

This proceedings book is review of considerable scientific and practical contributions of authors' ongoing research and implementation activities including their observations, commitments and questionings to highlighting the importance of good designs that match the quality of the new with the old so that they are respected in historical settings. The contributions are presented under the following headings:

- Chapter I General Principles- Professional Responsibilities
- Chapter II New Structures and Historic Environment Relationship
- Chapter III The Problems Affecting the Historic Environment
- Chapter IV Factors Affecting New Design in Historic Environment
- Chapter V Design Principles Affecting New Design in Historic Environment
- Chapter VI Construction Methods and Materials of New Design in Historic Environment

The contributions in this proceedings book may be useful for professionals and researchers engaged in the problems of new designs in historical context.

RE-ConD'15

Istanbul, Turkey
July 22-24, 2015

**RE-EVALUATING
CONTEMPORARY DESIGNS
IN HISTORICAL CONTEXT**

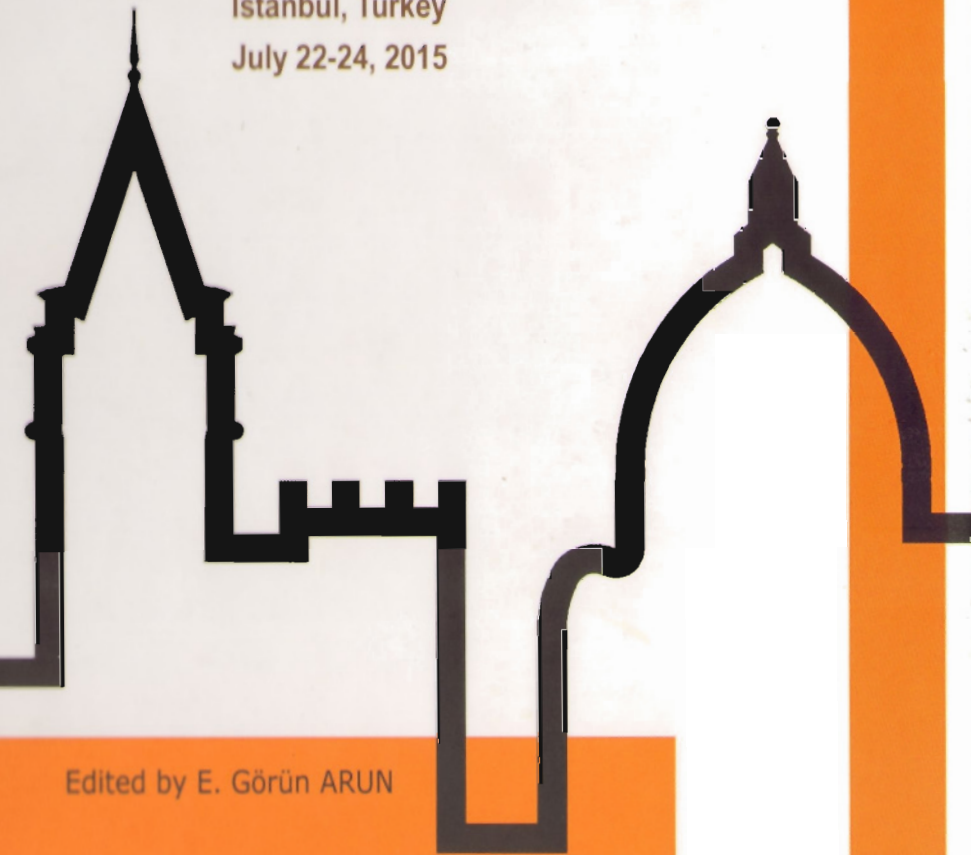
Proceedings
of the
INTERNATIONAL
CONFERENCE

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Istanbul, Turkey
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NEW STRATEGIES OF ANALYSIS AND URBAN DESIGN FOR THE HISTORICAL CENTRE OF THE BLUE CITY OF JODHPUR

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Keywords: Survey, Urban Design, Documentation, Conservation, Historic Environment, Social Challenges

Abstract.

Introduction:

Strongly influenced by the geographical layout and the political dynamics of the region, the historic town of Jodhpur, called the Blue City, provides an outstanding example of traditional urbanism in Rajasthan, India. To make the city a unique example of the Indian heritage is not only the characteristic morphology that summarizes, in a single glance, all the layers that have concerned the territory over the centuries, but rather the deep cohesion between the architectural heritage and the socio-cultural order.

