

Threat of Water Scarcity and Pollution in the Godavari River Region – A Study AnalysisSubbaraju Alluri^{1*} and Dr. Gayatri Alluri²

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Abstract

This article is a small portion of broader research on the Godavari river tourism. Rivers in Andhra Pradesh are facing severe fluctuations due to water scarcity and pollution risks. Godavari is the second-longest river, containing huge river basin, stood first in India by culturally in rich heterogeneous inhabitants. The universe of the study is the end flowing area of 220 kilometers from 'Eastern Ghats to Bay of Bengal' covering two regions with in the Andhra Pradesh. The present study is focused on temple, eco and rural areas of tourism in the Godavari river region places. Estimated annual tourist population is six lacks and the aggregate sample size is 600. The interview schedule was used as an instrument for the collection of data during the field survey. The present study includes a collection of primary data. Regardless of the tourists' level of education is noted to agree on the water scarcity and pollution leads to severe negative impact on river tourism.

Keywords: River Tourism, Tourist Destination, Category of Tourists, Scarcity.

1. Introduction

The rivers in India are considered as God and Goddess and are even worshiped among the Hindus. Indian rivers are one of the most important ecotourism resources and have many capabilities for natural forming. Godavari is the second-longest river, containing huge river basin, stood first in India and having a number of tribal, rural and urban places by culturally in rich heterogeneous inhabitants. It flows totally 1465 kilometers with in the three states of Maharashtra, Telangana and Andhra Pradesh. The river has a highly sacred nature and worshiped by Hindus with a diversified beautiful ecology and agro climatic villages; based on this fact, the river Godavari is being selected for the study. The universe of the study is the end flowing area of 220 kilometers from 'Eastern Ghats to Bay of Bengal' covering two regions (eastern and western) in five districts of Andhra Pradesh state in Southern India.

(A). Significance of the Study

The study can be classified into three major distinct categories according to the purpose of the present study. These are following as (a) Temple/Religious Tourism; India represents multi-religious composition of population. Various package tours are organized to enable people to attend the religious duties and visit places of religious importance, it satisfies the cultural and intellectual curiosity of tourists. (b) Eco/Environmental Tourism; Rich and affluent tourist are preferred to spend more visits to remote places where they get pollution free airs to breath. (C) Rural/

Village Tourism; it involves traveling and arranging tours in order to popularize various village destinations.

(B). Need for the Study

River tourism is undoubtedly one of the most significant areas of research in Indian tourism studies today. The need of this study is to explore the current, touristic use of the aquifer sites in the river Godavari delta region. The high potentials of Godavari River such as sufficient width, river depth, and its suitable stream for rafting, local people's familiarity with rafting, access to roads, and other natural, historical and cultural attractions near Godavari river as well as the development of river ecotourism is discussed in this study. There is, therefore, a need to study the influencing factors of status of 'Godavari' river tourism in Andhra Pradesh in the present scenario.

(C). Aim and Objective

Godavari river region, as a unique tourist destination of Andhra Pradesh, has captured a greater attention among both international and domestic tourists. The aim and objective of the present study is intended to analyse the socio-economic status of the sample tourists, as often there exists a relationship between economic factors, sociological aspects and demographic issues. Hence, before taking up discussion on issues relating to sample tourists, an attempt is made to discuss the socio-economic profile of the tourists.

2. Methodology

The present study is focused on temple, eco and rural areas of tourism in the Godavari river region places. It is descriptive and analytical as it attempts to describe the tourist perception on Godavari river region. Estimated annual tourist population is 60 lacks and the aggregate sample size is 600. The Multistage Sampling Method was adopted for the data collection, i.e., four-stage sampling selection. The sample size for the study of tourists and sample unit of the study included different geographic, demographic, social, economic, and educational backgrounds. Thus, the selection could be made in an unbiased way. The interview schedule was used as an instrument for the

collection of data during the field survey. The present study includes a combination of both compilations of secondary data and collection of primary data. Finally, the collected raw data in order to pursue the objectives outlined, the methodology adopted uses different statistical tools based on need and suitability, percentages, arithmetic mean, standard deviations, coefficient of variances, viz., the chi-square test is employed to analyze and to tests the hypotheses. And also types of averages are used for data analysis.

3. Results: The following are analysis of tables and major findings of results;

| Education Level | Category | | | Total |
|----------------------|----------------|-------------|---------------|-------------------|
| | Temple Tourist | Eco Tourist | Rural Tourist | |
| Illiterate | 32 (65.31) | 08 (16.32) | 09 (18.37) | 49 (100) (8.17) |
| Primary | 57 (54.81) | 36 (34.61) | 11 (10.58) | 104 (100) (17.33) |
| Secondary | 33 (27.05) | 62 (26.16) | 133 (47.68) | 237 (100) (39.50) |
| Inter/Diploma | 63 (34.05) | 53 (43.44) | 36 (29.51) | 122 (100) (20.33) |
| Graduation and above | 16 (18.18) | 41 (46.59) | 31 (35.23) | 88 (100) (14.67) |
| Total | 200 | 200 | 200 | 600 (100) |

Note: Figures in parentheses along rows are percentage of row totals.

