Anthropologist, 24(2): 652-656 (2016)
PRINT: ISSN 0972-0073 ONLINE: 2456-6802
DOI: 10.31901/24566802.2016/24.02.30

Environmental Sustainability for Future Generations (A Comparison of 2020's Candidate Cities)

Mehmet Demirel, Duygu Harmandar Demirel* and Utku Isik

School of Physical Education and Sports, Dumlupinar University, Kutahya, Turkey
**E-mail: duyguharmandar@gmail.com*

KEYWORDS Health. IOC. Natural. Olympic. Sources. Sustainable

ABSTRACT Impact of Games on the physical environment includes the building of new sport facilities, accommodation, changes in the outlook of the city, and transport links as well as industrial space. The IOC's environmental awareness initiatives simply followed the lead of society's shifting values towards environmental sustainability. Sustainable environment is emerging as an important factor which is capable of influencing sustainable games. Also, it emphasizes the importance of Olympic Games, carried out as much as possible without harming the environment and humanity, and without changing their natural habitats. The IOC's declaration that environmental protection has become the third dimension of the Olympic movement, alongsides sport and culture, is problematic; the IOC policy statements suggest that the IOC led in the development of environmental protection. The aim of this paper is to examine and compare IOC's perspective on environmental sustainability with Candidate Cities of Istanbul, Tokyo and Madrid, participating in the nomination process of 2020. According to IOC's evaluation report; all candidate countries should give great importance to sustainable environmental projects and these projects should be managed properly. Furthermore, these projects should identify and be very well adapted to the local community. This study reports that all the candidate countries' sustainable environmental projects were all found to be admirable, however, their existing infrastructure were also pointed out.

INTRODUCTION

Increasing number of studies have been carried out in recent years, which are out to look for answers to how possible it would be for the consumption of earth's resources to be consciously controlled. There seems to be a general consensus that the earth's resources and the environment are moving toward extinction limit as a result of human activities (Turner 2008). In this regard, universal efforts are increasing on daily basis, and a number of countries are obliged to take preventive measures towards environmental sustainability. Organizations like the United Nations, especially in the area of environment concern in the provision of social and economic justice, have attracted the attention of countries to the concept of sustainability and development, making it possible to define~~,~~ sustainability as the ability to resume ecological systems and other system~~s~~ functions, processes, and productivity in the future (Chapin et al. 1996).

The fallacious notion that equates technical with social progress, is inherent in many aspects of the Olympic movement, and has rendered the hosting of summer and winter festivals a rather expensive and grand scale operation (Wamsley and Heine 1996). In recent years, the Olympic Games have developed into one of the most significant mega-international sporting events (Roche 2000). Mega sporting events can be defined by their impacts and complexity in organization and delivery (Malfas et al. 2004). Obviously, the ability of the host city to accommodate the infrastructural requirements and to meet the arbitrarily determined social and political commitments is an important aspect of the Olympic bidding process. As such, cities adopt a cultural "angle" to guide their thematic efforts~~,~~ internationally~~,~~ in securing a bid to host the Games, while the construction of local and national identities remain~~s~~ fundamental to creation of public support for the process at home (Wamsley and Heine 1996).

However, it is surprising to note many of the venues created or modified for the Olympic Games end up not being used or are used sporadically without generating profits and many Olympic Parks remain largely empty and unused. These negative impacts raise the following questions:

1) How can a host city improve post-event usage of event-related facilities?
2) What strategy should a host city follow to facilitate post-event development in a more sustainable way? (Chen 2015)

The impact of the Games on the physical environment includes the building of new sport facilities, accommodation, changes in the outlook of the city, and transport links as well as industrial space. The IOC's environmental awareness initiatives simply followed the lead of society's shifting values towards environmental sustainability (Brown 1999). The aim of this paper therefore, is to examine and compare IOC's environmental perspective on sustainability with Candidate Cities of Istanbul, Tokyo and Madrid, participating in the nomination process of 2020.

