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ABSTRACT

Sport has always played a prominent role in civil society. Although it has been conceived as a strategic political means throughout history, nowadays sport is considered a positive force in achieving sustainable development. The international documents recognize the contributions it makes to health, education and social inclusion objectives. Anyway, the analysis concerning the relationship between sport and the city should consider both social and physical aspects because people are progressively understanding the city as an ideal palimpsest for sports activities. In this regard, the new phenomenon called "street sport" represents a real challenge for urban governance and planning.

The present study focuses on policies and urban design projects adopted by Cagliari City Council to make Cagliari a great Sports City. Cagliari has unique environmental, geographical and climatic features which allow to promote sport activities throughout the year. Moreover, in the recent years the City has realized significant interventions, both on a local and on a regional scale, as the operation - on going - of refurbishment and reconstruction of the new Stadium.

Within this favourable condition, the authors examine the community perception on benefits that sport provides for human well-being and for city development through the administration of a specific questionnaire. The outcome of this survey highlights to what extent citizens recognize Cagliari as a Sports City and gives interesting suggestions for the definition of shared policies and actions able to assume sport as a lever of sustainable development in the future.

KEYWORDS:
Sport in the city; Sustainable Development, Sport Governance

SPORT AND THE CITY, BETWEEN URBAN REGENERATION AND SUSTAINABLE DEVELOPMENT

Mara Ladu*, Ginevra Balletto*, Giuseppe Borruso*

* Department of Civil Environmental Engineering and Architecture
University of Cagliari.
e-mail: maraladu@hotmail.it; balletto@unica.it
* ORCID: https://orcid.org/0000-0002-2762-0686

© Department of Economics, Business, Mathematics and Statistics
University of Trieste
e-mail: giuseppe.borruso@deams.units.it
Where People Run?

介入城市再生和可持续发展之间的体育运动与城市

Mara Ladu*, Ginevra Balletto*, Giuseppe Borruso*

*Department of Civil Environmental Engineering and Architecture
University of Cagliari.
e-mail: maraladu@hotmail.it; balletto@unica.it

* ORCID: https://orcid.org/0000-0002-2762-0686

©Department of Economics, Business, Mathematics and Statistics
University of Trieste
e-mail: giuseppe.borruso@deams.units.it

摘要

古今迄今, 体育运动在文明社会中都发挥着突出的作用。虽然在人类历史上, 体育运动一直被视为一项重要的政治手段, 但更多的人认为它是一种实现可持续发展的积极力量。国际上通过文件认定了体育运动在实现卫生保健、教育和社区包容性等方面所作出的积极贡献。

无论如何, 体育运动与城市之间的关系开展的分析, 应该考虑社会和物质两方面。因为, 体育运动是形成一种理想载体。在这样的情况下, “街头运动”这一新事物是对城市管理和规划提出的重要挑战的典型代表。

本研究的重点是卡里亚里市议会为卡里亚里市打造的著名运动都市而开展的政策和城市设计项目。卡里亚里拥有独特的环境、地理和气候条件, 适宜于全年开展体育运动。而且最近几年, 这座城市在卡里亚里市一级采取了多项重大干预措施, 以促进在建新体育场的整修和重建工作。

鉴于这一有利条件, 本文的作者们通过实施针对性的问卷调查, 研究了人们对体育运动对人类福祉和城市发展所带来的普遍看法。该调查的结果强调了市民们对卡里亚里市作为体育城市的认知程度, 并对共同政策的定义和将体育运动作为未来可持续发展手段的行动提出了几项重要关注的建议。

关键词:
城市体育运动; 可持续发展; 体育运动管理
1 INTRODUCTION

Sport has always played a very important role in civil society, becoming progressively a clear expression of different cultures and communities’ lifestyles throughout history. It has been conceived as a strategic means to achieve positive and negative political goals since ancient times. As a matter of fact, sport has been assumed as an educational and population control practice but also as a means of propaganda and amplification of the differences between ethnic groups (Balletto & Borruso, 2018b). Several dictatorships have often promoted and sustained sport and the related public events for their self-celebration (Strazzeri, 2018) reaching the maximum epilogue during the Fascist era, up until the Cold War (Balletto & Borruso, 2018a). More precisely, the realisation of sports facilities, as a significant component of the broader “public city”, has become a direct expression of political ideologies and aspirations (Balletto & Borruso, 2018b). Nowadays, sport is considered an essential enabler in improving people’s health and well-being and in pursuing sustainable development of our cities and regions. The 2030 Agenda for Sustainable Development (UNGA, 2015) states that:

«37. Sport is also an important enabler of sustainable development. We recognize the growing contribution of sport to the realization of development and peace in its promotion of tolerance and respect and the contributions it makes to the empowerment of women and of young people, individuals and communities as well as to health, education and social inclusion objectives».

