5.0%	20.0%	30.0%	100.0%	
	SECODARY	6	4	9	7	8	34	
		17.6%	11.8%	26.5%	20.6%	23.5%	100.0%	
OCCUPATION	AGRICULTURE	4	6	2	6	6	24	0.04
		16.7%	25.0%	8.3%	25.0%	25.0%	100.0%	
	BUSSINESS	8	4	4	3	11	30	
		26.7%	13.3%	13.3%	10.0%	36.7%	100.0%	
	EMPLOYEE	3	0	5	2	2	12	
		25.0%	0.0%	41.7%	16.7%	16.7%	100.0%	
	OTHERS	6	1	2	5	0	14	
		42.9%	7.1%	14.3%	35.7%	0.0%	100.0%	
CASTE	OBC	2	0	0	0	2	4	0.139
		50.0%	0.0%	0.0%	0.0%	50.0%	100.0%	
	OC	1	2	2	5	3	13	
		7.7%	15.4%	15.4%	38.5%	23.1%	100.0%	
	SC	6	5	0	3	3	17	
		35.3%	29.4%	0.0%	17.6%	17.6%	100.0%	
	ST	12	4	11	8	11	46	
		26.1%	8.7%	23.9%	17.4%	23.9%	100.0%	
AGE	<20	2	0	0	1	0	3	0.337
		66.7%	0.0%	0.0%	33.3%	0.0%	100.0%	
	21-40	7	1	5	6	5	24	
		25.0%	4.2%	20.8%	29.2%	20.8%	100.0%	
	41-60	7	2	5	5	6	25	
		28.0%	8.0%	20.0%	20.0%	24.0%	100.0%	
	>60	5	8	3	4	8	28	
		17.9%	28.6%	10.7%	14.3%	28.6%	100.0%	
TOTAL		10	18	15	16	21	80	

Only 7.7% of OCs said they have a very bad quality of life while 38.5% said it was good. 26% of the STs and 35.3% of SCs responded that they have a very bad quality of life. Educational status was not significantly associated with quality of life. 37.5% with higher education and 40% of illiterates felt it very bad. 30% with primary education and 30% with secondary education felt it very good. Age also doesn't have significant association with quality of life. 66.7% respondents in age <20 years felt they have a very bad quality of life and none felt they have a good quality of life. 66.3% subjects informed that they had positive economic benefit due to ecotourism in Maredumilli in the last five years (Table: 5). In table: 6, Perception of local population regarding promotion of entrepreneurship and towards service provision was studied. 70% felt that there was improvement in services provision in last 5 years. But only 27.5% felt positive regarding promotion of entrepreneurship in last 5 years.

**TABLE: 5 PERCEPTION OF ECONOMIC BENEFIT IN LOCAL POPULATION DUE TO ECO-TOURISM**

ECONOMIC BENEFIT	FREQUENCY	PERCENTAGE
NO	27	33.8
YES	53	66.3
TOTAL	80	100.0

**TABLE: 6 PERCEPTION OF SERVICE PROVISION IN LOCAL POPULATION DUE TO ECO-TOURISM**

SERVICE PROVISION	FREQUENCY	PERCENT
DETORiated	9	11.3
IMPROVED	56	70.0
NO CHANGE	15	18.8
TOTAL	80	100.0

Regarding the benefits of eco-tourism to local population, 30% felt they received additional income, while 31.3% felt there is increased employment generation and 21.3% felt there is improved business of local material. Most of the respondents felt majority (30%) beneficiaries of eco-tourism were Non local business men and 25% felt it was local population who

received maximum benefit (Table: 7). Most of the subjects felt that their intelligence levels were improved in last 5 years. Improvement of intelligence was statistically significant with a P value of less than 0.05. With the improvement in education level, there was also improvement in the socio economic status.

**TABLE 7: BENEFICIARIES OF ECO-TOURISM**

BENEFICIARIES	FREQUENCY	PERCENT
GOVT	18	22.5
LOCAL PEOPLE	20	25.0
NON LOCAL BUSSINESS-MAN	24	30.0
OTHERS	18	22.5
TOTAL	80	100.0

### DISCUSSION:

In the present study, 60% were male population which is the majority proportion and similar to a study done by A.T. Angessa et al., the largest proportion (84.2%) was also male gender. Majority (35%) respondents were above the age of 60 years in the present study while in study done by A.T. Angessa et al. where majority proportions (45.4%) were included in the age categories of 31–45 years. Upadhaya.S and Tiwari.S et al., found that 85 respondents were male (50.90%), and 82 were female (49.10%). Most of the respondents interviewed were between the age of 15–39 years (43.71%).