Developments:

Enclosed in the sixteenth-century walls, for most preserved, excluded from areas of new expansion and ignored by municipal development plans, the historic center has been able to preserve almost entirely the traditional urban fabric while maintaining the system of internal relations within the community; nevertheless the historic city today is having to balance the demands of a modern town with the preservation of tangible and intangible heritage of the urban center. New concepts and criteria of the new design in the Jodhpur historical context need to address in particular inadequate infrastructures (reorganization and rehabilitation of water and electrical systems and the waste collection), density pressure and the conservation of the cultural identity.

Remarks and Conclusion:

The paper will present new approaches and methodologies to analyze the historical urban context in order to harmonize the new interventions and projects in existing heritage and meet the contemporary requirements. The main challenge involves the awareness of the public opinion, the need of sensitising in the matter of heritage conservation respecting the local tradition and meeting the needs of both the public administration and the local community. The progressive policies of protection will also trigger new tourism bringing benefits to the local economy.

1 INTRODUCTION

Cultural heritage is unique, irreplaceable, but constantly changing, therefore placing the responsibility of its care on the present young generation is essential. Historic city centers in India are dynamic and vibrant environments of a cultural heritage that goes beyond the built forms. They are continuously evolving, thereby, fragile as they straddle between ideologies of present and continuum. As the world of conservation expands itself to acknowledge the coexistence of the old with the new as the way forward, the new professionals will need to be particularly equipped to understand the complexities of such possibilities in historic core.

The Department of Architecture, University of Ferrara, and CEPT University, Ahmadabad, are in the process of developing interdisciplinary competence of analysis of historic city centers through survey and diagnostic methods. Two of the workshops held in Jodhpur, in 2013 and 2014, was a great success. The historic city of Jodhpur proved to be an extraordinary design laboratory to experience a progressive and conscious conservation but also an approach to valorisation.

Jodhpur, a place with a rich history and culture, has been an area of interest for many. And yet, there is much that needs attention, particularly in the public realm in core city. It is this composition of dense narrow crowded roads, and dense commercial hub full of wholesale markets. The fabric of Jodhpur walled city is interwoven with complex surfaces of architecture, traditions and everyday activities. Laid over a hilly terrain centuries ago, the city exhibits exuberant signs of culture and heritage.

Sadly the city is under lot of pressure of population. With growing tourism, the old houses became abandoned or get converted into lodges. Markets and squares which were flourishing in past are now being troubled by traffic and congestion.

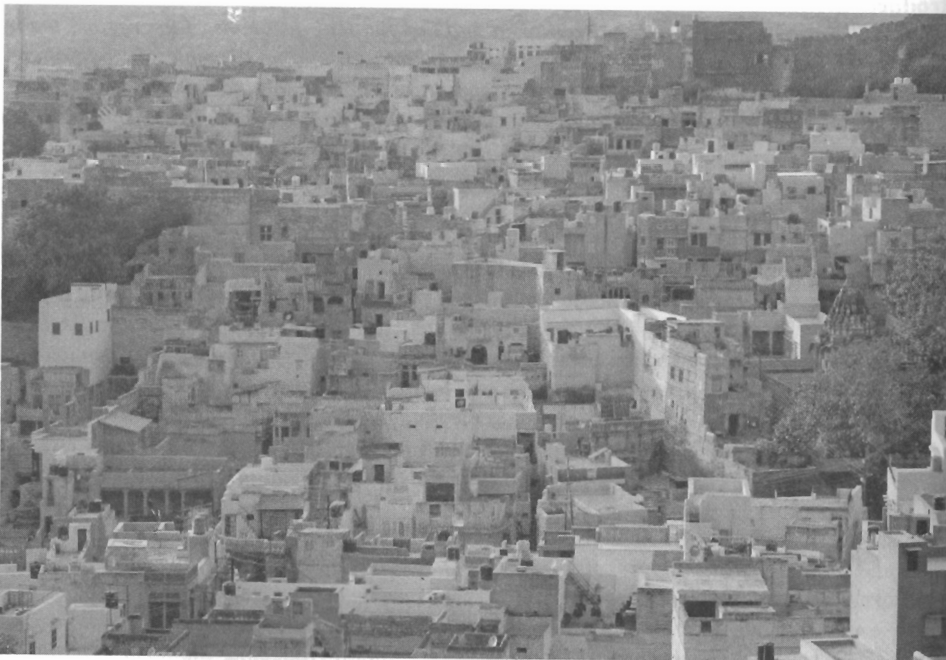


Figure 1: View of the Blue City (Photo by DIAPReM)

