

Term Paper

Review of Impact Literature on Tourism

Nature & Heritage Tourism Class

Fall 1998

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Introduction

Impacts from tourism are well documented in the literature on tourism. Specific emphasis on nature and heritage tourism, however, is quite limited. Thus, this paper is the beginning of an ongoing process to review the general tourism literature and identify credible techniques for conducting impact assessment. Economic impacts are discussed in several articles and various methods are used to assess impacts on a country, region or destination community. Input-output assessment and contingent valuation (CV) are two of these methods and will be discussed in more detail later in this paper. Social impacts are also measured or assessed in a number of articles. Articles on environmental impacts are not as numerous and most often discuss the issue in the context of resource management concerns associated with a specific area. (Mak and Moncur 1995). Very little literature directly addresses the political context of tourism development and impacts. However, a number of articles frame their presentation of economic and social impact assessment models in the context of how they can inform or influence policy-makers.

Due to limited space this paper cannot provide a comprehensive review of the literature on all of these subjects. The first part of this paper discusses various issues that arise in the development of methods to conduct tourism impact assessment. This discussion then leads to an overview of the most promising methods found in the tourism literature about conducting economic and social impact assessment. All of this discussion is a preliminary attempt to pull together and organize the diffuse sets of information to build a framework for conducting a comprehensive impact assessment of nature tourism in the Lower Rio Grande Valley.

A Multi-disciplinary Perspective and a Comprehensive Solution

Tourism impact analysis seems to be riddled with challenges. Smith (1995) suggests these are:

- 1) the lack of credible measurements for describing the size and impact of tourism;
- 2) great diversity in the industry, with some analysts questioning whether tourism is a single industry or group of related industries;
- 3) spatial and regional complexities; and
- 4) a high degree of fragmentation.

Echtner and Jamal (1997) suggest that the dilemma of tourism analysis is that it crosses many disciplinary boundaries which then results in fragmented and weak tourism theory. However, instead of developing theories that solve this multi-disciplinary dilemma, current research often isolates different components of tourism impacts within disciplinary boundaries (Echtner and Jamal 1997, 868). Their criticism was verified from this review of the tourism literature.

The dilemma of tourism impact analysis can be rectified through a comprehensive approach which combines environmental, economic and sociopolitical considerations. Tourism is an inherently geographic activity in that its very nature involves travel and a sense of place (Smith 1995, 174). This aspect of tourism suggests developing a theoretical basis for tourism impact assessment within a geographical context. Although there appears to be little specific reference to tourism impact assessment theory in the geographical literature, there is a basis from the

literature on natural resource geography. Peet and Thrift (1989) describe a political-economic theoretical view employed by Blakie to evaluate soil erosion in developing countries by integrating both physical and the socio-economic systems. Blakie (1985) argues for the necessity to do more than consider one aspect (e.g. social, economic) of an area when making a resource assessment. He points out that one must develop a comprehensive perspective that “contextualizes” what one is trying to assess. Blakie’s (1985, 32) emphasis is on the social element assessing why certain land uses take place in terms of the political-economic context in which land users find themselves. This same theory can be applied for tourism (or nature and heritage tourism) impact assessment.

This perspective is supported in many other places including the literature on tourism analysis. Various models have been developed that attempt to bring together multi-disciplinary approaches to making impact assessments. Benefit-cost analysis is probably the longest standing example that attempts to measure all benefits and costs associated with the implementation of a project. This methodology is a credible tool for conducting tourism analysis, but has also been identified with a number of potential pitfalls, one being the possibility of ignoring environmental “externalities”. (Smith 1995, 295).

Analyzing impacts of projects from a comprehensive and multi-disciplinary perspective is also supported by environmental impact assessment (EIA), which is the process mandated by the National Environmental Protection Act (NEPA) of 1969. NEPA requires the preparation of an Environmental Impact Statement (EIS) when Federal agencies plan actions that would result in some change or impact on the

natural or human environment (Skadberg 1992). Established as Federal policy in the United States this process has been embraced internationally. The European Community (EC) has adopted EIA for a specified list of projects that is guided by four principles, one being that preventive action is better than remedial action (Therivel and Morris 1995, 2). NEPA requires that an EIA and subsequent EIS give due considerations to all potential impacts of a federal action. In most cases this includes economic, social and environmental issues.

