



# Local residents' perceptions of the impacts of the ICC Cricket World Cup 2007 on Barbados: Comparisons of pre- and post-games

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## ARTICLE INFO

### Article history:

Received 17 December 2008

Accepted 9 March 2010

### Keywords:

Sports mega-events

ICC Cricket World Cup 2007

Barbados

Local residents' perceptions

## ABSTRACT

This study analysed Barbadians' perceptions of the impacts on Barbados of jointly hosting the International Cricket Council Cricket World Cup 2007. The aim was to investigate the pre- and post-perceptions of Barbadian residents on the impacts (direct and indirect) of hosting the ICC CWC 2007. Statistically significant differences between pre- and post-games perceptions were found for all seven factors: benefits of cultural exchange, social problems, economic benefits, natural resource and cultural development, traffic congestion and pollution, price increases, and construction costs. While pre-games expectations were that the costs of hosting CWC 2007 would outweigh the benefits, after the games Barbadians perceived that the benefits had outweighed the costs. Within this context, it is recommended that there be a greater level of engagement with local residents prior to hosting a mega-event, to maximise benefits, minimise costs, and ensure successful outcomes.

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## 1. Introduction

Over 47 days in March and April, 2007, the International Cricket Council (ICC) Cricket World Cup (CWC) was hosted by eight islands in the Caribbean. Including warm-up games, the islands which hosted matches were: Antigua and Barbuda, Barbados, Grenada, Guyana, Jamaica, St. Lucia, St. Kitts and Nevis and Trinidad and Tobago. In total, 16 teams participated in the CWC which consisted of 67 matches (16 warm-ups and 51 official matches). It was anticipated that approximately 100,000 unique visitors (persons travelling to the region whose main intention was to attend ICC CWC 2007 matches) would have visited the Caribbean (ICC Cricket World Cup West Indies, 2006).

To host CWC matches and the expected influx of visitors, the host islands spent millions on new construction or major renovation of state-of-the-art stadia (five new stadia were constructed and seven upgraded) and on major infrastructural and super-structural development and re-development (for example, roads, accommodation, technology, tourism information centres and other tourist facilities). Millions more were spent on ensuring the security of the 16 teams, visitors to the region and residents. Overall, it was

estimated that at least US\$250 million was spent on stadia alone across the region, with regional expenditure on infrastructure and technology, doubling that figure (ICC Cricket World Cup West Indies, 2006).

Given the sheer scale of CWC 2007, the scope of the current research focuses on Barbados. Barbados hosted seven official matches, including the final, selling approximately 150,000 tickets in all,<sup>2</sup> or 22 percent of the 672,000 tickets—a CWC record—sold across the Caribbean. Audited figures after the games indicated that gate receipts for the eight countries which hosted matches were USD \$31.4 million (another CWC record), of which Barbados received the largest share, USD \$12.4 million. It was believed that two billion people around the globe watched the games, giving Barbados international exposure worth about USD \$225 million, according to estimates from the Barbados Tourism Authority (BTA).

Notwithstanding the excitement and pride of Barbadian residents about hosting an event of such a large magnitude, prior to the games there were many grave concerns expressed about the large sums of money that were spent by the Government of Barbados (GOB) to jointly host ICC CWC 2007. It was estimated that BBD \$300 million (BBD \$2 = USD \$1) was spent on rebuilding Kensington Oval (the stadium where official matches were contested in Barbados), with the GOB investing approximately BBD \$159.4 million of that

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<sup>2</sup> Three warm-up matches were also played in Barbados at another venue, the Three Ws Oval, but figures are unavailable.

amount (approximately 2.5 percent of Barbados' GDP in 2006). Anecdotal evidence, such as letters written to newspapers and opinions on internet blogs, suggested that many residents perceived there would be limited returns to the country, and little to no trickle-down effect. Many residents also felt that the money that was spent could have been put to better uses.

It has long been recognised that local community support is important for the sustainability of tourism development (Murphy, 1985). Indeed, event planners and entrepreneurs have realised that the views of the host community are vital for both the short and long-term success of their ventures (Williams & Lawson, 2001). Therefore, it is worthwhile for planners to assess the opinions of residents (Hernandez, Cohen, & Garcia, 1996).

Several researchers have investigated the determinants that influence local residents' perceptions of the impacts that could result from large-scale events or developments in their communities. Sociocultural impacts (Brunt & Courtney, 1999); sociodemographics (Williams & Lawson, 2001); and culture (Besculides, Lee, & McCormick, 2002), are some of the factors that have been examined. Because both positive and negative impacts are likely to result, large-scale ventures should be undertaken through local enterprise and consistent with the values of host communities (Duffield & Long, 1981). Yet, community involvement in the planning, decision-making and management of projects tends to be very limited, particularly in developing countries (Gursoy & Kendall, 2006; Teye, Sönmez, & Sirakaya, 2002).

