Abstract

The importance of tourism for economic and social development in the African continent – in the second half of the 20th century – is well documented in tourism research with a conclusion that only African countries that have adopted a tourism strategy are converging towards the US real product per capita. This paper analyses the role of tourism in promoting human development in sub-Saharan Africa using data from a questionnaire undertaken in Inhambane province, Mozambique in 2010, a region that adopted a tourism strategy. A logistic regression for randomized response data model is used, taking into account the answers bias in the data. Policy implications of the research findings are discussed.

Keywords Tourism, sub-Sahara-Africa, logistic regression for randomized response data.
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The main fields of investigation are the development economics, international economy, sociology of development, African history and the social issues related to the development. From a geographical point of view the sub-Saharan Africa; Latin America; East, South and Southeast Asia as well as the systemic transition process of the Eastern European countries constitute our objects of study.

Several members of the CeSA are Professors of the Masters in Development and International Cooperation lectured at ISEG/”Economics”. Most of them also have work experience in different fields, in Africa and in Latin America.

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1. INTRODUCTION

Tourism in Sub-Saharan Africa is a theme that attracted scarce research so far (Dieke, 2000; Cuñado & Pérez de Gracia, 2006; Barros & Dieke, 2008; Santos, Dieke & Barros, 2008; Assaf & Barros, 2009; Barros, Dieke & Santos, 2010). This paper adopts a randomized response technique, Fox & Tracy (1986) to generate data from a questionnaire in Nampula district, Mozambique and adopting the logistic regression for randomized response data, Maddala (1983) to analyse data, enabling a consistent data generating process and an adequate estimating procedure. Research on African tourism is based in conceptual analysis (Dieke, 2000), macroeconomic focus (Cuñado & Pérez de Gracia, 2006), hotels efficiency analysis (Barros & Dieke, 2008; Barros, Dieke & Santos, 2010) and questionnaire data (Gartner & Cukier, 2011). Therefore the present research adopts this last approach to analyse the relation between tourism and human development in Africa adopting questionnaire data.

The motivations for the present research are the following: First, Nampula in northern Mozambique is a region specialized in tourism, aiming to improve the human development in the region through employment and other tourism receipts which adopted a tourism strategy. The aim of the questionnaire is to evaluate how tourism strategy has succeeded in promoting individual perceptions of human development through tourism. Second, Tourism analysis with questionnaire data is common in tourism research (Barros, Correia & Butler, 2008) but usually adopts binary models that do not respect the data generating process. Therefore, this paper adopts the traditional a randomized response technique, but also adopts the logistic regression for randomized response data that is consistent in contexts where there may exist bias in answering questionnaire, Jann (2011). Finally, the importance of tourism for economic and social development in the African continent – in the second half of the 20th century – is well documented (Dieke, 2000) with a conclusion that only African countries that have adopted a tourism strategy are converging towards the US real product per capita (Cuñado & Pérez de Gracia, 2006). This finding underlines the need for tourism to be taken more seriously by the African countries when thinking in terms of growth. This paper assumes that tourism contributes to real product per capita growth, (Cuñado & Pérez de Gracia, 2006) but test if it also contributes to human development, as it is perceived by the residents. This exercise is based in the economic idea that real product per capita growth does not signifies human development, Sen (1997).

The paper is organized as follows. After this introduction the second section presents the contextual setting. Then section 3 presents the literature survey, followed by the methodology in section 4. Section 5 presents the hypothesis. Section 6 presents the data. Section 7 present the results and finally the 8 section present the discussion and conclusion.
2. CONTEXTUAL SETTING