42.5% have secondary education, 20% have higher education and 12.5% subjects were illiterates in the present study. While in study done by A.T. Angessa et al. greater percentage (61.3%) of the respondents attained primary education, and 23% of the respondents were illiterates. secondary education was attained by 14.6. Only 0.8% had attended tertiary education. In a study done by Upadhaya.S and Tiwari.S et al., in Nepal, 26% of respondents were illiterate, while 73.66% of respondents have primary school or higher academic qualifications.

In the present study 37.5% subjects were doing business and 30% were doing exclusively agriculture while in





study done by A.T. Angessa et al. 88.1% were engaged in agricultural activities including crop production and livestock rearing as their main source of livelihoods followed by ecotourism that constituted 4.7% of the livelihoods of the sample households. Upadhaya.S and Tiwari.S et al., in their study found that more than 65% of the respondents have agriculture as major source of income, followed by business and other jobs.

According to Aqthar Sultana et al, in their study done in Telangana the agriculture and fishing sectors were the most benefited occupations from eco-tourism among the local communities.

Aqthar Sultana et al, in their study done in Telangana found out that majority of the respondents disliked the indicated areas for improvement, in the areas of infrastructure. In present study 70% felt that there was improvement in services provision in last 5 years which is contrast to the above study.

In present study, 57.5% subjects belong to Schedule Tribes, 21.3% belong to Schedule Caste and 16.5% belong to open category. In contrast to these findings 63% were OC, and only 3% were dalits in a similar study done by Upadhaya.S and Tiwari.S et al.

In a study done by J.J. Liburd et al., it was found that overall quality of life had been enhanced when the eco-tourism was in cognizant with local cultures and community. These findings were similar to the present study. In present study there was statistically significant improvement in quality of life when compared with perception of quality of life by respondents as an impact of eco-tourism, 5 years later.

The Impact of eco-tourism on quality of life was significantly associated with their occupation in the present study. 41% of employees were satisfied with their Quality of life and 50% of respondents with agriculture as their profession graded their quality of life good and very good while 36.7% business men graded their quality of life very good. These findings were similar to a study done by J.J. Liburd et al. In a similar study done in Nepal by Upadhaya.S and Tiwari.S et al, age and occupation of the respondents were statistically significant to the quality of life.

66.3% subjects informed that they had positive economic benefit due to ecotourism in Maredumilli in the last five years in contrast to this only 32.1% respondents informed that they had benefit due to ecotourism in a similar Ethiopian study done by A.T. Angessa et al.

In a study done in Nepal , according to Anup K.C et al,<sup>12</sup> eco-tourism helps in increasing employment and entrepreneurship at a local level and income generation. and it was observed that It can be observed that socioeconomic variables had a positive effect in relation to eco-tourism

Active involvement of local communities in ecotourism facilitated economic growth and education according to a study done by Dr. Binu Thomas Chandy. Dr. Binu suggested that eco-tourism provided alternative source of livelihood to the locals.

Bushra Hameed and Anila Khalid found that eco-tourism helps in transforming economic and social structure. But it provides only perennial source of income and locals get jobs of low quality, low valued and seasonal in nature. Ruchi Singh in her study “Eco-Tourism and Sustainable Development” stated that eco-tourism generates employment and provides financial aid benefits to local community.

Madhusudan Karmaka in his study found that in Kunjnagar Ecotourism park there is a 28.37% growth rate of income generation from 2002 to 2008. Tapper et al suggested that growth of eco-tourism helped the developing countries in their socio-economic growth.

In a study done by Daisy Das & Iftikhar Hussain in kaziranga national park India demonstrated that participants in association with ecotourism have better quality of life and ecotourism significant economic benefit in them affecting positively the household budget.

## CONCLUSION:

This study revealed that with the activities of sustainable eco-tourism there was a significant improvement in socioeconomic status of the local communities. Change in their perception towards quality of life and improved living conditions also helped in improving attitude of the community participation in eco-tourism activities. Majority population said they also had economic benefit and increased employment opportunities due to eco-tourism activities. However, improved education status in the last 5 years did not influence their socio economic status or the way they perceived quality of life. Most of the participants believed there was better service provision, compared to the status before 5 years. In context to most of the study variables, eco-tourism had a positive impact in the lives of respondents. Most of





the respondents perceive that as a whole the concept of eco-tourism will enhance their living standards by improving education, income, market of the locally available commodities.

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