2 URBAN AND SOCIAL CHALLENGES

2.1 Social changes on vernacular heritage

Contemporary architectural interventions in Asia [1] are currently highlight an important fact: the majority of the solutions are closely linked to the respective local realities. These local initiatives, which are defined as vernacular solutions, are inevitably and permanently tied to the geographic, topographic and environmental features of their land of origin; nonetheless, they have the capacity to showcase new approaches to a more efficient energy management, especially in terms of natural light and overheating protection. In the last years many things have changed and have been lost in historic centres of many countries. People want to update their houses with modernity, there is the urge of improving the living standard of the people. Changes in the physical structure are inevitable and have been continuing from ancient times but there is the need of control over these changes [2].

The so called new architectonic regionalism is driven by solutions developed in different areas and mediated by different authors, whose creative capacity, designing skills and knowledge originated from vernacular traditions. Despite the recognition gained in these years various elements have composed and emphasized the immense complexity and challenges for the management of the entity of the world wide cultural heritage in historic centres. Since the mid-eighties a growing development pressure made itself visible within historic centres in different countries. Among these India stands out as one of the most strong economies of emerging markets countries [3]. In these contexts very often the major transformations are brought by social changes: new needs and lifestyle lead people to transform the inner spaces, hereditary divisions of the buildings causes a “split-up” and different transformations of the various parts of the same building; common spaces are facing illegal occupation and encroachment; these are only some of the causes that lead to heavy hybridization of the vernacular architecture.

Additionally, as stressed by Niels Gutschow in the essay, “Architecture: The Quest for Nepaleseness” [4] various contemporary interventions outlines the ways that architecture displays the intertwining of nostalgia, politics, and technology. The construction of large-scale temples, coronation platforms, and domestic spaces in Asia reflects not only changing aesthetic tastes but also a desire for an architecture that is free of Western influences. In these historic cities people are very attached to their traditional house for different reasons but they need to be helped and supported by municipalities and other institutions in every single modification/conservation process.

In the past years a slow transformation process of the urban scenario appeared in historic city of Jodhpur. Almost two hundreds of interviews with local residents in a two years on field campaign show the main changes and related causes on the vernacular heritage. For instance at Ground Floor level of residential buildings very often the major transformations are brought by commercial development with a subsequent occupation of common public spaces. Dwelling use is still prevalent in Jodhpur private buildings upper floors. More frequently in private buildings used for dwelling the residential spaces at upper floors has been substituted by hotel activities, bar and restaurant and trade. This has been changing the use of space and the internal layout of the buildings.

2.2 Urban and social transformation in Jodhpur

The rapid social and urban transformations takes place through continuous development, the yet unclear roles of the several concerned stakeholders the lack of effective regulations. Very often the major transformations are brought by social changes [5]: hereditary divisions of the buildings causes a “split-up” and different transformations of the various parts of the

same building; commercial development at the ground floors, with a subsequent occupation and encroachment of the common and public spaces; these are only some of the causes that lead to heavy hybridization of the vernacular architecture.

In these historic cities people are very attached to their traditional house for different reasons but they need to be helped and supported by municipalities and other institutions in every single modification/conservation process. There is a strong need of legislation and mechanisms to start a Building By-Law implementation. For instance a preservation plan could be applied to parts of old cities maybe starting with some pilot projects.

