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CULTURALLY SENSITIVE CONTEMPORARY BUILDINGS IN INDIA

INTRODUCTION

Contemporary architecture as a result of globalisation often moves away from relationships with the culture and tradition of a particular area or country. Simply put, ‘globalisation is the process of weakening the borders (also) the cultural ones dividing nations’.¹⁾ At the same time, globalisation has an impact on architecture such as: the extra-national, continental spread of patterns and parallel localism. This means that, on the one hand, non-culturally sensitive buildings are being constructed without local elements, while on the other hand, the existing traditional architectural solutions are excessively repeated without reference to the modern world. Thus, there is a need to link these two extreme tendencies in favour of a more moderate one promoting the development of contemporary architecture that fits the location by responding to its cultural and historical context, climate, responsive local building techniques and the character of the community.²⁾ Cultural sensitivity appears to be important especially in countries highly populated, industrialised, undergoing political, economical and social transformations despite their rich cultural heritage. These countries are likely to lose their cultural sensitivity particularly in the context of the fast changes and globalisation that do not respect local patterns and an urbanising world. The largest population growth is projected by United Nations as follows: ‘much of this urbanisation will unfold in Africa and Asia, bringing huge

¹⁾ Frysztak (2010:65–67).

²⁾ Rynkowska-Sachse (2014: 49).

social, economic and environmental transformations (...). The world can expect to add close to 1.5 billion urbanites in the next 15 years, and 3 billion by 2050 and how the world meets the challenge of sustainable development will be intimately tied to this process'.³⁾ In this case India seems to be an appropriate example to be discussed in terms of a place where contemporary tradition-rooted architecture is facing an urban explosion.

INDIAN CITIES

India is a country identified with cultural wealth and diversity for much of its long history. India is a region of historic trade routes and vast empires. It is the birthplace of the oldest civilisations of the world (Sumerian in the valley of the Euphrates and the Tigris, Harappa in the Indus basin), whose achievements in the sphere of culture or economics formed, in many cases, the foundations in terms of the progress of civilisation around the world. At the same time India is a multilingual and a multi-ethnic society as four world religions – Hinduism, Buddhism, Jainism, and Sikhism – originated there. Today, India is the second-most populous country in the world⁴⁾ with 1,210,854,977 inhabitants. Due to rapid urbanisation, development and growth in technology, it has been predicted that within 50 years, the population will exceed one and a half billion.⁵⁾ India also represents one of the fastest-growing major economies along with urban growth since the early 1990s. The economic surge has resulted in a rapid influx of people to the cities and India expects that 40.7 % of its population will be living in cities by 2030.⁶⁾ For example, Mumbai is one of the most populous urban regions in the world and the most populous city in India with a population of 12,442,373 according to the census of 2011⁷⁾ and the wealthiest city in India with the highest GDP of any city in South, West, or Central Asia.⁸⁾ Another city – Hyderabad, established in 1591 – is the fourth most populated Indian city with a population of 6.7 million.⁹⁾ It is historically known as a pearl and diamond trading centre and

³⁾ UNFPA.

⁴⁾ Mydel, Groch (2000:15).

⁵⁾ UNFPA.

⁶⁾ Wąclawowicz (2007:103).

⁷⁾ CENSUS2011.

⁸⁾ Wąclawowicz (2007:106).

⁹⁾ CENSUS2011.

today it continues to be known as Genome Valley. It derives this name after the special economic zones dedicated to information technology that have attracted companies from across India and around the world to set up their operations there and the emergence of pharmaceutical and biotechnology industries in the 1990s. Today, Hyderabad is the fifth-largest contributor to India's overall GDP and a chaotic agglomeration which pays no heed to its cultural heritage.¹⁰⁾ Jaipur with a population of 3 million is the tenth most populated Indian city. It was founded in 1459 as a city on the strategic road linking Dehli to Gujarat. Handicrafts is the foremost industry in the city while tourism comes second. The city serves as an important marketplace for wool and agricultural products. Unfortunately, the upcoming 9 MMTPA Refinery and *Petrochemical complex* to be set up will transform the industrial landscape of the city drastically. The *City Populations 2011* clearly shows how important cities are in India and how fast India is developing along with its cities.¹¹⁾

At the same time, urban growth is followed by developments in architecture which often pull away from ties with local culture and tradition as a result of globalisation. Rahul Mehrotra, the recognised Indian architect, writes in his book *Architecture in India – Since 1990* that 'pluralism, fusion and hybridity are the dominant traits of cultural change in twenty-first-century India. The resultant architecture reflects this fabric of one of the world's largest and most populous nation states'. He also says: 'To be socially relevant, cities have to grow out of the roots. They cannot be transplanted so easily'.¹²⁾ This means that the contemporary architecture of India, despite its culture, history religion and the climate responsive solutions that reflect its various socio-cultural sensibilities, has been moving away from relationships with its cultural heritage. Therefore, with India facing an urban explosion, it is worth reflecting on how to (re)construct culturally sensitive buildings in a modern way by referring to those case studies that, first and foremost, pursue a fusion of tradition and modernity.