No research has ever been conducted regarding the perceptions of Barbadian residents to hosting mega-events as such events are new to Barbados. Indeed, most research on mega-events has been conducted on developed countries, where most mega-events have taken place. Against this background, the current study seeks to investigate the perceptions of Barbadian residents towards (jointly) hosting the ICC CWC 2007. The objectives are to: investigate the pre- and post-perceptions of Barbadian residents on the impacts (direct and indirect) of hosting the ICC CWC 2007; compare and contrast residents' perceptions between the two time periods; and provide recommendations which could assist local planners in the future management of mega-events or other major developments.

## 2. Literature review

### 2.1. Events

Bowdin, McDonnell, Allen, and O'Toole (2002) suggest that events are often classified according to their size and scale. In particular, international sporting events can be classified as hallmark events (Ritchie, 1984) or mega-events (Jafari, 1988). Ritchie (1984, p. 2) describes hallmark events as "major one-time or recurring events of limited duration" and also notes that "such events rely for their success on uniqueness, status, or timely significance". Examples of such events include Notting Hill Carnival, the Grand National at Aintree, and the FA Cup Final in the United Kingdom, all of which have brought increased international recognition, tourist revenue, and local pride to the host country.

Mega-events, on the other hand, are one-time events that exist on an international scale (Jago & Shaw, 1998). These events are major (mega) in size in terms of attendance, target market (which largely represents the international tourism market), level of financial involvement from the public, and construction of facilities; and they have the potential to generate tremendous tourism, media coverage, recognition, and economic benefits for the host country (Bowdin et al., 2002; Chalip, 2007; Hall, 1997). Examples of mega-events include the Olympic Games, FIFA World Cup, IAAF World Championships, and the ICC Cricket World Cup.

Mega-events and hallmark events also differ in relation to size, appeal, and significance. As a consequence, both types of events are likely to produce different impacts or outcomes for host communities (Kim & Chalip, 2004). For example, Crompton (2000) examined the economic impacts of mega-events in terms of sales, personal income, and employment and found that such events are indeed effective in generating the needed economic benefits for host countries. In a similar vein, Jones (2001) considered the varied impacts of mega-events, socially and economically. The author noted that there are a number of factors that affect how mega-events produce particular social and economic outcomes; these factors may include, but are not limited to, the nature of media coverage of the event, the perceived success of the event, and the structure of the event itself. Hence, the actual impacts that result, positive or negative, may not be as originally anticipated by residents.

The current research recognises the diverse impacts that can result in host communities from mega-events, including an overall enhanced destination image (Etchner & Ritchie, 1993; Jones, 2001). Destination image, as promoted by mega-events, is crucial for attracting visitors to a destination as well as increasing the likelihood of return. However, this study does not directly measure destination image as a perceived (or actual) outcome of the studied mega-event.

### 2.2. Perceived impacts of mega-events

Local residents' perceptions about the nature of mega-event impacts vary. Some may perceive that the event will have mainly positive impacts; others may perceive that mainly negative impacts will occur. To analyse the perceptions of residents, researchers usually draw on social exchange theory (Ap, 1990; Gursoy, Jurovski, & Uysal, 2002; Lindberg & Johnson, 1997).

According to social exchange theory, residents form their perceptions based on what they expect to occur. Basically, the theory posits that locals are likely to take part in an exchange if they believe that they the benefits from so doing will outweigh the costs, and will be inclined to support future development in their community (Allen, Hafer, Long, & Perdue, 1993). Residents' preconceptions are likely to be derived from their own knowledge, value system and experiences with similar events as the social representations theory suggests (Moscovici, 1982). These preconceptions interact with external information provided by local, regional and international media, and government agencies to shape initial perceptions of the event.

Prospect theory suggests that initial perceptions serve as a "reference point" for future reassessment (Kahneman & Tversky, 1979). Residents are also likely to re-evaluate the event after it has passed. If there is a disparity between pre- and post-event perception, residents modify their perceptions and consequently their attitudes towards hosting a mega-event in the future (Fredline & Faulkner, 2002). If outcomes fall below the reference point of residents, then the mega-event will generate negative perceptions; outcomes above the reference point of residents generate positive perceptions.

The positive and negative impacts of mega-events can be categorised according to the following areas: economics, tourism/commercial, physical, sociocultural, psychological and political (Ritchie, 1984). Although there is a huge monetary cost of hosting mega-events, there is always an intense competition for the opportunity to host such events because of the expected positive benefits. They have long-term positive consequences for cities and communities that stage them (Roche, 1994), such as growth in tourism (Kang & Perdue, 1994), opportunities for international publicity and recognition for the host community (Jeong & Faulkner, 1996), and improvement of the host community's way of life (Deccio & Baloglu, 2002; Goeldner & Long, 1987).