MATERIAL AND METHODS

This study is a compilation of the findings which form the basis for the study of environmental sustainability and which were assessed by reviewing previous studies in the field, and by examining the bids of candidate countries (Tokyo, Istanbul, Madrid) for the 2020 Olympics.

Environmental Sustainability and Olympic Games

Olympic sports disciplines comprise of different types; which are either played individually or in teams, such as: land or water sports, indoors or outdoors, in nature or in the stadium and sometimes, are performed using animals or equipment. It is obvious that we cannot talk sustainability development unless the environment, local people and sport industries can successfully blend themselves with the sports organizations. In order to ensure a long time environmental compliance, and to enhance welfare of the people, we have to take advantage of sports organizations effective cooperation with the economic and socio-cultural events of their countries (IOC 2008). However, sustainable regeneration is not only promoted as a resolution to a story formulated in place-specific circumstances. It is also put forward as a major outcome of strategic work needed to respond to, and to overcome, the criticised and all too common journeys of Olympic Games developments from investment and design to waste and ruination. In this context, sustainable regeneration denotes the capacity for the left-over spaces and structures from the Games to be part-recycled, part-repurposed in a post-Olympic urban context, to produce what London's Olympic Candidate File claimed would be at once 'a legacy for sport', 'a legacy for the community' and 'a legacy for the environment'. Sustainable development stands therefore, for the resolution of an alternative 'development narrative of the 'white elephants' projects of other Olympic host cities where Olympic designs have failed to secure economically, socially or environmentally sustainable futures (Davis 2015).

Emphasis on environmental sustainability~~,~~ or "going green~~,~~" has become increasingly important in the planning, construction, and renovation of major development projects (Binstock et al. 2009). Concerns about climate change and increases in energy costs have contributed to heightened public awareness as well (Cheon and Urpelainen 2012). Overall, the case for green development seems to be gaining national and international acceptance, and the benefits of sustainable design and construction are garnering more attention (Barton and Tsourou 2000; Brawley 2006).

Candidate Cities Environmental Sustainability Approaches

The bid for Olympics was a highly evet-oriented process. Agenda 2020's vision of both flexibility in the bidding process, and of "encouraging potential candidate cities to present a holistic concept of respect for the environment, feasibility and of development, to leave a lasting legacy" also address issues of the financial sustainability of future Olympic Games (UNEP 2014). Istanbul 2020 produced Key Environmental Projects in the nomination process and in this context, is a defined target in 3 areas. The Games environment and sustainability program will fundamentally address the key identified environmental challenges. The focus will be on those areas most relevant for Istanbul 2020 to manage, and where the most significant legacies can be achieved, in particular which are:

Reclamation of Land and Historical Preservation

The focus will be on restoring derelict land, including quarries, for recreational and sport purposes, re- establishing natural habitats in the river valleys, creating 625 hectares of green space and reactivating a further 240 hectares, while restoring and preserving more than 16 neglected historical sites.

Climate and Clean Energy

The olympic city will become the model of climate-adapted, low energy housing and construction as the result of collaboration between the TOKI Games Directorate and Ministry of Environment and urban plannig. An olypic energy and climate learning centre will be established as part of the Olympic City legacy and tree planting will contribute to making the Games carbok neutral.

Youth and Environment Learning and Involvement Programme

Environment learning and activism will address a broad range of issues, which include cilimate change, through the environment education and practice project.

Clean Water and Public Access

Key initiatives will include reclamation of shore lands for recreation, swimming, green space and freshwater conservation.

Tokyo 2020 sustainability strategy has come to the fore in 3 major frames. These are: minimal impact games, Green urban plan and sustainability through sport. A favorable environment is an essential element in achieving outstanding performance.

Madrid 2020's environment objectives are formed as follows:

Sole Use of Clean Energy

The promotion of energy-saving and efficiency measures throughout the life cycle of the facilities, the use of renewable energy sources and clean fuels in all the sport venues and the Village and the promotion of innovative energy projects.