Figures in parentheses vertically in the last column are percentage of aggregate sample (600).

Source: Researcher's calculation based on sample data.

Table 1: Category-wise Distribution of Sample Tourists by Education Levels

Table 1 shows education is a boon to mankind. It is an invaluable intangible asset to a human being. A well educated person gets respect in the society. As can be seen from Table 4.6 among the 600 tourists, nearly 40 per cent have possessed secondary followed by 20 per cent who have possessed inter/diploma qualification. There are however a little over 17 per cent who have studied only upto primary and a little over 14 per cent who have possessed graduation and above qualification respectively.

Surprisingly a little over eight per cent happened to be illiterates. Such illiterates are relatively higher in temple tourist followed by rural and eco-tourists respectively. Tourists with higher education on the other head are more in eco-tourist followed by rural and temple tourists. Thus, it can be concluded that the sample consists of all types of tourists with varying levels of education

| Perception on Threat | Category | | | Total |
|----------------------|----------------|-------------|---------------|-------------------|
| | Temple Tourist | Eco Tourist | Rural Tourist | |
| Strongly Disagree | 05 (45.45) | 04 (36.36) | 02 (18.18) | 11 (100) (1.83) |
| Disagree | 08 (47.06) | 05 (29.41) | 04 (23.53) | 17 (100) (2.83) |
| Neutral | 23 (48.94) | 14 (29.79) | 10 (21.28) | 47 (100) (7.83) |
| Agree | 96 (32.32) | 98 (33.00) | 103 (34.68) | 297 (100) (49.50) |
| Strongly Agree | 68 (29.82) | 79 (34.65) | 81 (35.53) | 228 (100) (38.00) |
| Total | 200 | 200 | 200 | 600 (100) |

Note: Figure in parentheses along rows are percentage of row totals.

Figures in parentheses vertically in the last column are percentage of aggregate sample (600).

Source: Researcher's calculation based on sample data.

Table 2: Category-wise Distribution of Sample Tourist by Attitude on Threat of Water Scarcity and Pollution to Affect River Tourism

Table 2 presents the attitudes of the tourists on threat of water scarcity and pollution to affect river tourism. As seen from the table, out of 600, as many as 297 (49.50 %) tourists agreed to the statement followed by 'Strongly Agree' (38 %). 17 (2.83 %) and 11 (1.83 %) tourists stated 'Strongly Disagree' and 'Disagree'

respectively to the statement of threat of water scarcity and pollution to affect river tourism. 47 (7.83%) tourists remained 'Neutral' to the statement. Category-wise, 103 (34.68 %) and 81 (35.53 %) tourists under the category of Rural Tourist category stated 'Agree' and 'Strongly Agree' respectively followed by

98 (33 %) , 79 (34.65 %); 96 (32.32 %), 68 (29.82 %) under the categories of Eco Tourist and Temple Tourist respectively in that order. Eight (47.06 %), five (45.45 %) under the category of Temple Tourist; four (36.36 per cent), five (29.41 %) under the category of Eco Tourist; and two (18.18 per cent, four (23.53 %) tourists under the category of Rural Tourist stated ‘Strongly

Disagree’ and Disagree ’respectively to the statement that threat of water scarcity and pollution to affect river tourism. 23 (48.94 %), 14 (29.79 per cent) and 10 (21.28 %) under the categories of Temple Tourist, Eco Tourist and Rural Tourist respectively remained as ‘Neutral’.

| Description (Result) | Calculated Value (Weighted Average) | Scale in Points (Scores) | Interval |
|----------------------|-------------------------------------|--------------------------|-----------|
| Agree | 4.19 | 4 | 3.41-4.20 |

Attitude on threat of water scarcity and pollution to affect river tourism are measured with the descriptive rating scale of Likert, the result is strongly agree that is the ‘Agree’ to the tourists.

