Demographic Profile and Degree of Involvement of Avian Tourists in Uttarakhand

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Abstract

Avian tourism/avitourism has come a long way and has established itself as a significant part of nature-based tourism worldwide. With the increasing interest in birds among people, increasing travel affordability and appreciation in income levels, avian tourism has witnessed an ever-increasing acceptability. Now an individual inclined towards nature-based tourism readily includes avian tourism in the portfolio of activities he/she seeks to do. There have been studies which have generated a demographic profile of avian tourists. Other studies have gone a step further and have tried to categorise avian tourists. However, no attempt has been made to determine if the demographic factors related to avian tourists have an effect on the category in which they lie. In this study the categories of avian tourists (based on their level of involvement) and demographic factors have been defined based on past literature and expert interviews and demographic data has been collected by administering a questionnaire to avian tourists. Binomial logistic regression was used to model demographic factors and the category/level of involvement of avian tourists. The model was a good fit on the data and satisfactorily discriminated between the categories of avian tourists. Out of the eight demographic factors identified only one factor (Occupation) significantly predicted the category in which an avian tourist will lie.

Keywords: Avian tourism, Logistic regression, Degree of involvement, Active avian tourist, Casual avian tourist, Uttarakhand, Demographic factors, Tourism.

1. Introduction

Bird-watching also referred to avian tourism/avitourism, for a long time, has been part of human society, but research associated with it and its related aspects is something very new (Steven et al., 2015). Avian-tourism/avitourism is considered as an emerging subsector of nature-based tourism and is regarded as a niche sector (Biggs et al., 2011; Steven et al., 2015). It is a tourism activity where the main motivation of tourists lies in watching birds. (Steven et al., 2015) have defined avian-tourism (avi-tourism) as "the motivated participation in bird watching as either the sole purpose or a key element of travel." Traditional bird-watching was confined to localized areas, but the increasing interest for birds among the larger population, higher income levels, and affordable travel options has broadened its scope (Cordell & Herbert, 2002; Sekercioglu, 2002; Steven et al., 2015). There have been research that have shown avian tourism as one of the most sustainable form of nature-based tourism (Connell, 2009; Steven et al., 2015). Avian tourists have been found to be most sensitive to nature conservation (Hvenegaard & Dearden, 1998) and therefore, avian tourism can be regarded as one of the most sustainable nature-based tourism activities (Connell, 2009; Li et al., 2013). In other words, avian tourism has emerged as an environmentally friendly activity that leads to the generation of income, livelihood opportunities for locals, governments and nation as a whole (Green & Jones, 2010; Jones & Buckley, 2001).

Historically bird-watching or avian tourism was limited as an elitist activity but now it has emerged as a popular activity for non-professionals and other segments of the society around the world (Organisation, 2008). Avian tourism has extended beyond localized bird-watching due to increasing interest of a wider community in bird-watching, increased disposable incomes, and greater travel affordability (Cordell & Herbert, 2002; Sekercioglu, 2002).

According to (La Rouche, 2003), a birder is an individual who takes a mile (1.6 km) or more away from home for the primary purpose of observing birds or he must closely observe or try to identify birds around his local surrounding. On the other

hand, there are birders who take trips away from home (non-residential birders), and are referred to as Avitourists.

This study aims at analysing the demographic profile of Avian tourists in Uttarakhand during the period 2017-2019 and modelling it to ascertain whether these demographic factors have an impact on the commitment level of avian tourists.

2. Literature Review

Avitourists may look like a homogenous lot but in reality, they are heterogeneous recreationists having different skills and interests (Scott & Thigpen, 2003). (Scott et al., 2005) classified birders into three different categories namely Committed Birders, Active Birders, and Casual Birders. Committed Birders are set of people who are willing to travel on short notice for sighting a rare bird, subscribe to different magazines related to birds and their identification and habitat, attend seminars and lead field trips, buy equipment for attracting, recording and seeing birds. For this class of people bird watching is primary outdoor activity (Conradie, 2015; Scott et al., 2005). Active Birders are those set of people who travel (not frequently) for the specific purpose of bird watching, may or may not subscribe to magazines related to bird watching, may attend a local field trip and seminars, keeps a record of the birds that they see but for them, bird watching is not an exclusive outdoor activity for them (Scott et al., 2005). Causal Birders are those for whom birding is like any other outdoor activity, they may or may not belong to any formal birding group, may like reading about birds but will not subscribe to a bird magazine, maintain any list of birds but just enjoy it as an inconsistent outdoor activity (Scott et al., 2005).

