

Where the gardens met the city ... Shiraz 1976 (Source: Gerster, G., *Paradise Lost*, Phaidon Press, 2009)

An Ecological Infill Redevelopment Model for Reintroducing the Green Structure and Reorganizing the Circular Economy in Historic City of Shiraz

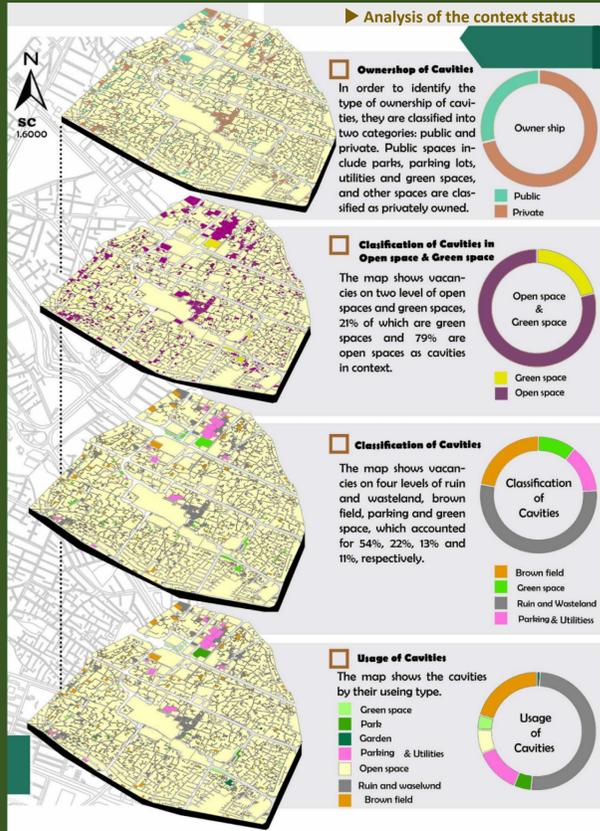
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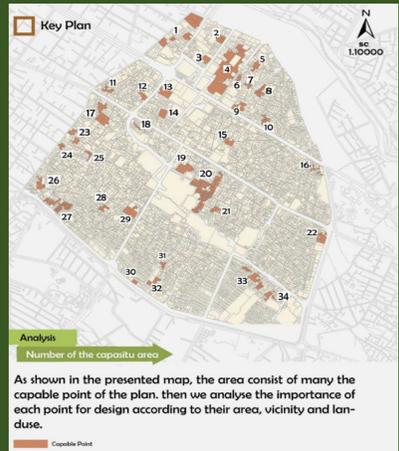
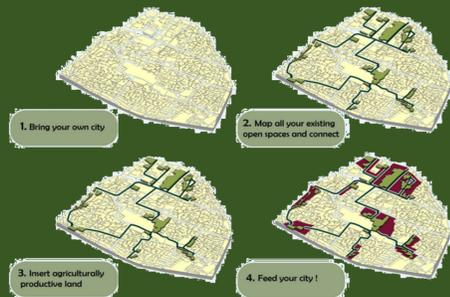
Introduction

Shiraz has always been a verdant city through history. Situated in a vast oasis irrigated by a network of sub-terrain canalizations, the old city of Shiraz had once accommodated numerous gardens. Along with the presence of those green spaces, the society was dependent on the economic benefits of a productive landscape which could be considered as the traditional counterpart of a sustainable economy. By the modernization of the city since the early 1930s, the traditional order of green infrastructures gradually diminished and replaced by new development models which totally ignored the essential role of the gardens, greens, and their productive and economic capacity.



Reviving a circular economy by means of indigenous and sometimes forgotten traditions and skills could be considered as a throwback to the once sustainable society. However, this retrospective concept has enough potentials to resurrect a developing system for the future. The gradual deterioration of historical urban fabrics in Iran has also affected the green infrastructures and the connected chain of verdant parcels and gardens that, until some decades ago, supported a complete cycle of the prospering local economy. The green structure of the historic city of Shiraz, famous for its Edenic gardens, has always been a source of a flexible and diverse economy based on its green and ecological potentials. Bringing different products together from the gardens all over the city, the traditional system of the alterant industry introduced a variety of local culinary and gastronomic products also with undeniable therapeutic virtues that came from traditional medicine. This production cycle that covered one-third of the occupations used and reused the resources and even the residuals and wastes were entered the cycle to be used as fertilizer and cattle feed. Today an important part of that green infrastructure has disappeared and worn out. The historical water supply canalizations and the green structure has been severely damaged by the construction projects and reduced to some scattered drought-hit subdivided gardens and abandoned wastelands. This article has as its goal to give an analysis and propose an ecological infill development model for the old districts of Shiraz. The model targets the abandoned and lost spaces to redefine the concept of the reestablished green structure of harvestable foci and inserted urban farms to then launch a line of agricultural and horticultural products of global reputation, and ensure a cycle of equitable circular economy refueled by the eco-gastronomy and tourism-oriented activity revenues.