The buildings

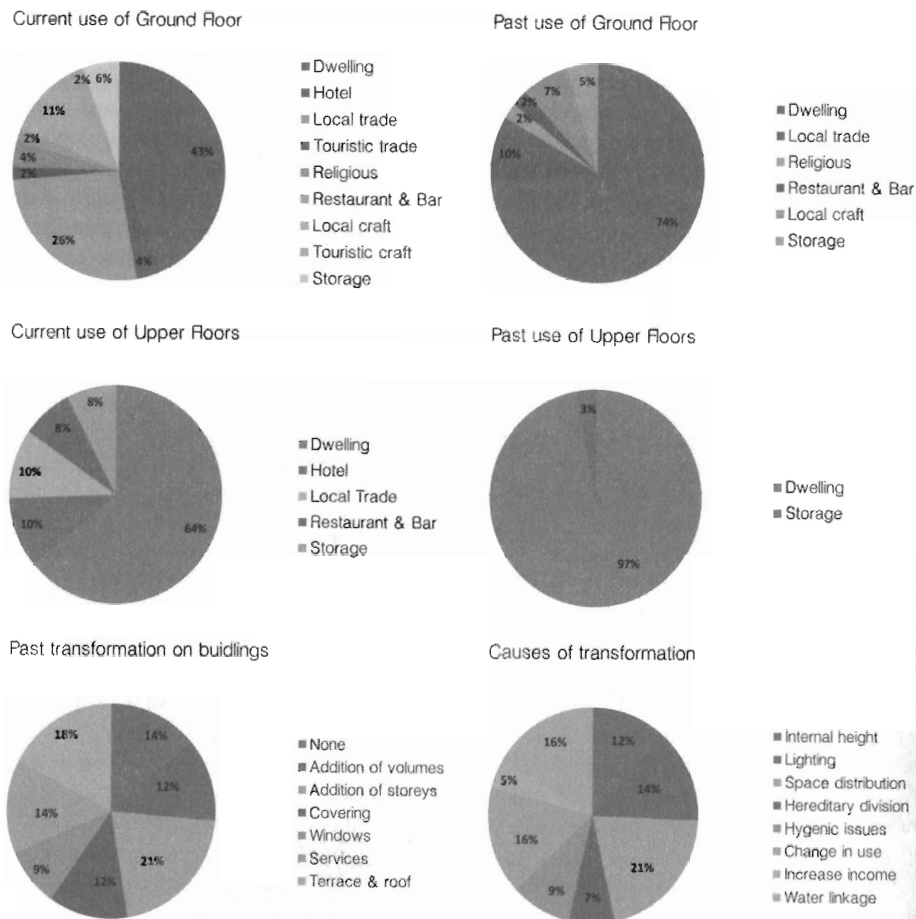


Figure 2: A social analysis about transformations and features of the buildings in a cross-section of 500 inhabitants

3 THE HISTORICAL CENTRE OF THE BLUE CITY OF JODHPUR

3.1 A unique heritage site

The main historic centre is a perfect picture. The Mehrangarh fort stands guard over the city like a sentinel. The blue city or the sun city as it is known, is a perfect mix of warm hues with a contrast of indigo. The area chosen for the year 2014 is the settlement around the Gulab Sagar Lake. It is a mix of Bazaars, Streets, Lake edge, other water bodies, residential areas, school and temples. The narrow winding streets of the walled city are an evolution into the era of automobiles. The auto rickshaws are tweaked for easy movement into the old city. However narrow roads and lack of parking facilities is a curse for privately owned vehicles. In spite of this the traffic movement was mostly even. The land around the water bodies is considered *dev-bhoomi* and hence supports various social and religious activities but cleanliness has been ignored. With sewage and garbage being pumped into them and the edges vastly littered with garbage and cow dung, their potentials remain largely unrealized.

The historic city centre is thus a picture of the dichotomy, of tradition and modernity, colour and chaos, attractiveness and repulsiveness, artistic expertise and environmental ignorance, coexisting as an urban heritage that deserves not only to be conserved, but also to be nurtured and encouraged to attain its full potential.