Tourism in Africa as a way to promote human development is an active public policy adopted by many countries in the end of twenty century. In an empirical test, Cuñado & Pérez de Gracia, (2006) concluded that only African countries that have adopted a tourism strategy are converging towards the US real product per capita. Mozambique has adopted tourism strategy to develop several areas without any other resource. Inhambane in south part of the country is a coastal region near the capital at 460 km and specializing in tourism. Moçambique is situated in oriental coast of Africa with an area of 799 380 km2, with Tanzania in north, Malawi and Zambia in west and South Africa in southwest and the Indian sea at east. Mozambique is tropical with regional variations. Mozambique is administrative divided in three regions: North (provinces of Cabo Delgado, Nampula and Niassa), Centre (Sofala, Manica, Tete and Zambézia) and south (Maputo city, Maputo province, Gaza and Inhambane). Tourism in Mozambique is concentrated in south part which concentrates around 50% of total beds. Inhambane city is the capital of the province of Inhambane with 65.249 inhabitants and 80% of poverty rate. In this context the government launched “Pro-poor Tourism” strategy aiming to reduce the poverty rate in long range. Table 1 presents the number of tourism activities in Inhambane:

<table>
<thead>
<tr>
<th></th>
<th>Tofo beach</th>
<th>Barra beach</th>
<th>Inhambane centre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lodges</td>
<td>27</td>
<td>45</td>
<td>0</td>
</tr>
<tr>
<td>Hotels</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Pensions</td>
<td>2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Restaurants</td>
<td>3</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>Number of rooms</td>
<td>433</td>
<td>1171</td>
<td>86</td>
</tr>
<tr>
<td>Number of beds</td>
<td>943</td>
<td>2570</td>
<td>170</td>
</tr>
<tr>
<td>Number of travel agencies</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

The city is organized around a bay with two beaches (Tofo and Barra) in each side and a city in the center. The tourism indicators indicates this is a small tourism area, but very important for the local economy.
3. THEORETICAL BACKGROUND

Human development is the study of how people develop on physical, intellectual and social levels and it develops inside social development which can be summarily described as the process of organizing human energies and activities at higher levels to achieve greater results. Development increases the utilization of human potential. This theory in development was initiated by Sen (1997; 2000) and developed the human development index by United Nations Development Programme (UNDP) composed by a composite scale that has three dimensions: life expectancy at birth, adult literacy rate and mean years of schooling, and income as measured by real gross domestic product per capita, Sakiko (2003), UNDP (2011).

However, the theory is still in process of development remains largely a process of trial and error experimentation, with a high failure rate and very uneven progress. Social development consists of two interrelated aspects – learning and application. Society discovers better ways to fulfill its aspirations and it develops organizational mechanisms to express that knowledge to achieve its social and economic goals. The process of discovery expands human consciousness. The process of application enhances social organization. Tourism is clearly a way to develop social development, (Cuñado & Pérez de Gracia, 2006). Therefore this paper contributes for this research analysing perceptions of residents in Inhambane, Mozambique on tourism and its capacity to contribute positively for human development.

4. LITERATURE SURVEY

Examples of tourism studies that use the binomial logit model include Fleischer & Pizam (2002) who determined the constraints of senior Israeli tourists; De la Viña & Ford (2001) who described the demographic and trip factors of potential cruise passengers based on a sample of individuals who previously requested travel information; Costa & Manente (1995) who investigated the characteristics of visitors to the city of Venice with respect to their origin and socio-economic profile, their preferences and their holiday decisions; Sheldon (1995), who examined the travel incentive among U.S. corporations; and Stynes & Peterson (1984), who proposed a logit model to estimate recreational choices. Kockelman & Krishnamurthy (2004) proposed a micro-economically rigorous method to characterize travel demand across a great variety of choice dimensions, including trip generation. Their study applied a multivariate negative binomial model for trip demand functions derived from an indirect underlying translogarithmic utility function. Both time and money budgets were incorporated into the model structure via an effective or generalized budget constraint.
A nested logit model of trip mode and destination was used to calculate the effective prices for each trip proposed via nested logsum expressions. Ledesma et al. (2005) used a left truncated Poisson and a binomial logit model to analyse the repeat visitation in the Island of Tenerife, and Hellström (2006) used an inflated truncated bivariate Poisson lognormal model to analyse the households’ choice of overnight stays. Other related studies include Palmer-Tous et al. (2007) who used several count data models (Poisson, negative binomial, zero-inflated Poisson, zero-inflated negative binomial, truncated Poisson, zero-truncated negative binomial) to analyse the use of hire cars by tourists in Mallorca, Spain, and Moran et al. (2006) who also presented several count data models (negative binomial model, zero truncated negative binomial, negative binomial with truncation and endogenous stratification) to estimate the recreational value of mountain biking sites in Scotland. The authors concluded that correcting for endogenous stratification in addition to over-dispersion and truncation is needed to avoid biased results. Related studies on Africa include Barros, Correia & Butler (2008) that analysed Portuguese tourism in Africa with a mixed logit model. From this research it is verified that there is none published paper using questionnaire data from African sub-Saharan.