(Conradie, 2015), carried out a survey of respondents in British Bird watching fair and Dutch Vogel festival. He observed that in both, the majority of the fair of the participants were male, 61.1% and 62% respondents in British Bird watching fair

and Dutch Vogel festival respectively. The majority of the bird watchers in both the fairs were in age bracket of 35 years to 65 years, which also is the age in productive category and age for carrier development (Conradie, 2015). DTI avian tourist report 2010, carried out a survey in South Africa, and identified that 33% were casual, 57% were enthusiasts, and 10% fanatical (*Avitourism in South Africa - Research and Analysis Report - SATSA*, n.d.). The same research gave an idea about the demographic profile of domestic and foreign tourists visiting the region. It was seen that the percentage of male birders was 63.3% in 1997 while in 2009 this increased to 75% (*Avitourism in South Africa - Research and Analysis Report - SATSA*, n.d.). The average age of the tourist in 1997 was 50 years, of which 49% were between 40 years to 60 years of age and 20% were retired, average household income was R 13,500 and the average level of education was 15 years (higher education level) whereas, in 2009, average age reduced to 49 years with the majority between 31 years to 65 years of age, 53% of the respondents have completed university education and household income of the respondent was on the higher side with 35% tourists having an income of more than R 40,000 and only 28% having income less than R 20,000 (*Avitourism in South Africa - Research and Analysis Report - SATSA*, n.d.). In the same survey, it was seen that the international tourist visiting South Africa were predominately males (82%), with an average age of 53 years (87% between 41 years and 65 years and 4% above 65 years) and 61% with higher education (*Avitourism in South Africa - Research and Analysis Report - SATSA*, n.d.). (Kerlinger & Wiedner, 1991) showed that the income level of the birders in the United States of America was higher than the national average, in-fact it was seen that the average income of members of the American Birding Association was three times more than the national average (Wauer, 1991). "Waterbirds around the world: A global overview of the conservation, management and research of the world's waterbird flyways", provided the demographic profile of the birders. They stated that a maximum number of bird watchers were in an age group of 35 years to 54 years, higher the income of a person more is the chance of his/her becoming a bird watcher, with the majority of bird watcher having income and education (33% of the bird watchers

with five years or more education in college) above the national average (Boere et al., 2006). Also, majority of the bird watchers (94%) were white with rest of the community having very less participation (Boere et al., 2006). In another study by (Kerlinger & Wiedner, 1991), it was identified that the number of male and female birders in the USA was almost equal (49% were females) and the average birder was in their mid-forties. Responses of (Kerlinger & Wiedner, 1991), (Wauer, 1991) and the survey of water birds around the world were reflected in the research carried out by (Eubanks Jr et al., 2004). In their study they identified that bird watchers are quite homogenous and there is no significant difference between gender distribution, they were having high education level. (Carver, 2009) identified that the USA has 48 million bird watchers in 2006 of which 42 million were backyard birdwatchers. Of these total watchers, majority (48%) were in the age group of 25 years to 44 years, followed by 27% of 55 years and above, bird watchers with the majority being female (54%). The same research showed that people with higher education and income level have more participation in bird watching activities than others.

3. Research Methodology

This study tries to identify whether the demographic factors affect the level of commitment towards avian tourism, in case of tourist visiting Uttarakhand, a state in India. From past literature it is evident that attempts were made to categorize bird watchers and a profile of the demographic data of bird watchers was presented. However, none tried to model the categories of bird watchers based on demographic factors. The studies that worked in this direction were mostly giving an idea about the demography of the tourist in general without commenting on the level of commitment and the influence of demographic variables on the same.

The hill state of Uttarakhand was chosen for the purpose of the study. The tourists visiting Uttarakhand for avian tourism were covered under this study. Most of the avian trails are outside the reserve parks and forests. These tourists can roam around those areas easily. The tourists visiting these avian trails can be both avian tourists

and mass tourist. Non-probabilistic Judgmental Sampling was used to identify the respondents. The demographic factors and categories of avian tourists based on their commitment level were identified on the basis of past studies and expert interviews. Duly tested and validated questionnaire was administered to 240 respondents of which 194 responses were complete.

The operational definition of the terms and concepts used are as follows:

Avian Tourism Trail: These are those birding trail systems typically covering multiple avian viewing site.

Avian Tourist: Any person who visits Uttarakhand for the purpose of bird watching and is involved in avian tourism for at least one full day during that visit.