This is a crucial principle which requires to integrate sport into social, economic and environmental urban policies, as well as into urban governance and planning (Lindsey & Darby, 2018).

2 TOWARDS A STRONGER RELATIONSHIP BETWEEN SPORT AND THE CITY

Most cultural principles assumed at the international level to strengthen the relationship between Sport and the City and to highlight the role of sport in pursuing sustainable development have been introduced in Italy to inform the political agenda (Clark et al., 2018). Over the past years, the Italian Government and the CONI (Italian National Olympic Committee) have promoted policies to sustain a comprehensive regeneration of existing sports facilities in peripheral areas, aimed at facing economic and social imbalances as well as urban security issues in deprived areas through specific material and immaterial actions aimed to increase sports activities and the related culture. Anyway, the quest for a closer relationship between sport and the city should be analysed taking into account both social and physical aspects. Nowadays more and more people prefer playing sport according to their personal needs and interests, in different places and at different times, understanding the city as an ideal palimpsest for sports activities (Balletto & Borruso, 2018b). This is a new challenge for urban governance and planning: sport has to be integrated into a broader urban regeneration and sustainable development strategy (CNAPPC, 2015). Urban transformation and regeneration programs, from Mega Events to local and neighbourhood scale, should guarantee a network of spaces and sport facilities able to embrace the new phenomenon called "street sport" (Clark et al., 2018), which stimulates virtuous behaviours and healthy lifestyles (Turner & Carnicelli, 2017). Therefore, the action of sport in urban areas should follow two main directions, not alternative but necessarily complementary. On the one hand, there is certainly space for the large-scale facilities required for the Mega Events which cyclically involve cities and capitals all over the world. Mega Events have often been the occasion to realize great projects (Smith et al., 2019), to allow certain sporting practices and to promote urban regeneration processes - even if not always effective. In this regard, as a matter of example, Italy has been involved in the important operations on stadiums for the World Cup Italia '90. At the same time, it is increasingly important to consider also the local and neighbourhood scale, where existing sport facilities and the still fragmented system of open spaces and green areas could prove to be strategic in defining a network of urban centralities and paths where sport, leisure and cultural activities will reinforce the relationship between sport and the city. According to the theoretical issues above discussed, the objective of the present study is to evaluate the sport attractiveness of Cagliari.
The research consists of two phases, an analytical and a more operational one. The first phase analyzes the peculiar geographical, environmental and climatic features of Cagliari and the framework of public interventions and initiatives carried out to promote sport throughout the City, focusing on two categories of actions:

- material actions - large-scale development projects and operations of redevelopment and enhancement of urban areas and routes;
- intangible actions - public events and bottom-up initiatives.

The operational phase, instead, examines to what extent citizens recognize Cagliari as Sports City and the community perception on benefits that sport provides for human well-being and for city development through the administration of a specific questionnaire.

The metropolitan city of Cagliari, with its system of nodes of various ranks and specializations, connected to the networks of urban parks, squares, boulevard and promenade, appears particularly attractive to the "street sport" (Balletto & Borruso, 2018a). This favourable condition has led Cagliari City Council to recognize the role of sport in the political agenda, promoting and supporting policies hopefully continuing in the future with a stronger participation of the local communities.

3 URBAN POLICIES FOR CAGLIARI-STREET SPORT, BETWEEN LAND AND WATER

Over the last years, Cagliari City Council have promoted a significant program of interventions and initiatives to establish sport as an essential enabler in pursuing sustainable development goals.

The political agenda has been defined according to the cultural principle that sport encourages healthy habits and spreads civic values, thus becoming an essential activity for the personal growth of people (Kiuppis, 2018). Moreover, the local government strategy is based on a deep awareness of the peculiar environmental, geographical and climatic features of the City, which make it an attractive place to play different types of sport and outdoor activities for more than 300 days a year (Comune di Cagliari, Dossier candidatura Città Europea dello Sport, 2017).