5. METHOD

The problem of eliciting truthful answers to sensitive questions is an age-old problem in survey research. In Africa respondents tend to report questions in a way that sometimes seems they do not understand clearly the question due to the low level of education. To combat such response bias, various techniques can be adopted such the randomized response technique, Fox & Tracy (1986) and the Logistic regression for randomized response data is adopted (Maddala 1983:54-56).

Consider the Inhambane resident that was asked to answer a questionnaire on tourism and human development in his/her city. The main goal is to determine the probability of a resident to declare that tourism in Inhambane improves human development or not, given some characteristics, denoted by the vector \( x_i \). Define a binary random variable \( y_i \), which verifies \( y_i = 1 \) if the resident declares that tourism improves human development and \( y_i = 0 \) if the resident declares tourism do not improve human development, then the aimed probability is is \( P(y_i = 1|x_i) \). Models to determine the probability of an event given a set of characteristics, \( x_i \), can be derived based on a latent variable, \( y_i^* \), that is not observed and verifies

\[
y_i^* = \beta 'x_i + \epsilon_i, \quad (1)
\]

where \( \beta \) is a vector of unknown parameters, and \( \epsilon_i \) is an unobserved random variable allowing that individuals with the same characteristics, \( x_i \), have different outcomes. To
use the general framework of binary dependent models, let us simply suppose that $y_i = 1$ if $y_i^* > 0$ and $y_i = 0$ if otherwise. Then $P(y_i = 1/x_i) = P(\varepsilon_i > -\beta 'x_i)$ and the desired probability depends on the statistical assumptions about $\varepsilon_i$. When $\varepsilon_i$ is independent and identically distributed as extreme value type I, the above probability is given by the highly popular logit model,

$$P(j = 1|x_i) = P(\beta ,x_i) = \frac{e^{\beta 'x_i}}{1+e^{\beta 'x_i}}$$

(2)

Ben-Akiva & Lerman (1985), and Train (1986) used the logit model to relate the probability of making a choice to a set of variables reflecting decision maker preferences. In a simple random sample the probabilities of observing $x=1$ are $\pi$ and $1-\pi$, respectively. Hence, given independent observations $i=1,\ldots,n$, the log likelihood for $\beta$ is:

$$\ln L(\beta / x) = \sum_{i=1}^{n} \left[ x_i \ln(\pi_i) + (1-x_i)(1-\pi_i) \right]$$

(3)

With $\pi$ given by equation (2).

Yu, Tiang & Tang (2008) proposed a model for sensitive questions which were developed and tested by Jann, Jerke & Krumpal (2011) who present this model for Stata software (rlogit- logistic regression for randomized response data) which is adequate for randomized response techniques when the respondent don’t understand and do not trust the questionnaire, which is adopted in the present research. There is evidence that in questionnaire data there is a substantial proportion of respondents, misunderstand or mistrusting the questionnaire.

The $X$ is unknown and instead a response variable $R$ is defined as equal to one if $x=0$ and equal to zero if $x=1$. The probabilities of $R=1$ and $R=0$ are then equal to $\pi p + (1-\pi)(1-p)$ and $\pi(1-p) + (1-\pi)p$ respectively. The log likelihood for $\beta$ is therefore:

$$\ln L(\beta / R, x) = \sum_{i=1}^{n} \ln l_i$$

(4)

With

$$\ln l_i = R_i \left[ \ln(\pi_i p_i + (1-\pi_i)(1-p_i)) + \ln(\pi_i(1-p_i) + (1-\pi_i)p_i) \right]$$