Causal Avian Tourists: Those avian tourists for whom avian tourism is just one of the outdoor activities and dedicates at most two trips per year of at least one day avian tourism. The casual avian tourist must also meet the condition of seeing less than 100 species of birds.

Active Avian Tourists: Those avian tourists for whom avian tourism is among the top two outdoor activities and dedicates at least four trips per year of at least one day each for avian tourism. The avian tourist must also meet the condition of seeing more than 100 species of birds.

4. Analysis and Interpretation

In total eight demographic factors Age, Gender, Marital Status, Occupation, Income, Region, City Type and Educational Qualification were taken into consideration for the purpose of this study. The data collected from the sample suggested that of 194 respondents 25 (12.9%) were below 25 years of age, 101 (55.7%) respondents were from an age group of more than 25 years to 50 years of age and the remaining 61 (31.4%) were more than 50 years of age. This clearly shows that majority of the respondents were in the age group of more than 25 years and in that maximum were from more than 25 years to 50 years age group. Of the 194 respondents 146 (75.3%) were male and the remaining 48 (24.7%) were female. This shows that the majority of

the avian tourists visiting Uttarakhand are male. Of the total 194 respondents, 54 (27.8 %) were unmarried, 103 (51.3%) were married and the remaining 37 (19.1%) were either divorced, separated or widow/widower. Thus, majority of the respondents were married with a small portion of respondents lying in other categories. Of the total 194 respondents 69 (35.6%) were working in a private organization, 48 (24.7%) were working in a public organization, 49 (25.3%) had their own business and 32 (16.5%) were either retired or unemployed. Thus, majority of the avian tourists were working in private sector followed by retired and unemployed category. Of the total 194 respondents, 30 (15.5%) were in the low-income group (below Rs. 5 lakh), 92 (47.4%) were in the middle-income group and the remaining 72 (37.1%) were in the high-income group. It can be easily seen, that avian tourism as an activity is followed more by people from high income level. Of the total 194 respondents, 50 are undergraduate, 107 are postgraduate and 37 were Ph.D. Thus, it can be easily seen that 74.23% respondents were either post graduate or had a doctoral degree. Of the total 194 respondents, 91 (51%) were from North India, 36 (18.6%) were from South, 38 (19.6%) from West and 21 (10.8 %) were from East India. Of the total 194 respondents, 85 (43.8%) were from Tier 1 Cities, 47 (24.2%) were from Tier 2 cities, 44 (22.7%) were from Tier 3 cities and the remaining 18 (9.3%) were from other cities.

The demographic data above suggests that majority of the avian tourists visiting Uttarakhand were male, of the age group of 25 to 50 years, were married, were working in private organisation, were from middle to high income level, had at least a post graduate degree, and were from tier one city and were from south India.

5. Modelling

A binomial logistic regression was performed to ascertain the effects of Age, Gender, Marital Status, Occupation, Income level, Region, City Type and Educational Qualification on the likelihood that a respondent will be an Active Avian Tourist. The logistic regression model was statistically significant, $\chi^2(4) = 37.145$, $p < .0005$.

The model explained 24.7% (Nagelkerke R^2) of the variance Commitment level and correctly classified 76.8% of cases. Sensitivity was 92.6%, specificity was 39.7%, positive predictive value was 78.3% and negative predictive value was 69.7%. The area under the ROC curve was .756 (95% CI, .678 to .834), which is an acceptable level of discrimination according to Hosmer et al. (2013).

Table 1: *ROC Curve table*

Test Result Variable(s): Predicted probability

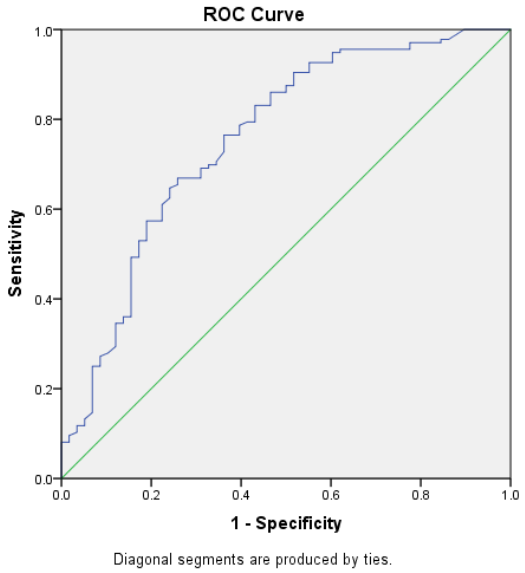
Area	Std. Error[a]	Asymptotic Sig.[b]	Asymptotic 95% Confidence Interval	
			Lower Bound	Upper Bound
.756	.040	.000	.678	.834