¹⁰⁾ Kaczorowski (2009: 326).

¹¹⁾ CENSUS2011.

¹²⁾ RM.IE.

CASE STUDIES – CULTURALLY SENSITIVE BUILDINGS

In light of the definition of ‘culture’ grasped as a set of formulas to solve problems specific to a given society¹³⁾ and of ‘cultural resources’ considered as ‘those tangible and intangible aspects of cultural systems, both past and present, that are valued by or representative of a given culture, or that contain information about a culture’¹⁴⁾ – creating contemporary architecture finds solution to the problems of the local community and draws inspiration from traditional and local materials, design solutions, upgrading them to objects of contemporary architecture, with which the local community will be identified. Thus, considering the cultural aspect now threatened with exclusion by the rapidly expanding cities, it is worth introducing the work of Rahul Mehrotra from *RMA Architects*, and the *Studio Lotus*. The examples of buildings designed in cities such as Hyderabad and Jodhpur, prove that using site-specific architectural solutions and technologies derived from the Indian cultural heritage make contemporary architecture that is culturally sensitive of its location.

KMC CORPORATE OFFICE IN HYDERABAD DESIGNED BY RMA ARCHITECTS

Rahul Mehrotra is an Indian recognised architect and urbanist who is the Founder Principal of *RMA Architects* with studios in Boston and Mumbai, and an educator. He works in Mumbai and teaches at the Graduate School of Design at Harvard University, where he is Professor of Urban Design and Planning, and Chair of the Department of Urban Planning and Design as well as a member of the steering committee of Harvard’s South Asia Initiative. In August 2014, he delivered a lecture as a keynote speaker at UIA World Congress held in Durban in South Africa that the author of this paper had the pleasure to listen to.¹⁵⁾ Mehrotra’s designs range from recycling urban land and master planning in Mumbai to the design of art spaces, shops, weekend houses, factories, social institutes and office buildings across India. Rahul Mehrotra’s architectural design takes the urban landscape, urban conservation and contemporary development into consideration. His design

¹³⁾ Encyclopedia (2010: 164–165).

¹⁴⁾ LaGro (2013; 167).

¹⁵⁾ RMUIA.

philosophy includes conservation which in turn plays an important role in informing architectural practice in creating contemporary architecture. Therefore, he values relationships with craftspeople by including them in the process early, getting their feedback and working closely with them. As a result, he is interested in contemporary craft.¹⁶⁾ Thus, *RMA Architects* work actively with local craftspeople to develop and refine construction details and methods of building that are relevant, sustainable, and founded on local knowledge and culturally-specific design solutions.¹⁷⁾ Using traditional materials such as wood, lime and stone is the mainstay of his team in conservation projects while in their new buildings they also involve new materials. Secondly, his design is also influenced by what he learned from conservation about the life cycle of materials.¹⁸⁾ He says that ‘buildings have problems when materials with two different life cycles intersect. If something that lasts for 100 years is intrinsically linked with a material with a 10-year life cycle, then you will have trouble. And when you begin to think about separating material with different life cycles, then this has implications on design configurations. These are simple things, it’s common sense’.¹⁹⁾ Apart from design, Mehrotra has been actively involved in civic and urban affairs in Mumbai concerning historic preservation and environmental issues. He has written and lectured on issues regarding architecture, conservation and urban planning in Mumbai and India in his books *Architecture in India – Since 1990* about contemporary architecture and a catalogue *Kumbh Mela: Mapping the Ephemeral Mega-City* referring to the notion of ‘smart cities’ and the necessity for architects to collaborate across disciplines.²⁰⁾

Raul Mehrotra and his design associates designed the *KMC Corporate Office* (Fig. 1) in Hyderabad – a city known as CyberCity. This is an office building which employs the idea of ‘a double skin’ as an energy saving and visually striking device – an architectural solution drawing inspiration from traditional design solutions and at the same time upgrading it to contemporary architecture.

Today, the word ‘skin’ is now widely used in an architectural vocabulary to describe the outer layer or layers of the building, which is perceived, first

¹⁶⁾ RM.IE.

¹⁷⁾ RMA.INTRO.