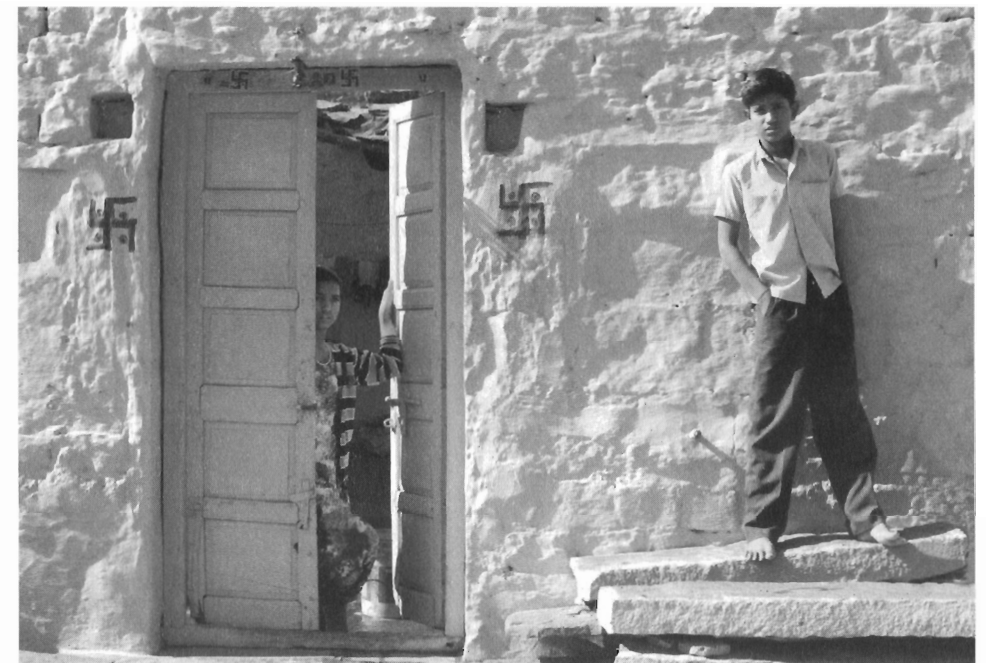


Figure 3: The blue color is the main characteristic of the old city center and one of the most important heritage feature to be preserved

3.2 In situ documentation

During the workshops on site, students documented a small part of historic city of Jodhpur. Doing this, they realized how people stay in historic core cities, how their houses and work are, and appreciate the safety in neighbourhood. In the year 2014, this experiment was extended to find solutions to the problems of local residents, student were exposed to thinking,

besides just documenting. This is an experiment in learning about Historic city center. The program went smoothly, and was highly appreciated.

Students' experience is unique, they found that in spite of lack of modern facilities, people are courteous and warm, and a whole lot of changes have taken place (since its inception) in built form, infrastructure, culture, religiosity, food and dressing of the residents of this historic core city.

3.3 Design case studies in the historic context

In order to analyze the historic environment and outline design strategies, the city centre has been divided into some significant study areas to define an overview of the problems of Jodhpur.

Some areas have completely changed their use destination: Katla Bazaar, for example, was a monastery of the Kunj Bihari temple and now it's one of the main market of the east part of the city. All shops surrounded the "square" have the same interior structure. It's easy to identify the typical articulation of the *haveli*, the pristine Indian house, undergone over time to a double change: from monastery to public house and meanwhile from private to public square. This has overfilled the inner part of the square with motorbike and rickshaw, without a parking regulation and pedestrian areas.

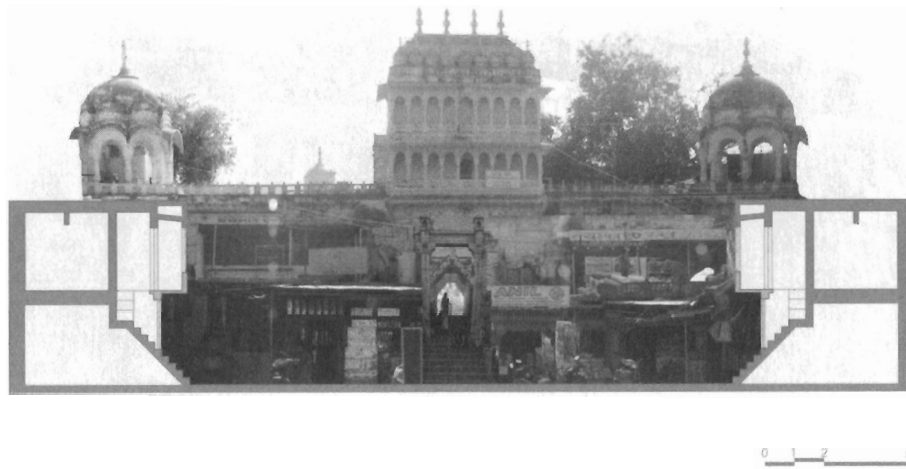


Figure 4: Section East-West of the Katla Bazaar, the old monastery converted into a new market area. The drawing shows the internal part of the structure which is also the old one (image by A. Fornaca, H. Joshi, M. Parmar, S. Caposciutti)

The second main change concerned the house itself: the structure is the same of the past but the different uses over time changed the interiors in order to meet contemporary needs [6]. Although identify and survey changes over time is very difficult, but it is possible to appreciate the unique architectonic and morphological layering of these neighborhoods.