Table 3: Qualitative Interpretation of 5-Point Likert Scale Measurement

| Education Level | Attitude on Threat of Water Scarcity and Pollution | | | | | Total |
|----------------------|--|-----------|-----------|-------------|----------------|--------------|
| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | |
| Illiterates | 05 (0.83) | 07 (1.17) | 13 (2.17) | 22 (3.67) | 02 (0.33) | 49 (8.17) |
| Primary | 04 (0.67) | 05 (0.83) | 08 (1.33) | 64 (10.66) | 23 (3.83) | 104 (17.33) |
| Secondary | 02 (0.33) | 04 (0.29) | 13 (2.17) | 114 (19.00) | 104 (17.33) | 237 (39.50) |
| Inter / Diploma | 0 | 01 (0.17) | 07 (1.17) | 58 (9.67) | 56 (9.33) | 122 (20.33) |
| Graduation and Above | 0 | 0 | 06 (1.00) | 39 (6.50) | 43 (7.17) | 88 (14.67) |
| Total | 11 (1.83) | 17 (2.83) | 47 (7.83) | 297 (49.50) | 228 (38.00) | 600 (100.00) |

Note: Figures in parentheses indicate percentages to the total.

Source: Researcher’s calculation based on sample data.

Table 4: Distribution of Sample Tourists by Educational Levels and Attitude on Threat of Water Scarcity and Pollution to Affect River Tourism

Table 4 presents information about distribution of sample tourists by Educational Levels and Attitude on Threat of Water Scarcity and Pollution to Affect River Tourism. From the table it is clear that, out of 600 tourists, majority of the tourists i.e., 237 accounting for about 39 per cent are having ‘Secondary Education’ followed by 122 tourists accounting 20.33 per cent are having ‘Inter/Diploma’, 104 tourists accounting 17.33 per cent are having ‘Primary’, 88 tourists accounting for about 15 per cent are having ‘Graduation and Above’, and 49 tourists account for about eight per cent are having ‘Illiterate’ education levels.

When educational levels and attitude on threat of water scarcity and pollution to affect river tourism are considered simultaneously, it is clear that as many as 297 tourists (49.50 %) with ‘Agree’, followed by 228 (7.17 %), 47 (7.83 %), 17 (2.83 %) and 11 (1.83 %) tourists are noticed to have ‘Strongly Agree’,

‘Neutral’, ‘Disagree’ and ‘Strongly Disagree’ opinioned tourists respectively. There are no ‘Strongly Disagree’, and ‘Disagree’ tourists of ‘Graduation and above’ in this category of education levels. Further, 114 tourists (19.00 %), 104 (17.33 %), 13 (about two per cent), four (less than one per cent) and only two tourists with a ‘Secondary Level of Education’ tourists are expressed to have ‘Agree’, ‘Strongly Agree’, ‘Neutral’, ‘Disagree’ and ‘Strongly Disagree’ opinion on threats of river tourism respectively. At the same time, 43 (7.17%), 39 (6.50 %) and six (one per cent) tourists with an education level of ‘Graduation and above’ are noticed to have ‘Strongly Agree’, ‘Agree’ and ‘Neutral’ responses. Only seven (1.17 %) and five (nearly one per cent) tourists under the category of ‘of Illiterate’ are having ‘Disagree’ and ‘Strongly Disagree’ respectively. The analysis reveals that majority of the tourists are having secondary level of education and as well as majority of tourists are having ‘Agree’, responses for river threats [1-6].

| | | |
|--------------------------|--|-------------------------------|
| Hypothesis Tested | Statement of H_0: Distribution of select sample tourists by educational levels and attitude on threat of water scarcity and pollution to affect river tourism are independent of each other. | |
| Chi-square Test: | Calculated Value: 106.01 | Critical Value: 26.30 (16 df) |
| Decision: | Reject H_0 | |

Source: Researcher’s calculation based on sample data.

Table 5: Chi-square Test Results

The analysis of Chi-square test resulted in the rejection of null hypothesis, implying that the distribution of select sample tourists by educational levels and attitude on threat of water scarcity and pollution to affect river tourism are not independent of each other.

4. Conclusion

It is observed that the sample consists of tourists with varying levels of education. Nearly 40 per cent of tourists have possessed secondary or more level of education. Surprisingly, a little over eight per cent happened to be illiterates. Such illiterates are relatively higher in temple tourists followed by rural and eco-tourists respectively. Tourists with higher education on the other hand are more in eco-tourist followed by rural and temple tourists.

Rivers in Andhra Pradesh are facing severe fluctuations due to water scarcity and pollution risks. The analysis of attitudes of the tourists on threat of water scarcity and pollution to affect river tourism reveals that majority of tourists nearly 88 per cent felt that agreed and strongly agreed. It is also measured with the descriptive rating scale of Likert, the result is strongly 'agree' i.e., 'Agree' to the tourists.

The distribution of select sample tourists by educational levels and attitude on threat of water scarcity and pollution to affect river tourism are not independent of each other. Thus the analysis of Chi-square test resulted in the rejection of null hypothesis. Regardless of the tourists' level of education is noted to agree on the water scarcity and pollution leads to severe negative impact

on river tourism.

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