Various techniques developed by governmental resource managers also point towards this comprehensive approach. The Limits of Acceptable Change (LAC) management strategy developed by the United States Forest Service (USFS) outlines a specific integrated approach which considers the resource, and the social and economic situation as it applies to developing an effective management strategy for recreation settings (Stankey et al 1985). Lindberg and Johnson (1996) suggest the LAC process be considered as an alternative to benefit-cost analysis.

An additional and critical component that needs to be considered when developing an impact assessment methodology is the political context. Skadberg (1992) used expert opinion to determine the political and social context of an agronomic production demonstration project. The political arena ultimately is where decisions are made. Thus, it is imperative to determine the political atmosphere when trying to develop a course of action. Nigel and Peet (1989, 60) describe Blaikie's political-economy approach: "Blaikie proposes two spheres of political-economic relations which explain soil erosion: social relations of production at the level of the enterprise; and exchange and other relations at the level of the world economic

system. In both spheres surplus is extracted from peasants: at the local level through wage labour or rents; at the international level through unfavourable terms of trade and low product prices.” Although aimed at describing a system associated with soil erosion, this theory can be adapted to tourism development. Given the socio-economic situation in the Lower Rio Grande Valley Blakie’s (1985) approach may have specific applicability.

Whether or not a political component can be built directly into the model is unclear at this point. Nevertheless, research on impact assessment is framed in how models will influence or fit into a political context (Freeman 1993; Fletcher 1989).

It is beyond the scope of this paper to delve into all four of the subjects-- economic, social, environmental and political. This paper focuses on identifying the most pertinent literature on economic and social impact assessment methods.

A Technological Approach with GIS

The purpose of this paper is to develop a structural concept for building a system for assessing tourism impacts. The reasoning for this approach is that there appears to be some value in identifying the most credible impact assessment methods. These methods could then be combined into a comprehensive system, such as a geographic information system (GIS) where the data could be visualized. This will assist researchers in deciphering and determining the intricate and complex relational and spatial patterns that are involved in tourism. MacEachren et al. (1992, 99) highlights this point in the following: “Even when dealing with nonspatial relationships, geographers are most comfortable with a depiction that allows them to

visualize relationships and connections that in turn lead to hypothesis about underlying causes for the patterns that become apparent when data are presented in a spatial format”. MacEachren (1993, 108) further illuminates the process of visualization: “As investigators gain confidence in a theory or perspective on a problem, they use visualization tools to synthesize ideas and formulate a coherent abstract statement of what at that stage might only be loosely connected threads”.

The “loosely connected threads” of tourism analysis suggests the need for developing computer applications in tourism impact assessment. However, Smith (1995, 14) suggests that the tourism industry as a whole is reluctant to adopt new technological tools and that they are hesitant to develop or adapt to new technologies. Nevertheless, multi-disciplinary impact analysis of tourism requires the development of an analytical tool that supports visualization.

Challenges

This paper aims to identify the most credible techniques for tourism impact assessment with the idea that a model can be developed combining various techniques into a comprehensive analysis model. Nevertheless, the challenge for this is formidable. One must assume that the lack of prior work in this area implies the difficulty of such an endeavor. Tourism has been identified as an extremely diffuse economic activity that **does not lend itself to simple and straightforward analysis** (Smith 1995, 17). This task is further hindered when one considers combining techniques to evaluate environmental, economic and social impacts. However, in order to advance tourism planning, it is imperative that a comprehensive model be

developed. Considerable literature suggests that impacts of tourism on the human or natural environment can be determined.

Impact assessment methods

The literature on impact assessment and related topics (as compiled through a review of the last ten years of three prominent tourism journals) has revealed numerous methods for impact analysis. Tourism impacts have been typically grouped into three categories: economic, sociocultural and environmental (Bull 1991). However, literature that was retrieved for this review fell primarily into the areas of economic and social impacts. Analysts have concluded that economic impacts are generally perceived as positive while social and environmental as negative (Getz 1994; Lankford and Howard 1994). This paper reviews methods that fall into economic and social impact assessment and overview the contingent valuation method that can be used for both social and environmental impact assessment.

