Cities 42 (2015) 130–141

Contents lists available at ScienceDirect

Cities

journal homepage: www.elsevier.com/locate/cities

Community attachment and resident attitude toward old masonry walls and associated trees in urban Hong Kong

Alex Y. Lo [a,*], C.Y. Jim [b]

[a] Urban Research Program, Griffith School of Environment, Griffith University, Gold Coast, QLD 4222, Australia
[b] Department of Geography, University of Hong Kong, Pokfulam Road, Hong Kong

ARTICLE INFO

Article history:
Received 28 June 2014
Received in revised form 20 August 2014
Accepted 28 September 2014
Available online 29 October 2014

Keywords:
Urban trees
Stone-retaining walls
Compact city
Public perception
Urban nature conservation
Place attachment

ABSTRACT

Mature urban trees dwelling on old masonry walls are a rare urban ecological and landscape treasure. These 'stonewall' trees denoting synergy between nature (trees) and culture (masonry) are worth preserving. This study aims to identify factors influencing public attitude toward this important but threatened natural-cum-cultural asset in a compact city milieu. Evidence is solicited from a face-to-face questionnaire survey involving 800 citizens of Hong Kong. Results indicate that Hong Kong people generally appreciate the existence of stonewall trees. Younger adults harbored doubts about their value, whereas the older ones were more sympathetic. Local residents of the suburbs that host the majority of stonewall trees registered stronger commitment than non-local residents. Community attachment had positive effects across both resident groups, but length of tenure was not a key factor. This suggests that affinity for stonewall trees is a function of the affective bonding between people and the community where they live. Deep engagement with the local community elevated the desire for preserving the walls and associated trees. The findings are important for understanding public perception and enlisting support from the larger society for preserving the urban asset against mounting pressures for urban development and renewal.

Introduction

Trees and cities have co-existed for millennia under spontaneous or cultivated regimes. Urban trees contribute to the well-being of people, environmental quality, and the long-term sustainability of cities (Beer, Delshammar, & Schildwacht, 2003; Chiesura, 2004; Jim, 1998a, 2003; Konijnendijk, 2008; Miller, 1997). Yet the term 'urban tree' carry ambivalent or incongruous undertones. While 'urban' implies artificiality and difficult conditions for non-human life, 'tree' conjures up an image of nature and serenity. Various city governments have attempted to resolve the conflicts between the natural and artificial elements with divergent levels of achievement. Compact cities, in particular, are characterized by a tight urban fabric with limited opportunities for planting. Many trees fail to compete for space, while some are relegated to cramped corridors and tiny parcels occluded in various urban infrastructures. Urban development and renewal have threatened the viability of urban trees, some of which are hundred years old and have been granted heritage status (Jim, 1998b, 2010).

As a typical compact city, Hong Kong exemplifies the chronic spatial conflict between green-space conservation and urban development. Over half of the land is steep natural terrain, while only about 15% is suitable for urban development (Environmental Protection Department, 2006). Urban population and infrastructure are highly concentrated. Hong Kong, with a land area of 1108 km^2, is home to 7.18 million people. The average population density has reached 6330 persons/km^2 and is among the highest in the world. The keen competition for developable land and the phenomenal cost of land and real estates have resulted in grave shortage of plantable space in urban areas.

Nonetheless, nature has enlisted unexpected sites for spontaneous vegetation growth in the cramped interstices of the compact city. Urban Hong Kong is endowed with an unmatched ecological habitat in the form of stone-retaining walls. Most of these walls are apparently inhospitable for plants, but the traditional method and style of wall construction permitted spontaneous colonization by a host of plants which includes some tree species. The oldest stone-retaining walls were constructed using traditional Chinese techniques over 100 years ago. They are often blanketed by dense vegetation, including large trees up to 21 m tall (Jim, 1998b, 2010; Jim & Chen, 2010). The largest specimen trees are as old as the century-old walls. Not many cities in the world have such a relatively

* Corresponding author at: Room 3.07, Building G31, Griffith University, Gold Coast Campus, QLD 4222, Australia. Tel.: +61 7 55527419; fax: +61 7 55528244.
E-mail addresses: alex.lo@griffith.edu.au (A.Y. Lo), hragjcy@hkucc.hku.hk (C.Y. Jim).

http://dx.doi.org/10.1016/j.cities.2014.09.006
0264-2751/

large number of old stone walls with spontaneous vegetation to bestow a distinct urban natural asset.

In Hong Kong, the majority of mature 'stonewall trees' exist in the Central and Western (CW) District. Together with the old stone walls to which they firmly attach, these trees have become a cultural legacy for the community and an indispensable part of the collective memories of local residents. People may develop a sentimental attachment to such natural companions and respectable doyens. However, urban renewal and construction of new infrastructure have brought demolition, degradation and modification of old masonry walls that host these trees, resulting in demise and massive injury of this rare 'natural-cum-cultural' asset of the city. The disturbed habitats become unsuitable for tree growth, thus triggering gradual decline of the remnant trees. A series of events triggered public outrage and attracted extensive media coverage. Local residents and environmentalists managed to secure major adjustments to these construction projects to protect the endangered natural–cultural hybrids from massive unrecoverable damage.