Several studies have highlighted the economic benefits in the form of tax revenues, employment, and additional sources of income (Deccio & Baloglu, 2002; Getz, 1997; Hall, 1989; Kang & Perdue, 1994; Long, Perdue, & Allen, 1990). Aside from economic benefits generated by visitor expenditure, mega-events may enhance awareness of the region as a domestic and/or international travel and tourism destination and also offer/create new opportunities for potential investors, which result in an increase of commercial activity within the host community (Ritchie, 1984).

Other impacts involve improved quality of residents' life (Deccio & Baloglu, 2002) and the international image of the host community (Jeong & Faulkner, 1996). Studies also suggest that there are significant positive perceptions regarding improvements in infrastructure and superstructure if these facilities are able to be used by residents after the event (Kim, Gursoy, & Lee, 2006; Ritchie & Aitken, 1984; Ritchie & Lyons, 1987). The support for mega-events by residents is higher if residents perceive tourism development as providing facilities or opportunities for recreational activities for the community (Allen et al., 1993; Kendall & Var, 1984). Finally, Deccio and Baloglu (2002) suggest that mega-events serve as vehicles for bringing attention to the preservation of the natural environment and local heritage sites.

Witt (1988) posits that benefits of mega-events may be offset by negative economic, ecological and socio-cultural impacts and this may result in opposition from local residents. As a result of hosting the event, there is likely to be price inflation because of the increased economic activity, driven primarily by construction of facilities required to host the event (Deccio & Baloglu, 2002). If there is any mismanagement or perceived mismanagement of public funds, this is likely to intensify the negative perceptions of hosting the mega-event (Deccio & Baloglu, 2002). Further, if the mega-event requires a large amount of government assistance and competes for manpower and/or local finance, negative perceptions are likely to be received from existing enterprises (Ritchie, 1984).

A mega-event is also likely to generate societal problems such as traffic congestion, law enforcement strain and increased crime (Mihalik & Cummings, 1995). There may be conflicts between the host community and visitors because of different standards of living, economic welfare, and purchasing power gaps (Tosun, 2002). The possibility also exists that hosting a mega-event may damage the image of the host community or make it acquire a poor reputation as a result of inadequate facilities or improper practices (Ritchie, 1984). Destruction of the physical and natural environment is another area of concern.

Apart from the social and economic benefits and costs, and cultural benefits, community backing for a mega-event is also likely to depend on the level of community concern, ecocentric values, the utilisation of the tourism resource base, community attachment, and the state of the local economy (Gursoy & Kendall, 2006; Gursoy & Rutherford, 2004). Support for an event and further tourism development was also likely to depend more on the perceived benefits rather than the perceived costs (Dyer, Gursoy, Sharma, & Carter, 2007; Gursoy & Kendall, 2006).

### 3. Methodology

#### 3.1. Population and selection of sample

The population of interest in this research is all residents in Barbados. Barbados is a small, developing country in the Eastern Caribbean with a geographic size of 166 square miles, and a population of approximately 282,000, making it one of the most densely populated countries in the world. The country is heavily dependent on its tourism sector, which is its largest source of foreign exchange.

A convenience sampling method was used to select participants for this study. Although convenience samples are generally unrepresentative of the larger population, these samples capture a good mixture of residents from rural and urban areas of the country. Random sampling procedures were not utilised because of the unavailability of adequate sampling frames.

#### 3.2. Instrument and data-collection procedures

The main data-collection instrument used was a tourism impact scale designed for mega-events. This scale was used in prior research (Kim et al., 2006). The scale comprises 19 Likert-scaled items (1 = strongly disagree to 5 = strongly agree) measuring residents' perceptions of various socio-cultural and economic impacts of the ICC CWC 2007 mega-event. This 19-item scale was used in the current research to allow for direct comparisons with the findings of Kim et al. (2006). The scale was a revised version of an initial tourism impact instrument which was theoretically derived from prior research concerning economic and socio-cultural impacts of large events on communities (Gursoy et al., 2002; Ritchie, 1984). Its inception and item content were based on the need to establish a tourism impact instrument particularly relevant for mega-events, and not for small community festivals (Kim et al., 2006). The factorial validity of scale was also examined in the same study by Kim et al. (2006), and it was found that the 19 items clustered under seven factors depicting distinct mega-event impacts.

In particular, the scale measured seven categories of perceptions covering various negative and positive impacts such as "benefits of cultural exchange" (4 items; for example, the ICC World Cup will result in more cultural exchange between tourists and residents); "natural resource and cultural development" (3 items, for example, the ICC World Cup provides an incentive for the restoration of historical buildings); "economic benefits" (3 items, for example, the ICC World Cup will create more jobs for your community); "social problems" (3 items, for example, the ICC World Cup will increase the crime rate); "traffic congestion and pollution" (2 items, for example, the ICC World Cup will result in greater pollution); "construction costs" (2 items, for example, the construction of the World Cup facilities costs too much); and "price increase" (2 items, for example, the ICC World Cup will increase the prices of goods and services).