Making the most of waste product: the endorsement of preventive action such as the use of recycled and/or recyclable materials, while ensuring the separate collection of waste at all the sport venues and the Olympic and Paralympic Village as well as the reuse of 100% of all generated waste products: all this is to be achieved by means of the best available technology that ensures the appropriate recovery of waste, the promotion of recycling and the generation of renewable energy.

Setting New Standards for Water Management

Establishing new standards in water quality and management: increasing the quotas in water saving, ensuring the irrigation and cleaning of all parks, sports facilities and the city, 2s streets by means of regenerated water and the treatment of 100 percent of harvested rainwater before discharging this back into public waterways.

Competing in the Best Ambient Conditions

Ensuring optimal noise and air-quality levels for the staging of the Games, by means of the implementation of the current Air Quality Plan and strategic action to reduce noise.

100% Sustainable Mobility

"Greenifiying" Madrid's entire public transport fleet (both its vehicles and services), and the pool of vehicles allocated for use during the Games, while ensuring the availability and efficiency of the public transport system Likewise, the use of alternative means of transport will be encouraged (pedestrian an cyclic).

A Green Belt for Madrid

The creation of a Green Belt around the city and a Green Corridor of Biodiversity more than 2.000 hectares which will link all the existing green spaces by means of the creation of new parks and woodland areas.

Environmentally-friendly Design of the Project

Applying good practice principles to the sphere of sustainable construction of energy audit systems in all Olympic and Paralympic venues and facilities. As an exemplary project, the Olympic and Paralympic village is set to become a landmark on an international level in terms of the environment, and is earmarked to achieve the LEED certification (Leadership in Energy and Environmental Design), awarded by the Green Building Council.

Climate Friendly Conditions

The staging of a carbon-neutral edition of the Games, by means of minimizing GGE throughout all stages of the Olympic project, the elaboration of an emissions inventory by an accredited independent entity and the design of a carbon offset programme. Adequate provision has been made in the Games' budget for the neutralization of CO2 emissions.

DISCUSSION

Environmental issues are becoming a general concern all over the world, as they affect the daily lives of each and every one of us (IOC 1997). Sport, as a recreational and physical education activity, has become a major component of society. As one of many human activities, it also infringes on the environment. Given that global environmental problems are deeply rooted in local environment in which its activities are performed has made it vital that the environment must be carefully analyzed, and ways to improve it must be sought, to the benefit of all (IOC 1997). With sustainability and environmental operations not having a final destination or a final finish line, executive actions and strategic planning will ebb and flow with changing leadership, current and long-term issues, and needs within a sport organization (Neirotti 2015). Also, in accordance with Beijing bid commitments, BOCOG has taken steps to build sustainable venues, paying particular attention to energy efficiency,and to the use of eco-friendly sites. An interesting innovation is the widespread use in the venues of ground, water or air source heat pump systems to provide buildings with heat in winter and air conditioning in summertime (UNEP 2007).

Organizing the London Olympic Games cost the British nine billion pounds, money coming from the public budget and sponsorships. Transformations were massive. More than 200 old buildings were demolished, their components being reused to construct the park, and more than 74,000 plants and 4,000 trees were planted (Bucur et al. 2015). In the report of IOC 2020, in which Evaluation Commission is expressed for Istanbul; The broader sustainability theme would be addressed through a comprehensive and holistic program, extending beyond environmental initiatives to cover accessibility, social inclusion, healthy lifestyles and legacy programs. Discussions regarding the development of the venue have been held with various concerned citizens, and in the event that Tokyo is awarded the Games, a more detailed environmental impact assessment would be conducted.

Dingle (2007) examines the relationship between the Earth's natural resources and the production of sporting goods and the provision and consumption of sports services, and concludes that sport is fundamentally reliant on the consumption of non-renewable resources such as crude oil for transport, and the production of plastics and rubber for use in a range of sporting goods.