¹⁸⁾ RM.IE.

¹⁹⁾ RM.IE.

²⁰⁾ RMA.RM., RM.IE.

of all as an external part of the building largely independent of the internal one, which has been made possible by technological innovations. Secondly, the skin is a building shell that serves as an ecological filter and plays a key role in passive architecture. Today after the introduction of nanofibres and so-called smart fabrics to architecture, double facades play an intermediary role in the interaction between the inner and outer environment.²¹⁾ In this context, a double skin in a corporate building acts firstly as a climate responsive solution based on the traditional cooling systems of South Asia, which is extremely important. Secondly, it is a visually dynamic façade called ‘the green-wall’, which is a simple application on a surface serving an aesthetic and social function. The principal of the facade is inspired by an idea derived from the past. A double skin that allows the modulation of light and air through the building comes from the traditional cooling systems of humidified surfaces used throughout the ages in hot and dry climates in the old Indian architecture of humble dwellings, monumental palaces and temples (Fig. 2). One of the tools used in traditional building design was the ability to vary the thermal characteristics of the skin of the buildings taking into consideration the time of the day or the seasons. Thereby, it was possible to retain the building’s interior temperature or even cool it by evaporating water from the skin. The physical mechanism was based on a framework that defined the building exterior and within which suitable panel elements with different thermal properties could be fixed at different times. *The Diwan-i-khas* in the *Red Fort* at Delhi is one traditional building designed in such a way. Each set of columns surrounding the emperor’s throne, could hold curtains and screens according to the need of time. For example, in summer there were three sets of screens used, two of which were grass mats kept wet by sprinkling water. In winter they were swapped with heavy quilted curtains that were raised in the day-time and lowered in the evening to retain the warmth.²²⁾

In the *KMC Corporate Office* the outer façade is a screen that humidifies the air entering the building to create evaporative cooling for the interiors (Fig. 3). This is achieved with the use of contemporary materials and comprises a custom cast aluminium trellis with hydroponic trays and drip irrigation, integrated for growing a variety of plant species. ‘The trellis also has an integrated misting system in order to control and regulate the amount

²¹⁾ Weston (2011: 182).

²²⁾ Gupta (1984: 41–43).

of water released to the plants and used when required – to cool the building or cleanse the façade of dust in the hot and windy summer months in Hyderabad. The inner skin of the building is just a reinforced concrete frame with standard aluminium windows. In this project, the screen also takes on the aesthetic function of a dynamic façade where assorted species of climbing plants are organised in a way to create patterns, as well as bloom at various times of the year. Such a solution brings attention to different parts of the building façade through the changing seasons'. The company employs 20 gardeners who can access the facade through a system of catwalks on all five levels. The visual penetration of the building by two very different groups – both socially and economically – also softens the social threshold created by cultural class differences, which are inevitable in corporate organisations in India.²³⁾ This solution could be perceived as successful in terms of reducing social inequity. Moreover, Mehrotra is against inequity and considers it 'a deadly instrument in hardening the boundaries between the communities in a society that hardens thresholds very easily'.²⁴⁾ Finally, it is worth highlighting that the building showcases the continuity of traditional cooling systems of humidified surfaces used in the past in the hot and dry climates of South Asia.²⁵⁾

THE RAAS HOTEL IN JAIPUR DESIGNED BY THE STUDIO LOTUS.

The *Lotus Praxis Initiative* and the *Lotus Design Services* are architectural offices involved in designing the *RAAS Hotel* near the Mehrangarh Fort. The *Studio Lotus* is a multi-disciplinary design practice based in Dehli employing a 40-member team from the diverse disciplines of Architecture, Interior Design, Exhibition Design, Furniture Design & Graphic Design. Their work varies from interior to exterior spaces, from large architectural ideas to the smallest of furniture details. Their design philosophy involves a deep contextual approach to their work and combines this with a strong focus on the tactile and sensory qualities of the space.²⁶⁾ The design process looks at sustainability through the lenses of cultural, social and environmental impact. They describe themselves as follows: *we work on the principal of conscious*

²³⁾ RMA.KMC.

²⁴⁾ RM.AD.

²⁵⁾ RMA.KMC.

²⁶⁾ SL.INTRO.

*design, an approach that combines a keen awareness of technologies and materials that celebrate the local resources and cultural influences and are sensitive to all stakeholders together with the impact on the ecology. We deal with every daily problem at a fundamental level.*²⁷⁾ Therefore in their work one can see an active engagement in integrating localised skills and resources with the materials and technologies to make their buildings culturally sensitive.