There were two phases of data-collection: a pre-event survey and post-event survey. Questionnaires distributed in the pre-games phase sought to measure expected benefits and costs of the ICC World Cup (for example, the 2007 ICC World will increase the prices of goods and services), whereas those administered after the games sought to measure perceived benefits and costs of the said mega-event (for example, the 2007 ICC World increased the prices of goods and services). Data were collected 6 months prior to the cricket games (November–December, 2006) by the pre-event survey and 6 months after cricket the games (October–November, 2007) for the post-event survey. Hence, similar to Kim et al. (2006), two different samples (one from the pre-games, and the other from the post-games) were used in this study. This type of longitudinal approach has also been endorsed by prior researchers investigating attitudinal changes over time (Ritchie & Lyons, 1987; Ritchie & Smith, 1991). Kim et al. (2006) employed a 3-month lead and lag in their study; however, they concluded that this time lag may be insufficient because mega-events often have long-term effects on the host country (and rarely an immediate one). The six-month lead and lag adopted is consistent with these arguments (Ritchie & Aitken, 1985; Roche, 1994).

The pre-event survey was administered by trained research assistants. These assistants were instructed to visit various public

areas such as supermarkets, department stores, bus terminals, restaurants, and local parks in the urban and rural sections of the island in order to collect data from passersby. All respondents interviewed were informed about the nature and purpose of the study, and respondents completed the questionnaire onsite.

As stated before, convenience sampling was used. This method introduces selection bias in sampling. However, in order to address this problem, the research assistants were instructed to capture equal numbers of males and female respondents in different age groups (consistent with Kim et al., 2006). The post-event survey was conducted by the identical research assistants in the pre-event survey. Similarly, the data-collection sites visited and the method of data-collection employed were the same as in the pre-event survey.

### 3.3. Design and data analysis procedures

Confirmatory factor analyses (CFA) were used to examine the adequacy of the measurement tool (those items measuring residents' perceptions) used in the study. Exploratory factor analyses (EFA) were already used to explore the underlying structure of the measurement tool in prior research (see Kim et al., 2006). The prior EFA results revealed a seven factor solution underlying resident perceptions: "benefits of cultural exchange", "social problems", "economic benefits", "natural resource and cultural development", "traffic congestion and pollution", "price increases", and "construction costs". In the current study, this seven factor solution was tested using CFA to obtain more conclusive evidence regarding the construct validity and measurement adequacy of the tool being used for this study.

In order to compare pre- and post-event perceptions of residents, one-way MANOVAs were conducted to examine changes in perceptions. The mega-event (that is, the CWC) was treated as the independent variable, and the seven factors measuring resident perceptions were treated as the dependent variables. A series of ANOVAs were used to follow-up significant MANOVA results.

## 4. Results

### 4.1. Demographic profile of respondents

The researchers intended to obtain 1000 respondents each for the pre-event and post-event periods. Ultimately, 1992 useable responses (993 before and 999 after the cricket games) were obtained for the study, a 99.3% response rate in the pre-event section, and a 99.9% response rate in the post-event section.

Table 1 provides a summary of the demographic profile of the sample, which is divided into "before" and "after" the cricket games. There were 1024 (52%) males and 955 (48%) females in the total sample. Notwithstanding the convenient sample used, these proportions closely mirrored those reported in the most recent census of Barbados—2000—found in the population (49% male and 51% female). The participants' ages ranged from 16 to 87 years with an average age of 33 years. Percentages in different age categories, except for those in the 20–29 (oversampled) and 60 years and over (under-sampled) age groups, were consistent with the population distribution based on the 2000 census. It is also worthy to mention that, there was a plurality of respondents in the 20–29 age group. This result appears to indicate a stronger interest by younger persons in the population regarding the CWC event in the country. It also explains why the plurality of respondents was college students. Specifically, 49% of respondents reported their highest level of education at the college/university level, followed by the secondary level (41%); 129 reported having a postgraduate degree (7%), and 54 reported having only primary education (3%). In terms

**Table 1**  
Respondents' demographic profile.

	Before the Games		After the Games		Total
	(n = 993)		(n = 999)		
	Frequency	%	Frequency	%	
Gender					
• Male	504	51	520	53	1024
• Female	489	49	468	47	957
Age group					
• 15–19 years	58	8	99	10	157
• 20–29 years	357	38	443	45	800
• 30–44 years	211	30	191	29	402
• 45–59 years	152	19	153	13	305
• 60 years and over	48	5	33	3	81
Educational level					
• Primary	39	4	15	2	54
• Secondary	448	45	365	36	813
• College/University	434	44	535	55	969
• Graduate/postgraduate	64	7	65	7	129
Marital status					
• Single	690	70	703	72	1393
• Married	253	26	235	24	488
• Divorced	46	4	33	4	79

of marital status, 1393 respondents indicated they were single (71%), 488 were married (25%), and 79 were divorced (4%).