(5)
6. RESEARCH HYPOTHESIS

The aim of this paper is to test whether the tourism in Inhambane, Mozambique promotes human development asking the subjective perception of Inhambane residents. Human development aims to develop capabilities of the population, Sen (1997), publishing the indicator of human development in the World Development Reports. This concept signifies that there is development should not be measure by income but the life people wants to live, Sen (2000). The subjective opinion on the contribution of tourism for human development can be explained by several factors. Perceptions develop in their day life which are theoretical supported in Fishbein & Ajzen’s (1980) theory of reasoned action (Baker & Crompton, 2000), as applied in management and economics research, and the role theory of tourism behavior (Pearce, 1982; Yannakis & Gibson, 1992) from the perspectives of sociology and ethnography. Both theories take into account different variables to explain tourism subjective opinion and decision. The questionnaire respondent on tourism issues is regarded as a rational individual who decides on its opinion, conditioned by previous experience (Howard & Sheth, 1969). This assumptions highlights the importance of resident rational decision and previous experience on tourism activities.

The survey questionnaire therefore gathered data pertaining to: 1) socio-economic demographic variables including income; 2) destination attributes, and 3) satisfaction (overall satisfaction and specific satisfaction). Using the survey data on these characteristics, we tested the following hypotheses:

*Hypothesis 1 (Socio-economic characteristics):* the resident tourism subjective opinion relating tourism and human development is function of individual socio-demographic characteristics such as age, gender, education and working status (Goodall & Ashworth, 1988; Woodside & Lysonski, 1989; Weaver et al., 1994; Zimmer et al., 1995).

*Hypothesis 2 (Income):* the resident tourism subjective opinion relating tourism and human development is is a positive function of the individual’s income. This is a traditional hypothesis in tourism demand models, in which price, income and budget constraints define the frontier of consumption possibilities for travel (Hay & McConnel, 1979; Aguiló & Juaneda, 2000; De la Viña & Ford, 2001; Nicolau & Más, 2005).

*Hypothesis 3 (life in city):* the resident tourism subjective opinion relating tourism and human development is is a positive function of the life in city. City residents are more economic related that country residents and therefore more aware of the importance of tourism in regional activity.
Hypothesis 4 (Destinations improvements due to tourism): the resident tourism subjective opinion relating tourism and human development is a positive function of of a destination’s improvements due to tourism.

Reliability, Validity, and Generalizability

Several steps were taken to ensure the validity and reliability of the data. First, the point of departure was a questionnaire already applied to tourism (Barros, Correia & Butler, 2008), which was adapted for the present purpose, ensuring that prior research in the field had been considered and face validity established. Second, all relevant literature was taken into consideration. Third, the questionnaire was pretested on African students of tourism economics at the Technical University of Lisbon. Following the administration of the final survey, a stratified random subset of 50 respondents was contacted by phone and personal a second time to check if any problem persisted, but none were revealed. These procedures ensure the content validity of the questionnaire, signifying that it is likely to measure what it is intended to measure. Internal consistency was ensured by measuring the correlations among the variables. Reliability (internal consistency) of the scale used was analyzed with Cronbach’s alphas of the original item scale, ranging from 0.72 to 0.82. Convergent validity of the original scale was established using exploratory factor analysis (principal axis factoring with varimax rotation). Fourth, the questionnaire was used with a random sample, with a response rate of 80%, which was considered an acceptable sample of respondents (Fox and Tracy, 1986). This procedure ensures the generalizability of the data, meaning that the findings are applicable to a more general population. Fifth, the reliability of the data was examined, analyzing them extensive

Survey

The questionnaires employed both open- and closed-ended questions to evaluate the sources of information, motivations, sociodemographic profiles, and tripographic variables using 7-point Likert-type scales, as suggested by Maio & Olson (1994). The questionnaire is based on the literature review and aims to collect data to analyze and investigate the defined hypotheses. The survey has three sections of questions. The first section assesses sociodemographic and tripographic variables, such as gender, occupation, the holiday’s. The second section asks for perceptions on tourism effect on the economy.
7. DATA