Keywords: Ecological infill, green structure, urban agriculture, circular economy, historic city, Shiraz



Number	Typology	Area	Landuse	Vicinity (landmark)	Vicinity (suitability)
1		9319			
2		2892			
3		2379			
4		38801			
5		2669			
6		1148			
7		2348			
8		3754			
9		3190			
10		2251			
11		2146			
12		1978			
13		5291			
14		3433			
15		2592			
16		1610			
17		9132			
18		766			
19		6390			
20		25503			
21		2074			
22		4257			
23		3531			
24		1438			
25		1473			
26		3405			
27		9169			
28		20669			
29		5611			
30		1076			
31		1355			
32		2571			
33		6675			
34		2877			

Identifying suitable parcels with potentials for green redevelopment

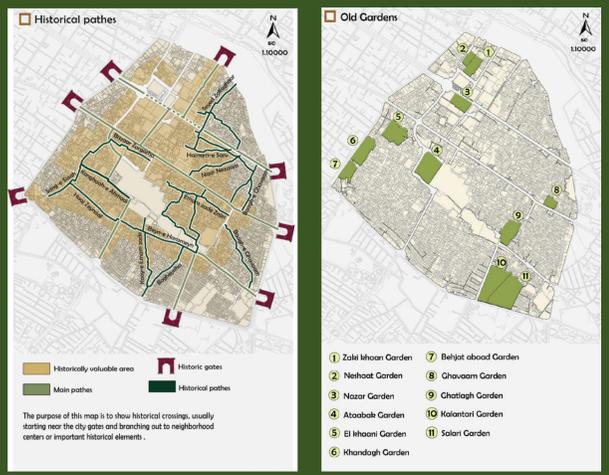
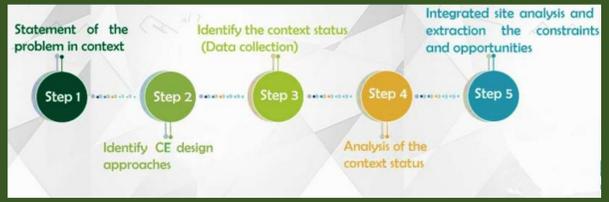
Methodology and Tools

This research has a historical-interpretative part as well as an analytical section. For this purpose, an updated GIS map of the old city was prepared, which helped to do a series of analyses according to the objectives of the study. The analysis shows the location of the old gardens, which dramatically have razed from the city and also the existing green spaces like parks and squares. Additionally, a large number of cavities resulted from the anti-conservationist policies, which led to large scale demolishing in different sections of the old fabric revealed development potentials and clusters well distributed in the target precinct. Results show that the distribution of those spaces could introduce a new structure based on the new cores which will support the notion of 'mahalleh' or the traditional neighborhoods representing the community with all its old attachments and cultural ties.