### 4.2. Confirmatory factor analysis of perceptions scale

As mentioned previously, a 19-item perceptions scale was used in the current study. EFAs were already conducted to develop and validate this scale in a previous study (see Kim et al., 2006). In this paper, it was necessary to test the factorial structure (validity) of this scale using CFAs. It has been argued that results from EFA provide only initial evidence of factorial validity of a scale, whereas CFA results provide more stronger and conclusive evidence for this type of validity in scale development (Meyers, Gamst, & Guarino, 2006). CFA usually follows EFA when developing and validating quantitative scales. CFAs were conducted using the pre-games and post-games data to examine the model fit for the seven-factor structure of the scale.

Table 2 shows the means and standard deviations for the pre- and post-event samples, while Table 3 shows the correlation matrix of all items used in the CFA.

CFA results for both periods are shown in Table 4. The results indicate reasonably strong support for the seven-factor model, identified by Kim et al. (2006), for both periods,  $\chi^2(134) = 474.7$ ,  $p < .001$ ; RMSEA = .04; CFI = .91; NFI = .90 for period 1 (pre-games), and  $\chi^2(132) = 581.1$ ,  $p < .001$ ; RMSEA = .05; CFI = .91; NFI = .90 for period 2 (post-games). All items loaded significantly under their respective factor, demonstrating the good convergent validity of the scale. Hence, this seven-factor model of perceptions was deemed appropriate for our study.

### 4.3. Barbadians' perceptions before and after the cricket games

MANOVA results revealed a significant change in Barbadians' perceptions of pre- and post-games impacts (Wilks' lambda = .79,  $F = 75.64$ ,  $p < .001$ ). Separate ANOVAs were conducted to further examine differences in perceptions on the seven factors. Statistically significant differences between pre- and post-games perceptions were found for all seven factors (see Table 5). Expected benefits (that is, cultural exchange, economic benefits, and natural resource and cultural development) had significantly higher mean



**Table 2**

Mean scores and standard deviations of items (pre- and post-event).

	Pre-event		Post-event	
	M	SD	M	SD
1. Result in more cultural exchange between tourists and residents	3.34	1.16	3.32	1.17
2. Increase the crime rate	2.63	1.15	2.74	1.12
3. Attract more investment to your community	3.41	1.15	3.37	1.16
4. Result in greater pollution	3.29	1.15	3.46	1.12
5. Increase the prices of real estate	3.53	2.08	3.52	1.10
6. Create a positive impact on the cultural identity of your community	3.16	1.09	3.21	1.02
7. Encourage development of a variety of cultural activities by the local residents	3.21	1.10	3.23	1.06
8. Lead to a better understanding of other cultures and societies	3.20	1.09	3.17	1.05
9. Lead to more vandalism in the community	2.45	1.05	2.55	1.02
10. Lead to prostitution in the community	3.11	1.25	3.11	1.19
11. Create more jobs for your community	3.48	1.10	3.44	1.14
12. Provide more business for local people and small businesses	3.58	1.11	3.58	1.10
13. Provide an incentive for the conservation of natural resources	3.06	1.11	3.05	1.08
14. Provide an incentive for the preservation of local culture	3.33	1.04	3.34	1.93
15. Provide an incentive for the restoration of historical buildings	3.49	1.04	3.42	1.04
16. Result in traffic congestion	4.08	1.07	4.13	1.07
17. Increase the prices of goods and services	3.84	1.01	3.89	1.03
18. Lead to a waste of taxpayers' money on the construction of public facilities for visitors	2.74	1.33	2.92	1.34
19. Lead to a waste of money on construction of World Cup facilities	2.74	1.33	2.85	1.31

scores than *perceived* benefits, indicating that Barbadians initially had high expectations about the benefits of the ICC World cup event to their country, but these ultimately were not met. *Expected* benefits that were ranked highly prior to the games were “economic benefits” ( $M = 3.52$ ), followed by “benefits of cultural exchange” ( $M = 3.36$ ) and “natural resource and cultural development” ( $M = 3.32$ ). The *perceived* benefits that were ranked highly after the games were “economic benefits” ( $M = 3.43$ ), followed by “natural resource and cultural development” ( $M = 3.24$ ) and “benefits of cultural exchange” ( $M = 3.10$ ). The biggest difference between pre- and post-perceptions of positive impacts was found for “benefits of cultural exchange”.