Table 1 presents the data used in the model estimated. The general characteristics of these respondents were that they were male (52%), with an average age of 33. This profile leads to an overall definition of the responding respondent as individual inhambane citizen as young, with a family that includes at least one child. The hypotheses proposed above were tested by means of the adoption of the logistic regression for randomized response data that assumes that the probability of choosing that tourism promotes human development instead of not promoting can be described by a cumulative logit probability function of the exogenous variables $X_i$, $\text{Prob (choice/type)}$. To estimate the logistic regression for randomized response data the article used the Stata 12.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent variable</strong></td>
<td><strong>Tourism improves human development</strong> Binary variable which is equal to 1 if the resident declares he/she considers that tourism improves human development</td>
<td>0</td>
<td>1</td>
<td>0.94</td>
<td>0.232</td>
</tr>
<tr>
<td><strong>Socio-economic characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>The respondent’s age in years</td>
<td>15</td>
<td>70</td>
<td>42.35</td>
<td>10.392</td>
</tr>
<tr>
<td>Education</td>
<td>The respondent’s age in years</td>
<td>0</td>
<td>12</td>
<td>7.28</td>
<td>3.80</td>
</tr>
<tr>
<td>Gender</td>
<td>The respondent’s gender (male=1, female=0)</td>
<td>0</td>
<td>1</td>
<td>0.47</td>
<td>0.271</td>
</tr>
<tr>
<td>employment</td>
<td>The respondent is employed in tourism activities, yes=1, no=0</td>
<td>1</td>
<td>0</td>
<td>0.25</td>
<td>0.743</td>
</tr>
<tr>
<td><strong>Income</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td>The respondent’s income in Meticals</td>
<td>12000</td>
<td>2000</td>
<td>2817</td>
<td>1660</td>
</tr>
<tr>
<td><strong>Life in city</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life in city</td>
<td>The respondent’s lives in city of Inhambane=1, other=0</td>
<td>0</td>
<td>1</td>
<td>0.37</td>
<td>0.484</td>
</tr>
<tr>
<td><strong>Destinations improvements due to tourism</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improvements-employment</td>
<td>The respondent’s declares that there were improvements in the city due to tourism employment</td>
<td>0</td>
<td>1</td>
<td>0.96</td>
<td>0.427</td>
</tr>
<tr>
<td>Improvements-income</td>
<td>The respondent’s declares that there were improvements in the city due to tourism in income</td>
<td>0</td>
<td>1</td>
<td>0.73</td>
<td>0.532</td>
</tr>
<tr>
<td>Improvements-transportation</td>
<td>The respondent’s declares that there were improvements in the city due to tourism transportation</td>
<td>0</td>
<td>1</td>
<td>0.84</td>
<td>0.327</td>
</tr>
</tbody>
</table>
Improvement-taxes The respondent’s declares that there were improvements in the city due to tourism taxes

Results

Table 2 presents the results. Model parameters $\beta$ relate changes in the explanatory variables $X_i$ to changes in the response probability. While the parameter signs indicate the direction of the relationship, they are not directly interpreted as marginal changes to the mean value of the dependent variable. This is because of the nonlinear form of the distribution function. Based on the global model, using the transformation $100(e^{\beta} - 1)$, it can be said that each additional income unit of the individual respondents yields an increase of about 5.33% in the likelihood of supporting that tourism promotes human development. The model fit the data well.