The *RAAS Hotel* is uniquely located in Raas Jodhpur at the base of the Mehrangarh Fort which is a historic place founded by Rao Jodha in 1459 after whom Jodhpur was named after.²⁸⁾ The *RAAS hotel* is a luxury boutique hotel with 39 rooms situated near the old city quarter of Jodhpur. This building was acknowledged in the World Architecture Festival in 2011 in Barcelona and received the first prize in the Holiday category.²⁹⁾ The site of the hotel was inherited with three structures (from 17th – 18th century) set in a large courtyard. Therefore, the main spatial concept was to use the old buildings and the expanse of the courtyard as the platform for the *Raas Hotel* and to locate the new buildings so as to serve as framing elements and as contemporary counterpoints to the site and the *Fort*. The old buildings were restored by traditional craftsmen with original materials such as lime mortar and Jodhpur sandstone. The spaces of these parts (the pool, dining areas, a spa, open lounge areas) were used as common areas; three apartments were housed in the old buildings, and thirty six rooms in the new ones. The architects designed the new buildings in such a way that the spatial and formal relationship among the old buildings and the *Fort* was highlighted. This was achieved by architectural planning in the following way. Firstly, architects created the sense of arrival by extending the meandering narrow lanes of the walled city into the property and with a new wing design playing the role of a second gate opening onto the main courtyard for the guests. Secondly, the architects used the monochromatic palette of the local Jodhpur sandstone in all its hues and textures. This device made the hotel blend into the landscape with the *Fort* in the background. Thirdly, new buildings respond both to the heritage structures and to the organic form of the Blue walled city dwellings, without aping the old. Next, the relationship between the hotel and the *Fort* was maintained by almost all rooms having a view of the fortress. At the same time, cultural sensitivity of the buildings was achieved via several solutions.

²⁷⁾ SL.INTRO.

²⁸⁾ Kaczorowski (2009: 329–330).

²⁹⁾ WAF.WBD.RH.

The development was crafted by over a hundred regional artisans and master-craftsmen as a result of the strong local tradition of craftwork (stonework, woodwork, metal work). The buildings were 70% made with locally available materials (hand cut stone, pigmented cement terrazzo poured in situ on the floors, locally crafted furniture in a local Indian hardwood called sheesham) worked on by a team of craftsmen.

Additionally, a double-skin façade (Fig. 5) was installed on the *RAAS hotel*. It was inspired by the traditional stone latticed *jharokhā* form of *Rajasthani* architecture. The contemporary panels can be folded away by each guest to reveal views of the fort, or can be closed for privacy. The outer skin acts as a ‘breathing’ stone lattice wall that keeps out heat.³⁰⁾ Such a solution is based on indigenously designed apertures optimised for light, ventilation and view. ‘An equivalent window in amber consists of an opening protected by stone louvers tiled towards the inside. Frequently, large openings were filled in by “jalis” (screens) that let in air and some light’. ³¹⁾

SUMMARY

Facing rapid and uncontrolled urban growth, India is likely to lose its architectural identity if it neglects its cultural heritage in contemporary architectural design. Considering cultural and historical contexts at the pre-design stage could become a stimulus to develop contemporary architecture connecting designs of various scales, culture and new technologies with the existing urban and architectural environment. The presented culturally sensitive contemporary buildings have demonstrated how contemporary Indian architecture attempts to appropriate a traditional vocabulary and spatial sensibility to devise new design solutions. The *KMC Corporate Office* in Hyderabad and the *RAAS hotel* in Jodhpur are culturally sensitive buildings. Although they come from different cultural regions of India, they show how recognised architects consider the cultural aspect in their building design and therefore their work may serve as a model for others to follow. This happens because the architects take vernacular architecture into consideration, which is ‘built by people whose design decisions are influenced by traditions in their culture, has been gleaned through a long period of trial and error and the ingenuity

³⁰⁾ WAF.WBD.RH.

³¹⁾ Gupta (1984: 45).

of local builders'.³²⁾ More so the architects respect the local builders because 'they possess specific knowledge about their place on the planet, and thus it is valuable in promoting climate-specific passive building technologies in modern buildings'.³³⁾

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³²⁾ SD.