In terms of negative impacts, the highly ranked expected problems before the games were “traffic congestion and pollution” ( $M = 3.99$ ) followed by “price increase” ( $M = 3.77$ ) and “social problems” ( $M = 3.12$ ). “Construction costs” ( $M = 3.05$ ) were ranked the lowest relative to the other expected problems, albeit slightly above the midpoint. Highly perceived problems were “price increase” ( $M = 3.62$ ) and “traffic congestion and pollution” ( $M = 3.49$ ). Construction costs ( $M = 2.63$ ) and social problems ( $M = 2.41$ ) were ranked the lowest. Hence, residents, after the games, did not perceive that the games led to higher construction costs and more social problems. All pre-game perceptions of negative impacts had higher mean scores than those after the games, indicating that negative consequences as a result of the event (including price increases, construction costs, traffic congestion and pollution, and social problems) did not materialise to the extent which residents had expected prior to the event. The biggest difference in perceived negative impacts between pre- and post-games, was found for “social problems”.

To form two overall perceptual factors, perceived benefits and perceived costs, the individual factors measuring perceptions of positive impacts (benefits of cultural exchange, economic benefits, and natural resource and cultural development), and perceptions of negative impacts (social problems, traffic congestion and pollution, construction costs, price increases) were aggregated respectively. These perceptions were compared for both pre-games and post-games phases. Based on paired samples *t*-tests, residents had significantly higher negative perceptions (expected costs) than positive perceptions (expected benefits) before the games. In contrast, overall perceptions of positive impacts were significantly higher than overall perceptions of negative impacts after the games (see Table 6). To further support this finding, an independent samples *t*-test was conducted to examine whether Barbadians in the pre- and post-event samples perceived that there would be net benefits from the hosting of CWC 2007 based on a summative statement included in the questionnaire (In general, CWC will (would) be of net benefit to Barbados). The results revealed that there was a statistically significant difference ( $t = 6.02$ ,  $df = 1990$ ,  $p < .001$ ). Barbadians in the post-event sample ( $M = 3.34$ ) reported stronger agreement that CWC 2007 was of net benefit to Barbados, compared to those in pre-event sample ( $M = 3.01$ ).

## 5. Discussion

This study found that Barbadians' pre-games perceptions of the positive and negative impacts significantly changed after the games. These findings were consistent with that of prior research into the perceptions of residents' to hosting mega-events (Kim et al., 2006; Mihalik, 2000).

**Table 3**

Correlation matrix of latent factors.

	Benefits of cultural exchange	Social problems	Economic benefits	Natural resource and cultural development	Traffic congestion and pollution	Price increase	Construction costs
Benefits of cultural exchange	1.00						
Social problems	.07***	1.00					
Economic benefits	.57***	.04*	1.00				
Natural resource and cultural development	.49***	.01	.44***	1.00			
Traffic congestion and pollution	.10***	.40***	.19***	.10***	1.00		
Price increase	.06**	.26***	.10***	.08***	.35***	1.00	
Construction costs	-.27***	.33***	-.31***	-.19***	.12***	.12***	1.00

Note: \* $p < .05$ ; \*\* $p < .01$ ; and \*\*\* $p < .001$ .

**Table 4**  
Confirmatory Factor Analysis Results of Scale (before and after Games).

Scale factors	CFA loadings for before games	CFA loadings for after games
Benefits of cultural exchange		
• Result in more cultural exchange between tourists and residents.	.52***	.64***
• Create positive impact on the cultural identity.	.63***	.54***
• Encourage development of a variety of cultural activities by the local residents.	.66***	.69***
• Better understand other cultures and societies	.61***	.64***
Social problems		
• Lead to more vandalism in the community	.66***	.70***
• Increase the crime rate	.70***	.55***
• Lead to prostitution in the community	.54***	.61***
Economic benefits		
• Attract more investment to your community	.54***	.63***
• Create more jobs for the community	.62***	.72***
• Provide more business for local people and small businesses	.54***	.81***
Natural resource and cultural development		
• Provide an incentive for the conservation of natural resources	.53***	.82***
• Provide an incentive for the preservation of local culture	.75***	.39***
• Provide an incentive for the restoration of historical buildings	.57***	.46***
Traffic congestion and pollution		
• Result in traffic congestion	.23**	.72***
• Result in greater pollution	.94***	.54***
Price increase		
• Increase the prices of real estate	.20**	.63***
• Increase the prices of goods and services	.90***	.64***
Construction costs		
• Construction of public facilities for visitors wastes taxpayers' money	.77***	.86***
• Construction of World Cup facilities costs too much	.93***	.88***
Model fit results (before games)		Model fit results (after games)
$\chi^2(134) = 474.7$ ; $p < .001$		$\chi^2(132) = 581.1$ ; $p < .001$
RMSEA = .04		RMSEA = .05
CFI = .91		CFI = .91
NFI = .90		NFI = .90

Note: \* $p < .05$ ; \*\* $p < .01$ ; and \*\*\* $p < .001$ .