CONCLUSION

So far, it has been discovered that the environmental sustainability projects developed by the candidate countries are not only organized to facilitate their election as the host city for the Olympics, but that they . also offer solutions for habitable environment for future generations. Members of the International Olympic Committee (OIC) consider issues such as effects on human health, the use of natural resources and dimensions of damage to nature when taking decisions regarding the venue where Olympics will be held. Final reports that are examined focus on the importance of environmental sustainability not only for the Olympic Games, but also for increasing the quality of life for future generations. Active use of natural resources is a positive predictor of sustainable environment, just as sustainable environment is a positive predictor of human health. Therefore, when candidate cities have available infrastructures, they will be regarded as more viable when compared to other candidate cities with no existing infrastructures, because less environmental harm will be generated.

RECOMMENDATIONS

It is believed that shaping candidature processes in line with the scientific framework described above, will help candidate countries not only to increase their chances to be host cities, but that it will also guide them in leaving sustainable environmental conditions to future generations.

REFERENCES

Barton H, Tsourou C 2000. *Healthy Urban Planning: A WHO Guide to Planning for People.* London: Spon Press.

Binstock RH, Sykes K, Reilly S 2009. Imagining the American community environmental services: A vision for environmentalists and elders. *Generations,* 33(4): 75–81.

Bucur MM, Macovei S, Margineantu GS 2015. Sustainable Development in the Context of the Olympic Games. *Ovidius University Annals, Series Physical Education and Sport/ Science, Movement and Health*,. Xv(2): 111-116.

Brawley EC 2006. *Design Innovations for Aging and Alzheimer's: Creating Caring Environments*. Hoboken, NJ: John Wiley & Sons.

Brown W 1999. Societal values, Olympic values: Technology and the environment in the 1996 and 2000 Olympic Games. *ASSH Bulletin*, 31: 13-20.

Chen Yawei 2015. Legacy creation strategy in Olympic cities the path towards sustainable development? *International Review for Spatial Planning and Sustainable Development*, 3(1): 74-87.

Cheon A, Urpelainen J 2012. Oil prices and energy technology innovation: An empirical analysis. *Global Environmental Change*, 22: 407–417.

Chapin FS, Torn MS, Tateno M 1996. Principles of ecosystem sustainability. *American Naturalist*, 148(6): 1016-1037.

Davis Juliet 2015. Questions of making the city the a sustainable regeneration legacy of London 2012. *Architectural Research Quarterly*, 19(01): 96.

Dingle G 2007. Sport in a Carbon-Constrained 21st Century' in the Bulletin of Sport and Culture, *Victoria University Sport and Culture Group, No. 27*, March, Melbourne.

IOC (International Olympic Committee) 2008. IOC, Spor, Cevre ve SSurdurulebilir Gelisim Rehberi, *TMOK Yayinlari*. Istanbul, Turkey.

Malfas M, Theodoraki E, Houlihan B 2004. The impacts of the Olympic Games as mega events. *Municipal Engineer*, I57(3): 209-220.

Neirottii LD 2015. Management and leadership related to sport and the environment. In: Jonathan M Casper, Michael E Pfahl. (Eds.): *Sport Management and tthe Natural Environment, Theory and Practice.* New York: Routledge, pp. 53-54.

Roche M 2000. *Mega-Events and Modernity: Olympics and Expos in the Growth of Global Culture*. London: Routledge.

Turner GM 2008. A comparison of the limits to growth with 30 years of reality. *Global Environmental Change*, 18: 397-411.

UNEP 2007. *Beijing 2008 Olympic Games on Environmental Review.* Nairobi: UNEP.

UNEP 2014. About UNEP, Sport and the Environment. From <www.unep.org/sport_env/about.aspx> (Retrieved on 3 May 2015).

Wamsley K, Heine M 1996. Tradition, modernity and the construction of civic identity: The Calgary Olympic. *OLYMPIKA: The International Journal of Olympic Studies*, 5: 81-90.

Wells NW, Laquatra J 2009. Why green housing and green neighborhoods are important to the health and well-being of older adults. *Generations*, 33(4): 50–57.

Paper received for publication on April 2015
Paper accepted for publication on April 2016