Economic Impact Assessment -- Input-Output Model

Numerous authors discuss the use of input-output models for assessing economic impacts of tourism (Briassoulis 1991; Wagner 1997; Johnson, Obermiller and Radtke 1989; Zhou, Yanagida, Charkravorty and Leung 1996; Fletcher 1989; Fleming and Toepper 1990, Fesenmaier et al 1989). Input-output techniques provide data on employment, personal income and tax receipts and analysis can be extended to type of accommodations, season, and type of trip. It is designed to use secondary data on expenditures, payroll, employment, and taxes collected by government and industry

sources at the national, state and local levels with state specific data on trip patterns from national surveys (Frechtling 1987).

Fletcher (1989) suggests that input-output models have several advantages to other analysis methods. First it is a general equilibrium approach that will provide policy makers with a comprehensive view of the economy. Second, it focuses attention upon the sectoral interdependences which exist in the economy. Third, the flexibility of the input-output structure enables the researcher to construct a model to suit the situation being assessed. Fourth, the very nature of input-output analysis makes the technique “policy neutral”. Each sector is treated in a uniform manner and the only value judgements, that are encountered at the framework stage, concerns the aggregation specifications. A final benefit of the development of input-output models is an improvement in the level and quality of data available for the economy in general, and for the national accounts in particular.

Input-output analysis does, however, have limitations. West (1993) points out that the two major drawbacks are its static and linearity assumptions. Briassoulis (1991) provides a thorough treatment of the weaknesses of input-output analysis with considerable discussion of methodological issues. She categorizes these issues into substantive, aggregation, structural change and prediction, and intangible impacts. In her article she sheds a critical light on the methodological limitations of input-output analysis; however, she also points out that with further development they can be alleviated. Finally, she suggests that an advanced input-output model can be used reliably and usefully for tourism planning and development (Briassoulis 1991).

It is not clear from the literature whether these limitations have been dealt with through the continued development of input-output models. In any case, these models are still being used to conduct impact assessments. Various researchers have utilized the IMPLAN model, an integrated modeling software developed for the U.S. Forest Service by the University of Minnesota, to conduct tourism research (Johnson and Moore 1993; Laughland and Caudill 1997). Laughland and Caudill (1997) used IMPLAN to determine the economic benefits of National Wildlife Refuge Visitation on local communities. IMPLAN relies on regional information to modify a standard input-output framework of the U.S., developed by the Department of Commerce, Bureau of Economic Analysis, to describe local conditions (Laughland and Caudill 1997).

Social Impact Assessment

Articles in the tourism literature addressing social issues appear to focus on residents' perceptions of tourism impacts (Johnson, Snepenger and Akis 1994; Wall 1996; Lindberg and Johnson 1997; King, Pizam and Milman 1993; Dogan 1989). Various techniques have been employed to conduct social impact assessment, however, no definitive models were revealed during this review. One common practice in all of the articles was the use of some form of interview or survey.

Numerous and various examples of survey methodology are available in the tourism literature. Rather than reviewing a series of techniques this section is organized around a discussion of important considerations for developing a social impact assessment methodology. These considerations are framed in the context of

the Lower Rio Grande Valley where this paper, as preliminary research, will be applied. This discussion intentionally avoids delving into sampling methods, specific survey question construction and other quantitative concerns due to limited space and since those issues will be dealt with later in this research process.

As suggested by Eubanks (1998) economic or environmental assessment must be placed in the context of where the research is being conducted. This identifies some critical factors that need to be considered regarding the social context where one is conducting a tourism impact assessment. This may especially be the case in the Lower Rio Grande Valley (LRGV). It is beyond the scope of this paper to describe the LRGV in detail; however, it is well known that incomes in the area are low and there are high levels of illiteracy.

Since the LRGV area is primarily Hispanic it will be necessary to have interviewers be bilingual. King et al (1993) conducted exploratory research on tourism in Fiji and used university students who spoke English and Figian to minimize language difficulties for respondents. Also, since illiteracy is high in the LRGV, the survey instrument should be developed with a fairly low sophistication level in order to avoid spurious effects on survey results.

Wall (1996) conducted cross-sectional research in Bali. Villagers that were interviews included:

“prominent local individuals such as governmental and religious leaders, school teachers, health workers, and leaders of the women and youth groups; three and four, 30 interviews of a sample of villagers evenly divided by gender and interviews of grade five and six

schoolchildren were undertaken; and five, systematic observation—field workers were requested to keep a diary, to participate in village activities, and to record and discuss their observations” (Wall 1996, 129).