Table 2. Parameter Estimates (dependent variable: Tourism improves human development)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Standard Model Coefficients (z-statistic)</th>
<th>Logit Coefficients (z-statistic)</th>
<th>logistic regression for randomized response data model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>3.495 (0.67)</td>
<td>2.852 (1.80)</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>0.032 (0.44)</td>
<td>0.044 (4.93)*</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>0.137 (26.62)</td>
<td>0.166 (2.47)**</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>1.007 (1.92)**</td>
<td>1.187 (1.42)**</td>
<td></td>
</tr>
<tr>
<td>employment</td>
<td>1.177 (4.26)*</td>
<td>0.155 (8.54)*</td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td>0.056 (2.60)*</td>
<td>0.016 (2.91)*</td>
<td></td>
</tr>
<tr>
<td>Life in city</td>
<td>0.044 (1.08)</td>
<td>0.006 (0.46)</td>
<td></td>
</tr>
<tr>
<td>Tourism employment</td>
<td>-0.012 (-0.65)</td>
<td>0.0007 (0.12)</td>
<td></td>
</tr>
<tr>
<td>Tourism improves income</td>
<td>0.076 (2.99)*</td>
<td>0.039 (3.43)*</td>
<td></td>
</tr>
<tr>
<td>Tourism improves transportation</td>
<td>0.333 (1.49)*</td>
<td>0.554 (6.39)*</td>
<td></td>
</tr>
<tr>
<td>Tourism improves schools</td>
<td>-0.012 (-3.12)*</td>
<td>-0.024 (-2.31)</td>
<td></td>
</tr>
<tr>
<td>Tourism improves hospitals</td>
<td>-0.021 (-2.89)*</td>
<td>-0.034 (-2.316)</td>
<td></td>
</tr>
<tr>
<td>Nobs</td>
<td>289</td>
<td>289</td>
<td></td>
</tr>
<tr>
<td>Log Likelihood</td>
<td>-49.26</td>
<td>-47.147</td>
<td></td>
</tr>
</tbody>
</table>
The homoscedasticity of the error process is supported by the likelihood test. The Wald chi-square test rejects the hypothesis that the set of coefficients is not statistically different from zero at the 1% level of significance. The asymptotic Z-statistics indicate whether a particular parameter estimate is statistically different from zero, that is, if the variable has an impact on the perception that the tourism promotes human development in Inhambane. The probability of the perception that the tourism promotes human development in Inhambane is positively correlated and statistically significant with several exogenous variables. These differences mean that choosing that tourism promote human development rather than it does not promote human development is related to several exogenous variables that tourism authorities could use the conclusions from this article to differentiate their tourism strategy in order to improve its contribution to human development.

8. DISCUSSION AND CONCLUSIONS

The paper analysed the determinants of human development related to tourism in Nampula-Mozambique using a logistic regression for randomized response data. From the results it was clear that Hypothesis 1 is accepted because the socio-economic characteristics is positive and statistical significant. This result signifies that all socio-economic variables contribute positively for the subjective evaluation that tourism contributes to human development in Inhambane.

Hypothesis 2 is accepted as income is positive and statistically significant, validating previous research using other modeling approaches (Barros & Assaf, 2011). Hypothesis 3 is not accepted as life in city is positive and statistical significant. This result signifies that citizens in Inhambane have a positive evaluation of the tourism contribution for human development. Additional, we also accept Hypotheses 4 as destination attributes improvement seem to have a positive and significant impact on the subjective evaluation of tourism contributing to human development. This validates previous results on return (Cuñado & Pérez de Gracia, 2006).

The general conclusion is that African citizens evaluate positively the contribution of tourism for human development. Thus, it seems clear that future policies in the Inhambane should focus on upgrading the contribution of tourism for human development, promoting investment in education, health that supplement the increase
in income that tourism afford in the region. Thus, by combining and acting on these results, it is clear that there is an opportunity to refine policies to help increase the contribution of tourism for human development. However, new tourism strategies are needed to re-positioning the contribution of tourism for human development in the region. It might be also of potential value for tour operators to have a deeper insight into the variables that shape the decisions and perceptions of local individuals towards tourism and its contribution for human development. With a greater awareness of what these individuals require from a tourism, operators and organisations can focus on those statistically significant variables determined in the model when focusing in increasing the contribution of tourism for human development. The variables that increase the positive perception that tourism contributes to human development should also be the focus of future tourism campaigns. Similarly, the variables that decrease the perception should be controlled and addressed in order to minimise their potential negative effect.

How does this paper compare with previous research? While this paper supports some traditional results such as that tourism contributes to human development it presents a negative on education and health. A general conclusion is that local citizens seem to evaluate positively the contribution of tourism for human development. More research is needed to confirm this result.

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