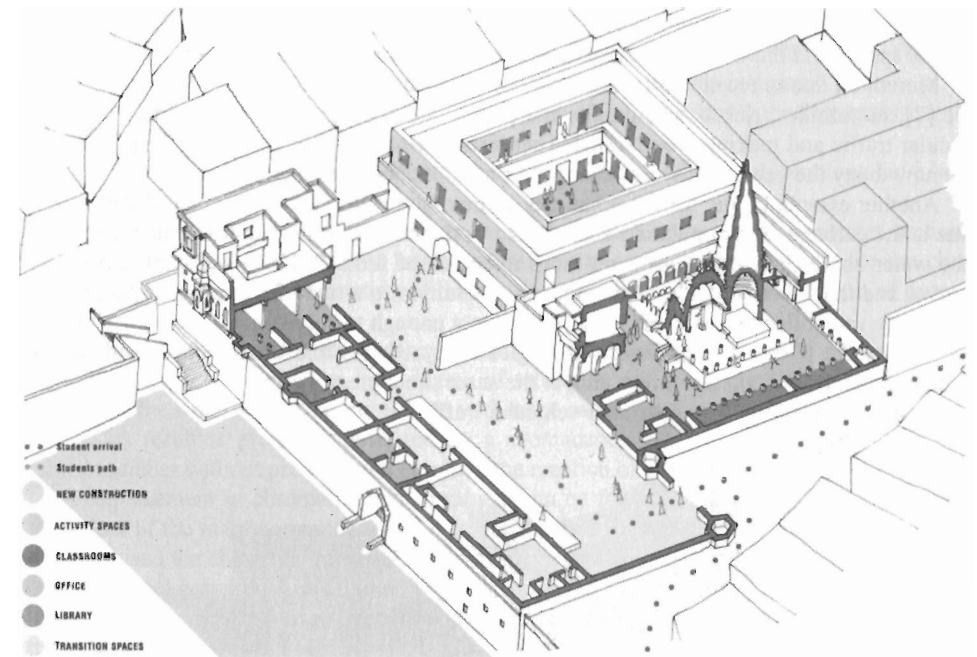


Figure 5: Axonometric section of the Rajmahal school: it's believed that the king commissioned the lake and the palace for a lover or a wife and now it's converted into a school (image by E. Tredici, G. Marchetti, K. Garg, N. Raphael)

The façades along the market streets have been analyzed; restoration and refurbishment have followed different assumptions, quite far from the heritage conservation: the reconstruction of an old house usually concerns its demolition and then the proposal of a new architecture trying to replicate the previous one. The urban survey has focused on identifying the original buildings from those reconstructed through a careful analysis of the original shapes and spaces.

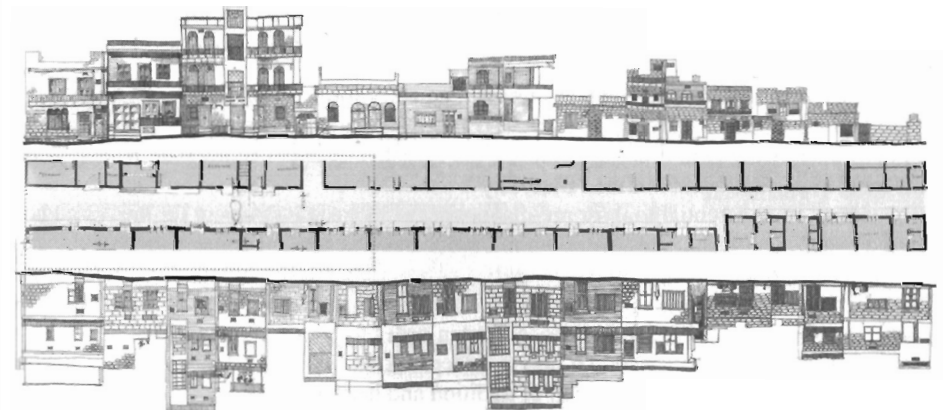


Figure 6: Plans and elevations of a street in the city center (image by A. Sheth, A. Zanirato, S. Perini, T. Timbolo)

It was possible to understand that the main spaces of the houses were unchanged, as the public spaces and the welcome spaces on the first floor, facing the main street.