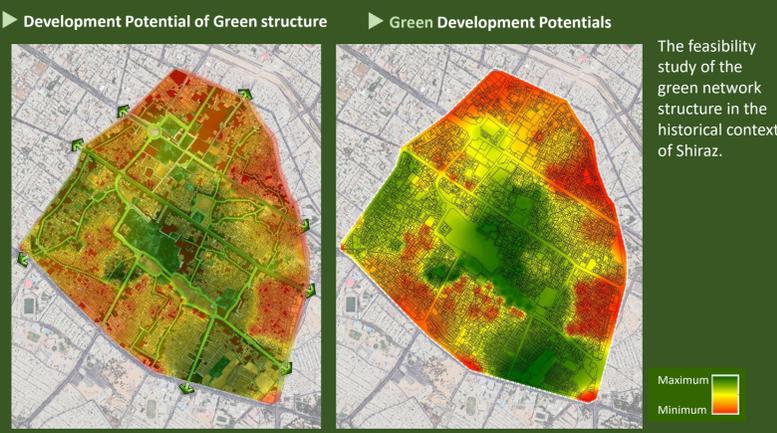
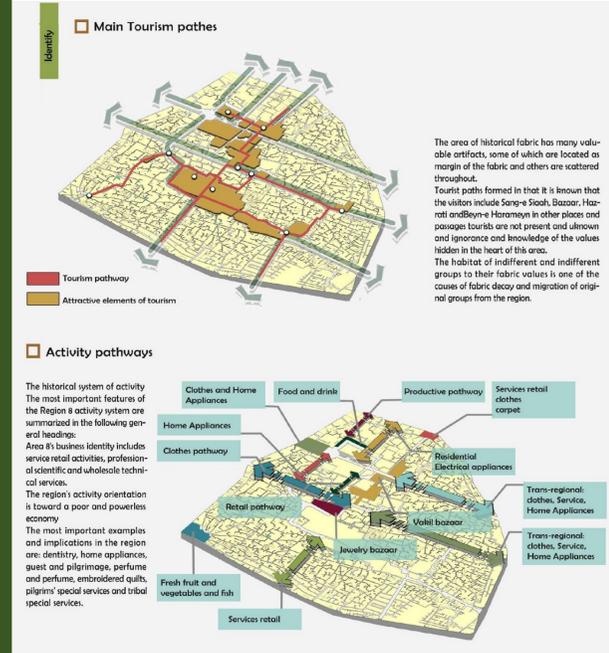
This concept takes its definite form once the subject of productivity will be added to the overall structure by implying a series of initiatives like inserting community farms and gardens as a part of a redevelopment plan for the cavities, brownfields and abandoned sites. The proposed structure and infrastructure system promotes the greening procedure and resurrects the circular economy based on the local products.

Conclusion and Results

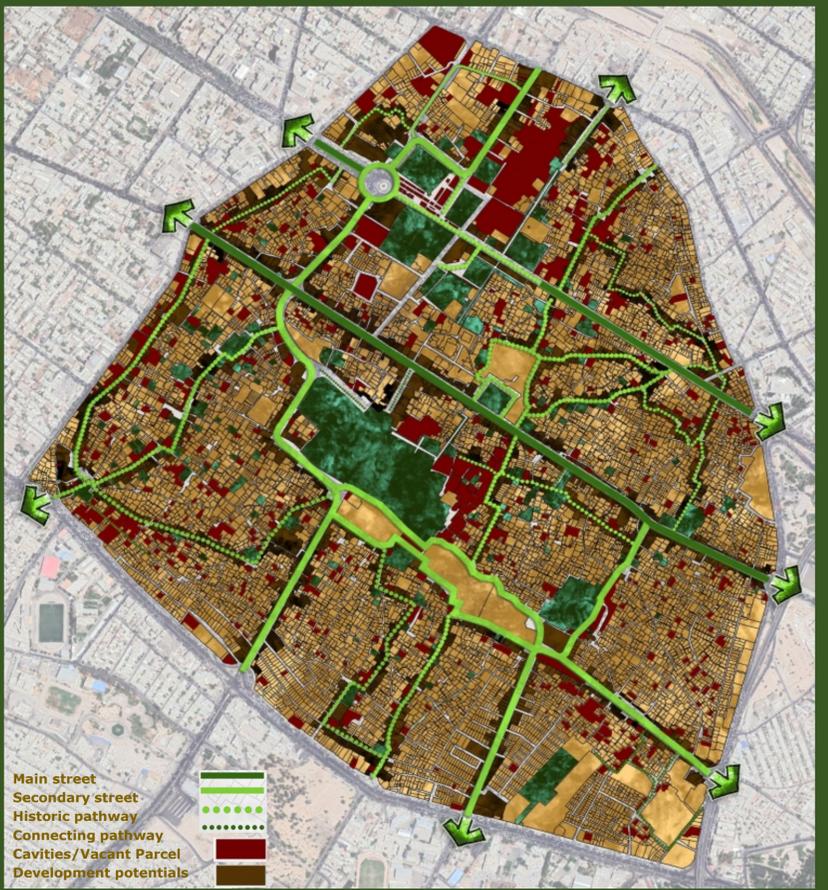
The research covered an overall introduction to the history of the city and a retrospective on the evolution of its green structure. In the next step, a pathology of contemporary situation clarified the urgent need for the regeneration of the old city considering the importance of the green infrastructures and the productive landscape to support and revive the local circular economy which also provides various opportunities including tourism attractions. The final step was the overlaying process giving sufficient data and the analysis to ultimately propose a model for the green infill development based on a productive urban landscape as seen through the maps.



The green structure of the historic city of Shiraz



The feasibility study of the green network structure in the historical context of Shiraz.



The proposed model for reintroducing the "Green structure"