This research reveals the necessity to integrate both quantitative and qualitative techniques. Qualitative research in sociology is a credible technique which is highlighted in a quote by Collins (1984) “much of the best work in sociology has been carried out using qualitative methods and without statistical tests” (as cited in Cohen 1988).

Johnson et al (1994) utilized a longitudinal research design over a six-year period. They conducted longitudinal research using two secondary and one primary data source. The authors identified secondary indicators of tourism development sentiment in a 1986 bond levy vote, a 1989 tax levy vote and a 1991 survey of local community residents. Primary data was collected with a survey of residents in 1991 using a 5-point Likert scale for five items of three areas identified by the researchers.

The above discussion highlights important considerations for the development of methods to conduct social impact assessment research, with specific concern for the LRGV. These can be summarized as follows:

- 1) Use Hispanic/bilingual individuals to conduct interviews
- 2) Develop a survey instrument that is designed to meet the educational level of the local population
- 3) Combine qualitative and quantitative methods
- 4) Utilize both primary and secondary data sets

- 5) Conduct longitudinal research if data is available

Contingent Valuation

One methodology that can be used to assess both social and environmental impacts is contingent valuation (CV). This method is a means by which social impacts can be given an economic value. Insufficient assessments of the social impacts of tourism are common because economic benefits and costs often dominate decisions for tourism development (Choy 1991). The impact of this can be substantial because economic values of non-economic impacts tend to be negative. Therefore their exclusion leads to an over estimation of the net social benefits of tourism development (Lindberg and Johnson 1996, 90).

CV presents a hypothetical market to consumers. One measure that has been developed is willingness-to-pay (WTP). Basically as described by Lindberg and Johnson (1996):

If the move from Condition A to Condition B involves an increase in the number of tourists, the resulting increase in actual social impact will overall, likely affect resident social welfare negatively. Therefore, there likely will be a decrease in economic value resulting from social impacts associated with this change in condition (conversely, there likely will be an increase in economic value resulting from economic impacts associated with change). One measure of this decrease in value is WTP to return to Condition A (p. 93)

CV is questioned on whether it generates valid WTP estimates. However, it is widely accepted as a starting point for estimating WTP for non-market goods, provided rigorous survey research methods are followed and certain CV-specific methodological standards are met (Lindberg and Johnson 1996, 93). These standards

are outlined in Arrow et al (1993). As pointed out by Lindberg and Johnson (1996), most criticisms focus on the researcher asking questions about abstract and unfamiliar goods such as preservation and bio-diversity. Lindberg and Johnson (1996) conduct their analysis using programs that have historically been provided by government agencies.

An important consideration of CV research is to estimate a value of a “good” independent of the manner for which it is paid. Lindberg and Johnson (1996, 101) developed two models for their research. The first is the “policy” model that reflects the value of the mitigation program (i.e., the reduction in congestion and the method for achieving the reduction). The second model is for the “commodity”, which reflects the value of the reduction in negative impacts independent of how it is achieved. The policy model includes all values developed from research questions while the commodity model isolates certain values independently.

One recent application of CV was conducted to assess the economic impact of wildlife watching near the Platte River in Nebraska (Eubanks, Ditton and Stoll 1998). In this study the researchers used a WTP measure to represent the interviewees wanting to “avoid the loss of the current or status quo situation”. Variations on a theme to protect more or less species diversity off of the basic scenario provided the choices made in the survey process (Eubanks, Ditton and Stoll 1998, 46). This technique suggests a specific applicability that could be used in the LRGV given that one of the major and growing tourist attractions is birdwatching.

CV appears to be a method that provides similar economic metrics for both social and environmental impacts (Lindberg and Johnson 1996, 111). By measuring

some of these impacts in economic terms the analyst can provide this information to policy makers (Freeman, 1993). Furthermore, these values can also be incorporated by policy-makers to determine tourism's overall desirability (Dwyer and Forsyth 1993).

Conclusion

This paper has provided an overview of the topic of tourism impact assessment with specific discussion of particular methods for conducting assessment in the area of economic and social considerations. It is apparent that bringing these areas of concern together into a single impact assessment methodology is not a common practice. However, the necessity of developing this comprehensive means is imperative. More and more we see tourism (especially nature tourism) being promoted as a viable economic development tool with little understanding of its impacts to human or natural environments. In order for tourism researchers, developers and planners to promote tourism with confidence, a clear understanding of its impacts economically, socially and environmentally will be necessary.

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