Moreover, due to recent interventions in the conformation of the streets of the historic centre [7], motorbikes, rickshaw, animals, and people move altogether along roads, mixing vehicular traffic and making it congested. Therefore one of the main design challenges focused on how to lay the vehicle flows, studying the traffic at different times of the day.

Another essential topic for the urban design involved water bodies [8]; one of the main issue is the garbage. The population doesn't know where to leave the rubbish which is left near the water bodies, attracting cows and dogs in search of food. Rubbish and waste invade the streets and the water is highly contaminated; in addition to a sort of recycling by people, municipality van collects plastic and glass, but it's not enough to solve one of the main problems that affect the public space. Design strategies analyzed possible urban spaces and devices where to collect and storage waste and, at the same time, green spaces where cows can move freely and eat healthy without hamper vehicular traffic [9].

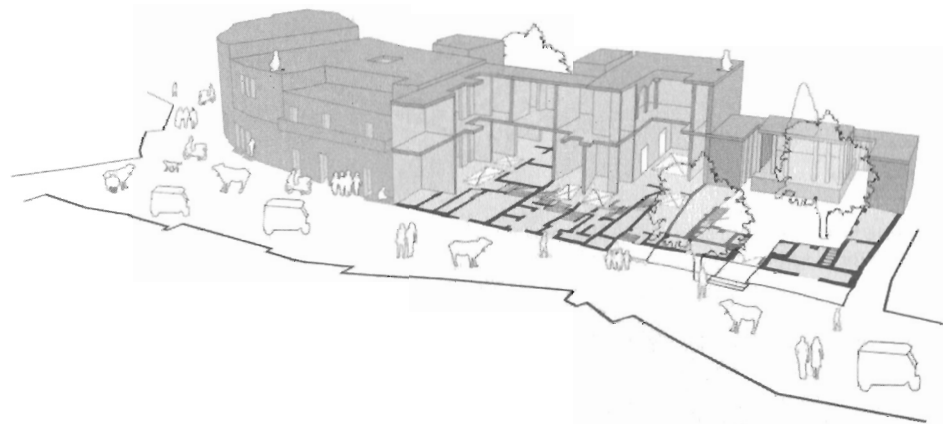


Figure 7: Umed Chowk Neighborhood: a 3D representation of the area near Gulab Sagar lake. The interiors have been completely renovated, and it is possible to see how dense is the structure inside the old aggregation of the *haveli* (image by A. Macrelli, F. Vanelli, N. Khan, T. Choudhary)

3.4 Analysis of the historical surfaces aimed at conservation

During the workshop in Jodhpur, starting from the visual analysis, the survey of facades' colors has been realized in order to complete the investigations collecting data related to one of the most important feature of the "Blue City".

The survey is an essential tool for pre-diagnosis. It is a basic instrument for analyzing constructive stages and techniques, deterioration processes and state of conservation of the artefact. Survey is a basic step of technical and historical-critical evaluation and it is an essential instrument for the conservation project [10]. An accurate and overall survey allows improving the awareness of the needs of the historical city in order to plan maintenance process able to preserve heritage to future generation and to understand how the development of the historic city could meet the need of preservation of tradition and heritage [11].

At a later stage than the analysis of location, context, social attitudes, architectural features, analysis of materials, constructive techniques and state of conservation, a visual-

perceptive survey has been performed, by using a reference sample encoded in colorimetry. This methodology seeks to identify the chromatic hierarchy of each urban facade and the relationship between spot hues and permanent tones of the backgrounds compared to those of the decorative elements [12]. The survey methodology can be further developed by analysing the relationship of continuity and those on the opposite side of the street.

Starting from a first analysis of the color samples the following considerations have been summarized:

1. The chromatic influence increases in urban paths also according to the street sections, and decreases in squares and open urban spaces; this decreasing does not involve the chromatic multiplicity and differentiation of background colors but the low articulation of decorative elements.
2. The colours are associated in the hierarchy for contrasting shades and rarely by association/similarity or "layers"; so high degree of saturation are used operating in the choice of tones with the small changes in brightness within the same color tone.
3. This result is probably generated by a spontaneous habit of using spot colors (hue) mixed together without pre-sampled colors in the creation of tones and undertones.
4. Replacement in chromatic metamorphism can be found mainly in an attempt to mimic the colors of the main permanent natural stone used in construction. Appears instead strongly compromised the chromatic metamorphism of the decorative elements.
5. The background colors of some tones that characterize the cityscape and the urban context (as the blue color) is used from the top to the ground level, involving each decorative feature of the façade.