Statutory protection is needed to preserve the valuable stonewall trees. While local councils lack power and resources to act, the city government remains incapable of effectively managing urban heritage trees (Jim, 2002, 2003). Conservation efforts have been dominated by a handful of NGOs and concerned local residents and scientists. In Hong Kong, the community as a whole is not actively involved in urban governance (Ng, 2002). Wider community support has to be enlisted to reinforce the bottom-up efforts and drive changes at the institutional level. This will be a challenging task, because the oldest masonry walls are restricted to a few relatively small communities and viewed by some citizens as an outdated and anachronistic infrastructure that could be replaced by new ones. Understanding society's attitude toward stonewall trees will be instrumental to maximize public support for driving changes in official planning and management practice. Objective and systematic evidence on the public's views is lacking and more is needed to inform conservation and publicity campaigns.

This study explores Hong Kong people's attitude toward stonewall trees representing an important component of nature-in-city worthy of conservation. Past events showed that residents of the CW District (hereafter called 'local residents') reacted most strongly to proposed removal of these trees. The study seeks evidence on their greater concern and, more importantly, identifies possible reasons. Understanding the latter could help develop strategies for recruiting support from non-local residents. Our pilot research indicated that attitude toward urban green spaces is closely associated with the individual's concern about the wider community (Lo & Jim, 2010). Attempts to solicit support from the larger society could benefit from articulating the advocacy of nature conservation in terms of broader social and community imperatives. Studies of place attachment offer useful insights for identifying key socio-cultural factors influencing people's attitude (Lin & Lockwood, 2014; McCunn & Gifford, 2014; Ryan, 2005). In this paper, we introduce the concept of place attachment to the study of the relationship between heritage trees and people in a compact city milieu.

The remainder of this paper begins with an elaboration on the stonewall trees in Hong Kong. This is followed by a brief review of relevant studies of place attachment. Our research methods are then described and results are presented. At the end of the paper we discuss the implications of the research findings for understanding public perception and motivating the bulk of the population.

Stonewall trees in Hong Kong

Hong Kong was established in 1842 as a British colony at the subtropical coast of China. The city consists of 18 Council Districts distributed among three centrally governed regions, namely, New Territories, Kowloon, and Hong Kong Island. The first colonial urban settlements landed on the northern coastal strip of Hong Kong Island, beginning with the CW District which remains the administrative and commercial core of the city. The District is a culturally significant site steeped in historical icons and connotations, as symbolized by a variety of Victorian-style architectures and old-time ambience reminiscent of *genius loci*.

Rapid urbanization since the Second World War fuelled production and consumption of developable land, which is increasingly expensive (Chiu, 2006; Jim, 1998a). Some of the urban Districts have been filled to over 45,000 persons/km^2 (i.e. Yau Tsim Mong, Wong Tai Sin, and Kwun Tong Districts). High-rise and high-density development mode is spatially prevalent. Built-up areas are restricted to merely 23% of the land (Planning Department, 2013). The land is subject to substantial topographical constraints, with about 80% at above 100 m elevation associated with steep slopes that are unsuitable for development. The overall urban matrix has little plantable areas by design or by default for insertion of greenery. Besides physical constraints due to the lack of growth spaces, the microclimatic and soil conditions of the cramped planting sites are unfavorable for tree growth.

Some species of trees managed to establish and survive in harsh urban habitats, such as old masonry walls. Most of these imposing structures have existed for some decades to more than a century. They include the walls of historical buildings, geotechnical retaining structures, and ruins of monuments. In Hong Kong, old masonry walls are concentrated in the urban core developed in the nineteenth and early twentieth century, notably the northern strip of Hong Kong Island and the Kowloon Peninsula (Jim, 1998a, 1998b). Some are situated at roadsides and adjacent to main streets, while others are found in obscure lanes and behind buildings. Elaborately handcrafted in line with traditional Chinese masonry design, they represent the confluence of time-honored science and technology in offering a pragmatic solution to maximize developable land in a hilly terrain. The artistic shapes, engineering services and endurance of old masonry walls have won appreciation from local residents.

Walls appear to be harsh and difficult to live in and therefore unlikely sites for trees. Nevertheless, some 30 trees species are found on old masonry walls in Hong Kong (Jim, 1998b, 2013). With a rough surface with lots of gaps between adjacent stone blocks and soil in the crevices for spontaneous plant growth without human intervention, they provide fine landscape and urban ecological elements to the otherwise nondescript streetscape (Fig. 1) (Jim, 2014; Jim & Chen, 2010). Due to existence at elevated positions on the artificial cliffs, they could escape from the otherwise rampant root and stem damages that inflict many urban trees in the city. A recent study has found that in Hong Kong, old stone walls support some 1200 trees in built-up areas that are occupied by artificial surfaces and have few undeveloped sites (Jim, 2010). Most of the walls have one to three trees, with an exceptional one having fifty. These trees are mostly young or small at 1–3 m high, the tallest one being 21 m (Fig. 2). Considering the extraordinarily harsh environment of stone walls, especially verticality, exposure, moisture deficiency, and lack of suitable substrate, the number of individual trees and tree species and their aggregate biomass are remarkable (Jim, 1998a, 1998b, 2010; Jim & Chen, 2010). The old CW District has the greatest concentration of old masonry walls and companion trees (Fig. 3).

Stonewall trees in the urban core of Hong Kong are a precious 'natural-cum-cultural' asset. The old masonry walls denote a synergy between nature (trees) and culture (masonry), exemplifying the harmonious co-existence of culture and nature in a compact urban environment. However, urban renewal and development threaten to displace the century-aged walls from the city. The spatial conflict was heightened in 2006, when one of the proposed