Thanks to these favourable conditions, Cagliari has been designated European City of Sport 2017 by ACES Europe (European Capitals and Cities of Sport Federation), up to become the Best European City of Sport 2017 (Comune di Cagliari, Report attività, 2017). In addition, Cagliari was a candidate for hosting the sailing regattas of the 2024 Olympic Games in Rome - candidature resumed – (Comune di Cagliari, Dossier candidatura sede regate veliche). It must be acknowledged that Cagliari has been elected European City of Sport also by virtue of the several interventions carried out by the Local Administration, together with private investors, voluntary sports organisations and other associations and sports clubs. The City offers a rich and widespread system of outdoor and indoor sports facilities (over 150) where people can play a variety of activities, including team sports, gymnastics, popular sports such as football, volleyball, basketball, up to niche sports (Comune di Cagliari, Dossier candidatura Città Europea dello Sport, 2017) (Fig. 1). The Municipality represents still today the main public institution involved in the local sports governance and is constantly committed to integrating sport into important urban transformation and regeneration processes, both at a local and territorial scale.

Some strategic operations - completed, under construction or planned - , are worthy of attention (Fig. 1):

- the urban redevelopment of the beachfront (Lungomare Poetto), conceived as a linear promenade for walking, running, cycling, socializing, enjoying the view and for other similar activities;
- the - on going - refurbishment and reconstruction of the new Stadium of Cagliari, a smart sports arena close to the sea and well-connected with the existing urban centralities and networks (Balletto & Borruso, 2018a);
- the redevelopment scheme of the green spaces in the Sant'Elia district, recently become a new urban park (Parco degli Anelli) with areas for sports and leisure activities, fitted with green spaces, pedestrian and cycle paths;
In addition to these operations, in recent years the Municipality has organized or endorsed several sports events such as AteneiKa, Cagliari respire and SoloWomenRun which are progressively involved more and more people (Comune di Cagliari, Dossier candidatura Città Europea dello Sport, 2017). The significant program of material and immaterial actions carried out has been recently confirmed by the Il Sole 24 Ore survey - Sportiness index 2018, referred to the 107 Italian provinces, where Cagliari has reached the third place in the top 20 ranking.

According to the criteria established by the survey, Cagliari is:

- the 2nd in the Category "Sports index" (Indice di sportività);
- the 1st in the Category "Team Sport" (Sport di squadra);
- the 24th in the Category "Individual Sports" (Sport individuali), even if proves to be more attractive to play swimming, tennis, water sports and other indoor sports;
- the 5th in the Category "Sport and Society" (Sport e Società), reaching good performances in the subcategories of sports and children, sports media and women's sports, while could do something more to improve its position as regard sport and nature and sport and tourism.

4 CAGLIARI AS A CITY OF SPORT? FIRST RESULTS OF A RESEARCH AND FUTURE PERSPECTIVES

A research has been carried on by means of a questionnaire, targeted towards people and organizations involved in sport activities. This has been done in order to better understand the role played by sport in the City of Cagliari, both referred to the lifestyles of the population and to the awareness that the population itself
developed about the importance of playing sport and having an active attitude to improve the quality of life and at the same time boost economic and social development of a territory. The choice of developing a questionnaire on a theme as 'city and sport' was done by two authors of the present paper, aimed at understanding the relationship between city and sport in the perception of big events - as well as ordinary ones - as possible means of urban transformation and regeneration.

The research has been developed following a parallel approach, preparing two questionnaires for the two cities of Cagliari and Trieste. The two questionnaires share a common, general section, and then have been developed with different sections adapted to better fit the peculiarities of two different urban contests: the sailing race 'Barcolana' in the case of Trieste, an event that characterize the city as a major event, and the possible other events to be implemented in the city; the city of Cagliari as 'The City of Wind', with its potential of becoming an attractor for sailing activities, following the fact it hosts the Luna Rossa Team. The questionnaire has been developed by means of a Google Form and distributed over a community of selected users, identified among people active in sport, both as amateur and professionals, and as managers of sporting activities. People were therefore motivated in filling in the questionnaires, and other 300 forms have been collected in the period of time between 9 May 2018 and 30 October 2018.