In terms of residents' pre-games perceptions of the positive impacts, expectations of the economic benefits, benefits of cultural exchange, and natural resources and cultural development benefits were relatively high. One explanation for this finding might be that mega-events are viewed as world-class, unique events and as a result Barbadians may have perceived that the benefits to be received from being a host would be worth the costs incurred (Gursoy & Kendall, 2006). Post-games perceptions of the benefits were lower than their pre-games perceptions, corroborating the findings of previous research (Kim et al., 2006; Mihalik, 2000). However, the study also found that the gaps between Barbadians'

pre- and post-games perceptions of economic, and natural resources and cultural development benefits were quite small, suggesting that actual positive impacts may have fallen reasonably in line with residents' pre-games perceptions.

In line with pre-event expectations, post-event perceptions suggest that CWC 2007 appeared to generate more economic benefits than cultural and other positive benefits in Barbados, consistent with findings by Perdue, Long, and Allen (1987), Jurowski, Uysal, and Williams (1997), Tosun (2002), and Dyer et al. (2007). This may be due to the fact that six of the seven matches held in Barbados were in the "Super Eight" or knockout phase of the tournament, while the seventh match was the final. As such, these matches generated more excitement and attracted more visitors to the island which resulted in more conspicuous spending on event-related goods and services. An alternative explanation is that during the event a lot of money was generated over a short space of time and its effects were easier to observe than

**Table 5**  
Means and ANOVA results of pre- and post-games perceptions.

Factors	Mean		Mean Diff.	F-test	p
	Before	After			
Positive impacts					
• Economic benefits	3.52	3.43	.09	5.08*	.024
• Benefits of cultural exchange	3.36	3.10	.26	51.96***	.000
• Natural resource and cultural development	3.32	3.24	.08	4.14*	.042
Negative impacts					
• Traffic congestion and pollution	3.99	3.49	.50	181.35***	.000
• Price increase	3.77	3.62	.15	9.28**	.002
• Social problems	3.12	2.41	.71	380.10***	.000
• Construction costs	3.05	2.63	.42	55.65***	.000

Notes: All items were assessed on a 5-point scale (1 = strongly disagree; 5 = strongly agree).

\* $p < .05$ ; \*\* $p < .01$ ; and \*\*\* $p < .001$ .

**Table 6**  
Comparisons of overall positive and negative perceptions (pre- and post-games).

	Mean	t-test	p
Before the games			
• Overall Positive Perceptions	3.40	2.70**	.007
• Overall Negative Perceptions	3.48		
After the games			
• Overall Positive Perceptions	3.26	6.86***	.001
• Overall Negative Perceptions	3.03		

Note: \* $p < .05$ ; \*\* $p < .01$ ; and \*\*\* $p < .001$ .

other benefits. Benefits from cultural exchange were limited due to the short duration of visitors' stay and small amount of contact with residents. Moreover, as any benefits from natural resource and cultural development would arguably take longer to manifest, these types of benefits were less likely to be perceived by residents only six months after the games.

With regard to Barbadians' perceptions of the negative impacts of hosting the CWC 2007, traffic congestion and pollution were expected to have the largest negative impacts. Post-games perceptions suggest that actual congestion and pollution were less than originally feared. Although Barbadians post-games perceptions of a rise in prices indicate that prices did not rise to the magnitude anticipated pre-games, a rise in prices as a result of the CWC was perceived as the most negative impact after the games (traffic congestion and pollution fell to the second in the ranking of negative impacts). As indicated earlier, our findings revealed gap scores for negative impacts that were very large and positive suggesting that the games were held without creating any major negative economic, societal and cultural impacts and is consistent with that of prior research (Kim et al., 2006), a positive outcome for CWC 2007.

When analysing the picture on the whole, prior to the games, Barbadians had higher overall expectations of negative impacts than they had of positive impacts. After the games, the reverse was observed; that is, residents' overall perceptions of positive impacts from the games were higher than their perceived negative impacts from the games. This disparity between pre- and post-games perceptions is consistent with prospect theory (Fredline & Faulkner, 2002; Kahneman & Tversky, 1979). Before the games, Barbadians held the perception that the games would not result in a net benefit for the country. After the games, Barbadians adjusted their pre-games perceptions of the impacts. Even though post-games perceptions of the benefits and costs were both lower than residents originally expected, perceived benefits were significantly greater than perceived costs.