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Fig. 1. KMC Corporate Office, Hyderabad, designed by RMA Architects
Source: Image by courtesy of RMA Architects (received on 10.2014)

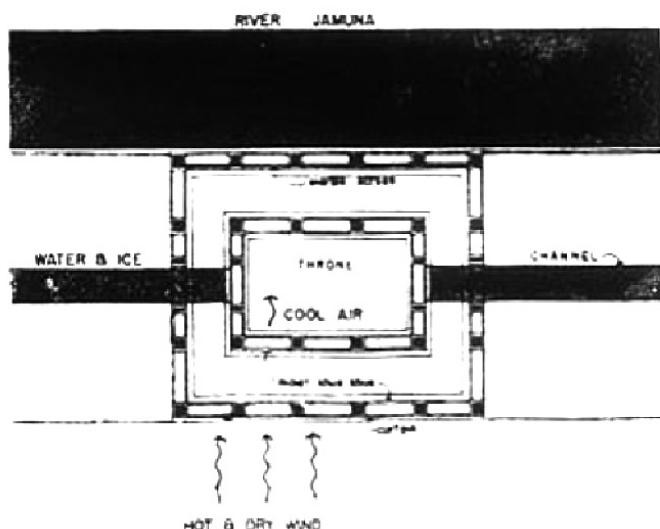


Fig. 2. Cooling system – Diwan-i-Khas, Red Fort, Delhi, Source: Gupta (1984: 43)

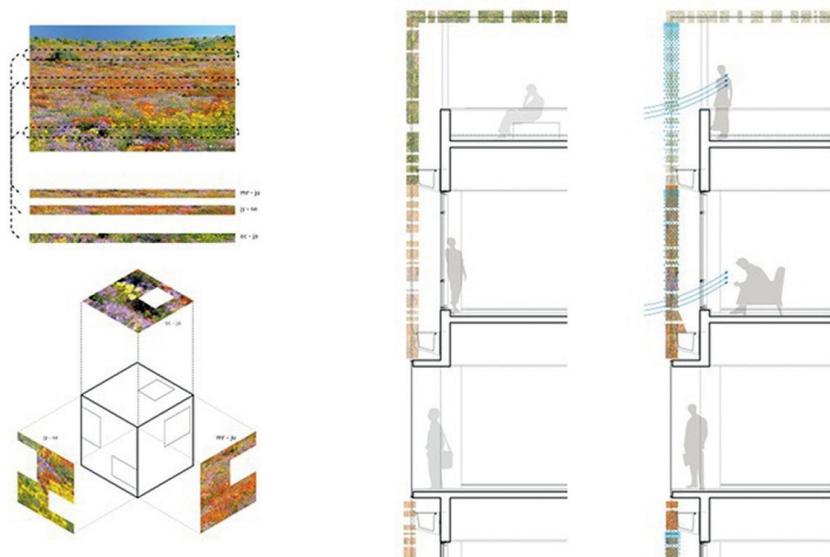


Fig. 3. KMC Corporate Office's double façade. Source: Image by courtesy of RMA Architects (received on 10.2014)

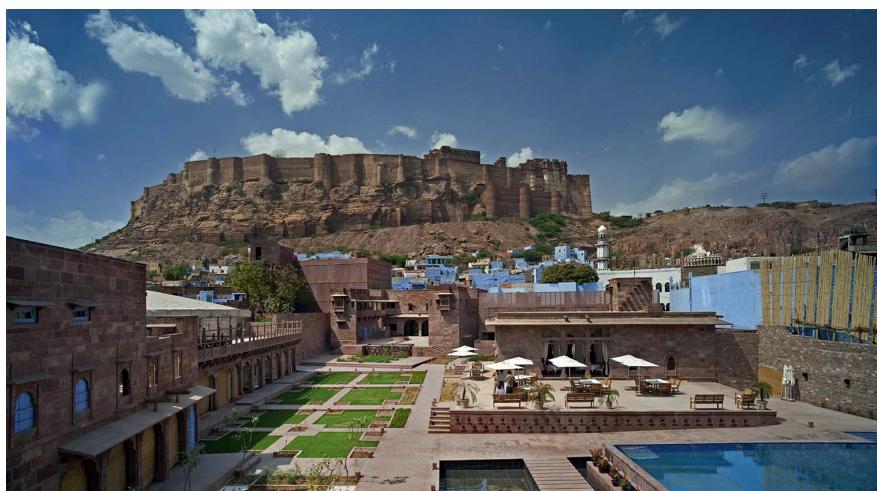


Fig. 4. RAAS Hotel, Jodhpur, designed by the Studio Lotus, Source: <http://studiolotus.in/category/portfolio/adaptive-re-use/>. (entry: 05.02.2016)



Fig. 5. RAAS Hotel, Jodhpur, designed by the Studio Lotus, Source: [http://studiolotus.in/
wp-content/uploads/2015/06/RAAS_slideshow7.jpg](http://studiolotus.in/wp-content/uploads/2015/06/RAAS_slideshow7.jpg). (entry: 05.01.2016)