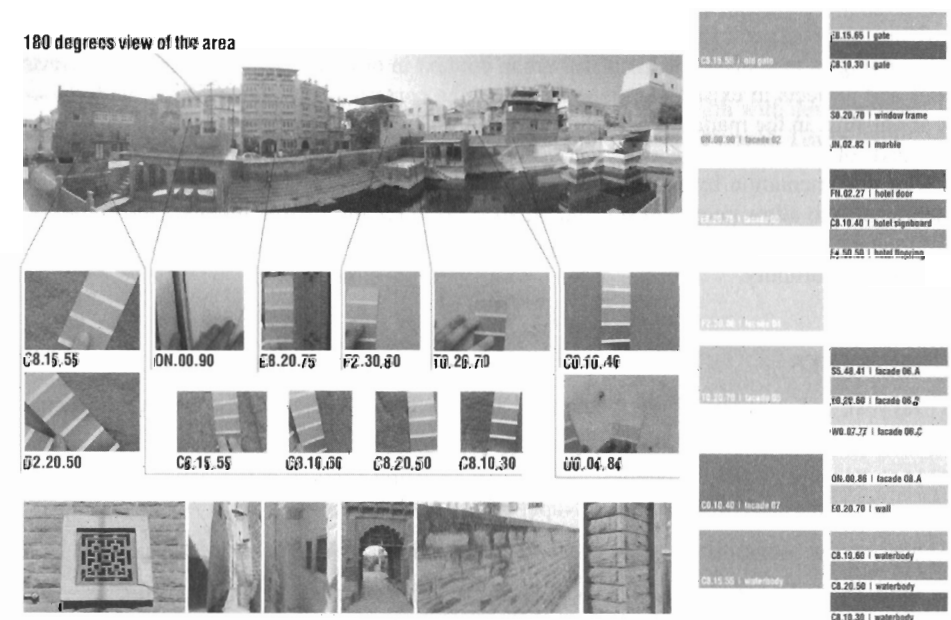


Figure 8: Colors and surfaces analysis in the Makhrana mohalla and tuverji ka jhalra arca (image by Abhinav Varma. Luca Michlini, Michele Millosevich, Netra Bafna)

4 CONCLUSIONS

In the last years many things have changed and have been lost in historic centers of many countries. People want to update their houses with modernity, and there is the urge of improving the living standard [13].

With the rest of Rajasthan, Jodhpur is progressing into an era of tourism with several earlier havelis being modified into high end hotels and some into home stays. The locals are trying to find a place for themselves and fit into this new structure. While their love for the old city has not diminished, some of the residents are moving into the city outside of the walls in a search of a modern lifestyle making way for the migrant population.

Changes in the physical structure in Jodhpur old city are inevitable and have been continuing from ancient times but there is the need of control over these changes [14]. There is a strong need of legislation and mechanisms to start a Building By-Law implementation able to explain what to do in order to preserve the original structures: there must be a soft change able to retain quality of the building. It doesn't have to be development versus conservation; the two issues should go along together. Very often the major transformations are brought by social changes: new life styles, hereditary divisions of the buildings, need for space, and new services highly modified the cultural heritage in the past years. In Jodhpur historical centre three quarters of the residents are owners of the buildings, thus there is a strong need of legislation and mechanisms of protection that could drive and assist this people. Even if a preservation plan could be applied to parts of old cities maybe starting with some pilot projects it is important to highlight that a certain degree of alteration is nowadays necessary: strict conservation policies are useless without an effective compromises between development and preservation.

The design experience in the historic city of Jodhpur focused on new approaches and methodologies to analyse the historical urban context in order to harmonize the new interventions and projects in existing heritage and meet the contemporary requirements, with the aim of sensitising in the matter of heritage conservation respecting the local tradition and meeting the needs of the local community.

The documentation by the students of 2013 and of 2014 was exhibited at CEPT and at Mehrangarh to allow people to see and be aware of their sustainable historic city in the form of "Jodhpur box". The creation of Jodhpur Box and its ability to trigger an active conscience is a great opportunity.

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