The test result variable(s): Predicted probability has at least one tie between the positive actual state group and the negative actual state group. Statistics may be biased.

a. Under the nonparametric assumption

b. Null hypothesis: true area = 0.5

Figure 1: *ROC Curve*



Of the eight predictor variables all the categories of only one was statistically significant: Occupation (as shown in Table 1). Public Sector employees had 0.136 times the odds to be an Active Avian Tourist than Private Sector employees, Self-Employed had 0.075 times the odds to be an Active Avian Tourist than Public Sector employees, retired/Unemployed had 0.074 times the odds to be an Active Avian Tourist than Self-Employed.

Table 1: *Logistic Regression Predicting Likelihood of being an Active Avian Tourist based on Age, Gender, Marital Status, Occupation, Income level, Region, Type of City and Education.*

							95% C.I. for Odds Ratio	
	B	S.E.	Wald	df	p	Odds Ratio	Lower	Upper
Age			6.802	2	.033			
Age(1)	-.003	.616	.000	1	.996	.997	.298	3.333
Age(2)	1.042	.479	4.737	1	.030	2.834	1.109	7.243
Gender(1)	.794	.515	2.376	1	.123	2.212	.806	6.067

Marital_Status			2.293	2	.318			
Marital_Status(1)	-.731	.586	1.557	1	.212	.481	.153	1.518
Marital_Status(2)	-.750	.508	2.176	1	.140	.472	.174	1.279
Occupation			11.791	3	.008			
Occupation(1)	-1.992	.875	5.180	1	.023	.136	.025	.758
Occupation(2)	-2.589	.871	8.832	1	.003	.075	.014	.414
Occupation(3)	-2.602	.816	10.169	1	.001	.074	.015	.367
Income			6.259	2	.044			
Income(1)	-1.082	.586	3.406	1	.065	.339	.107	1.069
Income(2)	.463	.437	1.122	1	.290	1.589	.675	3.741
Region			2.231	3	.526			
Region(1)	.107	.577	.034	1	.853	1.113	.359	3.451
Region(2)	.636	.699	.828	1	.363	1.889	.480	7.437
Region(3)	.793	.728	1.188	1	.276	2.211	.531	9.211
Tier_City			3.239	3	.356			
Tier_City(1)	.191	.665	.082	1	.774	1.210	.329	4.453
Tier_City(2)	.483	.761	.403	1	.526	1.620	.365	7.198
Tier_City(3)	-.477	.684	.486	1	.486	.621	.162	2.372
Education			2.642	2	.267			
Education(1)	1.016	.627	2.621	1	.105	2.761	.807	9.445
Education(2)	.566	.492	1.325	1	.250	1.762	.672	4.622
Constant	1.450	1.082	1.796	1	.180	4.263		

6. Results and discussion

The model fits the data well and was satisfactorily able to discriminate between the two categories of avian tourists visiting Uttarakhand. As per the model an avian tourist with employment has a greater chance of being an active avian tourist than an unemployed avian tourist. An avian tourist working in private sector has a greater chance of being an active avian tourist as compared to avian tourists working in other sectors (public sector and self-employed). The model is able to predict the category (commitment level) of an avian tourist based on his/her occupation.

7. Limitations and Scope for Future Studies

The study was conducted in the state of Uttarakhand. Although Uttarakhand is one of the prime bird-watching/bird tourism destinations in India and tourists from all over the world visit Uttarakhand, increasing the scope of the study on national level would have provided a better representative data. A third category of avian tourists based on their commitment level- Committed avian tourists was dropped from the study as there were very few respondents (less than 10%) who were in this category. Committed avian tourists are those avian tourists for whom avian tourism is the most important outdoor activity and makes more than four trips per year for avian tourism. The avian tourist must meet the condition of seeing more than 500 species of birds. Increasing the scope of the study to national level would have given sue representation to committed avian tourists in the data. Though the model was able to discriminate and predict active avian tourists from casual avian tourists, it was able to do this significantly based on only one demographic factor i.e., Occupation. This could have been improved by using a better sampling technique to get even better representative data.

Future studies in this direction can aim to curtail the above mentioned limitations and studies aimed at finding other demographic factors which influence the commitment level of avian tourists.

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