The results also show that residents' perceptions of the positive impacts improved relative to their perceptions of the negative impacts after the mega-event. Previous studies (Kim et al., 2006; Mihalik, 2000) have also uncovered a temporal effect in residents' perceptions of the impacts of mega-events. Exchanges that occur before, during and after the event may have some bearing on these changes in perception (Gursoy & Kendall, 2006). Unlike Mihalik (2000) and Kim et al. (2006), however, who found that locals became increasingly concerned about the negative impacts as time passed, our study indicated that Barbadian residents concerns about the negative impacts diminished after the mega-event. It is, however, possible that sufficient time may not have passed for our post-event survey to get a truer reading of residents' opinions in this regard. The effect of time on residents' opinions of the CWC 2007 will certainly be a subject of future research.

The findings from this research hold the potential for assisting local tourism planners, the political directorate and others to better understand how residents perceive the impacts of mega-events and other large-scale developments, and how their perceptions influence residents' support/opposition for such events to be hosted in their communities. More specifically, the information provided from this study indicates that planners or managers of future international mega-events need to build local support for future large-scale ventures. One such method would be the approach which combines participatory democracy and technical rationality in the planning process (Jafari, 1990). As mega-events in Barbados are likely to be financed with public rather than private funds, an increase of local involvement will be necessary to finance the necessary infrastructure (Mihalik, 2000). The political leadership should also solicit the inputs from the public in general, and

the communities that will be most directly affected in particular by any developments, prior to hosting a mega-event (French & Disher, 1997). This is likely to result in a broad public consensus over how to maximise benefits and minimise costs (Gursoy & Kendall, 2006).

### 5.1. Limitations and future research

The current study used convenience sampling, rather than a probability sampling technique, and as a consequence there is the likelihood that the feelings and opinions of all groups of society were not proportionately represented. This limits the generalisability of findings from the study. Future research might consider the use of other data-collection methods such as telephone surveys that would allow researchers to employ probability sampling methods.

Collecting pre- and post-data only once with a 6-month lead and lag is another limitation of this study. As the effects of mega-events are often long-term (Mihalik & Cummings, 1995), using a 6-month interval to measure changing views on perceived impacts might not have been sufficient. The need for regular research and analysis has long been encouraged, given the vast potential for host community involvement and development, global media awareness, and future tourism enhancement (Hall, 1989; Mihalik & Simonetta, 1999; Ritchie, 1984; Ritchie & Aitken, 1984, 1985; Ritchie & Lyons, 1987). Further, there has been a call for greater longitudinal research on different aspects of leisure studies (Crawford, Godbey, & Crouter, 1986; McGuire, Dottavio, & O'Leary, 1987). More accurate and useful information is likely to be provided from regular assessment of residents' perceptions from the moment the decision is made to host the event until some period after the event. The cumulative information from such regular assessment may provide information that offers greater insight to planners, entrepreneurs and governments because it would be more likely to direct them towards factors which fall under their control and which can be managed to influence the success of future events.

Another limitation of the research is the fact that the study focused on a select number of perceived negative and positive impacts of the mega-event. Although this approach examined multidimensional impacts (for example, cultural, economic, social), the research may be limited in terms of its failure to examine other impacts and outcomes outside of the chosen impacts investigated in this research. One such outcome is destination image. Indeed, future research should seek to examine the impact of mega-events on overall destination image, as this variable is a good predictor of tourist attraction and revisits.

It is important to point out that residents' perceptions alone cannot provide a true reflection of the actual event impacts (for example, the economic and financial impacts) on several dimensions of the country. Future research on the impact of the CWC 2007 on Barbados should seek to use more objective metrics to assess the validity of the perceptions discovered in this study.

One final aspect not examined in this study is the level of involvement residents have in the planning process of hosting the event, and the level of involvement and participation of residents during the event itself. Future studies should examine these factors to assess their moderating effect on residents' perceptions.

## 6. Summary

This study analysed Barbadians' perceptions of the impacts on Barbados of jointly hosting the International Cricket Council Cricket World Cup 2007. The main objectives were to investigate the pre- and post-perceptions of Barbadian residents on the impacts (direct and indirect) of hosting the ICC CWC 2007; compare and contrast

residents' perceptions between the two time periods; and provide recommendations which could assist local planners in the future management of mega-events. Statistically significant differences between pre- and post-games perceptions were found for all seven factors: benefits of cultural exchange, social problems, economic benefits, natural resource and cultural development, traffic congestion and pollution, price increases, and construction costs. While pre-games expectations were that costs would outweigh the benefits, after the games, Barbadians felt that the benefits outweighed the costs. It is recommended that there be a greater level of engagement with local residents by event planners and the political directorate, prior to hosting a mega-event, to maximise benefits and minimise costs, and ensure successful outcomes.

## Acknowledgement

The authors are grateful to the School for Graduate Studies and Research, University of the West Indies, Cave Hill Campus, for a grant to undertake this study. We are grateful to three anonymous referees for their valuable insights and suggestions. All remaining errors are our own.

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