The majority of respondents are male (more than 60%), born in the City of Cagliari and its hinterland, of an age between 26 and 60 years. Around 80% stated practicing sport activities regularly, mainly individually (67.6%) and as amateurs (48.4%). Team sports and activities practiced by people registered in sport associations follow as preferred way of practicing. It is interesting to observe the preference of people for individual sport activities, demonstrating a growing trend in contemporary society of managing and organizing its own physical, sport activities in an autonomous way, according to particular needs and personal interests, and also, as a possible consequence of the good supply of urban spaces and natural areas - as humid areas and coast areas - suitable for practicing these activities. That seems to be confirmed by analysing the main sports practiced, as Sailing//Windsurf//Kitesurf, Running and similar, following by Bike (road and mountain), Swimming and Soccer. Low percentages have been registered for Body building, Tennis, other water sports, martial arts and Beach tennis. The questionnaire reveals also the weight that sport has in the life of people in terms of time and costs. The time dedicated to sport during the week is on average 2 to 3 hours (31.4%) and among 4 and 5 (34.2%), to reach a timeframe bigger than 6 hours (22.6%). Only 11.8 % of interviewees dedicate less than 1 hour per week to sport. About costs, 37.4% spends more than 500 euro per year, nonetheless a certain number of people seem spending less than 100 euros per year (21.3%). Again, another suggestion to confirm the capacity offered by the city to practice open air sports - namely street sports - and not necessarily in dedicated infrastructures. The parts of the city more directly interested by sport activities and by the related ones have been identified in the Poetto area, in the urban seaside promenade and in the parks (Molentargius, Monte Urpinu, etc.). The questionnaire highlighted also the widespread awareness of the benefits coming from sport events at different scales. The 96% of interviewees declares that sport events are particularly important for the well-being of people and for enhancing the image of the city. Furthermore, more than 80% agrees on the fact that sport plays a relevant role for the economic development of the city. Many respondents agree on the need to extend sport events in time, involving also other parts of the city, other than those favoured and already widely used (Fig. 2).

5 CONCLUSIONS

The present study has assessed the sporting attractiveness of the city of Cagliari.

The results of the questionnaire have confirmed Cagliari as a place that is highly suitable for welcoming the phenomenon of street sport, in line with the findings of the Il Sole 24 Ore survey. Anyway, the challenge is to make the City more sustainable and "fit for sport".
In this regard, some interviewees presented interesting proposals for the future. First of all, the general awareness of the main geographical, environmental and climatic characteristics of Cagliari suggests marketing activities at national and international level to enhance the sports offer in a highly favorable landscape, but also a major integration between sport governance and environmental policies. According to the sub-categories Sport and Nature and Sport and Tourism of the Il Sole 24 Ore survey, Cagliari are ranked 10th and 16th respectively.

This data suggests that new actions are necessary to overcome this gap, even starting from the indications coming from the local community.

**To what extent do you agree or disagree with the following statements?**

![Graph showing perception of interviewees about the economic importance of sport and sport events. Source: Questionnaire developed by Balletto and Borruso, 2018](image)

Other respondents highlight actions to enhance the benefits deriving from the correlation between sport, wellness and social inclusion, such as:
- sports and suburbs;
- redevelop before building new sports facilities;
- make the local community aware of the importance of sport;
- internationalization of sporting events and events.

To conclude, the results of the questionnaire offered important suggestions for the implementation of the program of material and immaterial actions necessary to confirm Cagliari as a city of sport in the near future. In this sense the active involvement of the local community is fundamental to manage and strengthen the sport-city link and to define a shared model of sustainable social, economic and environmental development, as indicated by the Agenda 2030.

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REFERENCES


Comune di Cagliari. Dossier di candidatura di Cagliari a sede delle regate veliche.


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AUTHOR’S PROFILE

Mara Ladu (Nuoro, 1989) is Ph.D. in Civil Engineering and Architecture at the DICAAR, University of Cagliari. Her actual research interests are related to urban planning, urban regeneration policies and sustainable development strategies of cities and regions.

Ginevra Balletto (Rome, 1972) is an Associate Professor of urban and territorial planning at the DICAAR, University of Cagliari. Her actual research interests are related to urban planning and environmental sustainability. Her participated in the concept of the new Cagliari stadium (2018) for urban planning and environmental sustainability.

Giuseppe Borruso (Trieste, 1972) is an Associate Professor of Economic and Political Geography at the DEAMS - Department of Economics, Business, Mathematics and Statistics “Bruno De Finetti, University of Trieste. His actual research interests are related to economic geography, with particular reference to urban geography, transport and population.