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Proposed GIFT City in Gujarat: Skyscrapers coinciding with technology



Ardour of the Pink City, Jaipur

Urban Issues and Architectural Interventions—



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The fast paced growth of the Indian economy, particularly its cities has produced an urban crisis, one that is marked by the lack of adequate infrastructure and growth management as well as by sharp social divisions that are bluntly stamped in a landscape of materialistic enclaves. In this context, there are numerous calls for a more decisive and vital type of planning that can 'future-proof' the cities. Though, many experiments are being executed in aspirations of providing a better infrastructure but such piecemeal interpretations shift the focus from the main issue and do not provide any permanent solutions. It has been observed that an integrated approach towards city infrastructure development needs to be addressed in a holistic manner, rather than unraveling issues with a

segmented and fragmented approach which ultimately results in temporary shifting of the issues and perhaps, we are unable to solve and understand the complexity of the matter of city development which chokes the cities and leaves no breathable human spaces.

History Speaks Volumes: Taking examples from our own past and how Indian cities have developed over the years, our modern settlements owe a great deal to the ancient civilizations like Indus Valley or Mesopotamia, among others, that considered the various factors that translate into a healthy human settlement.

Creating planned cities according to human requirements is a trend that started with these civilizations. A well-planned street grid at the time when there were no vehicles and an elaborate drainage system hint that the

occupants of the ancient Indus civilization city of Mohenjo-Daro were skilled urban planners with adequate knowledge of city services, drainage, etc.



Grid Street Planning as evident in the Indus Civilization



The Great Bath at Mohenjo-Daro

Interestingly, the "Greath Bath" at Mohenjo-Daro is called "the earliest public water tank of the ancient world" wherein the water was discharged by a huge drain, making it one of the best known structures of the civilization.

Subsequently, with the changing mindsets of the people, the city planning changes. We see an emerging trend of emphasis on the social understanding of its inhabitants in the new Indian cities.

Various Redefinitions of Capital City of India: Built on the banks of River Yamuna, Shahjahanabad, the walled city of Delhi envisioned by Shahjahan still exhibits the romance of Old Delhi's *bazaars* in the lanes of Chandni Chowk. Similarly, Edwin Lutyens is a one-man brand for New Delhi's heritage, prominently known as "Lutyens' Delhi" which still ranks as one of most elegant urban landscapes anywhere in the world. Lutyen's Delhi became the symbol of British Imperial power and dominance; a monumental, grand and larger than life city space. Connaught Place designed by Sir Robert Russell became the central business district of Lutyens' Delhi.

Connaught Place – Redefined Physical Planning: A distinguished attempt to makeover Connaught Place has been proposed by us, showcasing a transformation and redefinition of landscape spaces with multiple and multifunctional underground developments. Therefore, it has been recommended that a smart blend of user integrated facilities with the Central Park of Connaught Place as the hub without interfering with the Lutyen heritage shall be made. Blurring the line between art and architecture and delivering both to the user is the consideration for redefining the heart of Delhi by adding layers beneath the Connaught Place radius in the form of combining street landscaping, retail and commercial hub, bus access, multilevel car parking and the metro train access on all



Redefinition of the CP Radial



Proposed section of the Central Park Multimodal Hub

different levels whilst blending into the old culture by retracting features of the famous Connaught Place's colonnades.

Vibrant Pink City of Jaipur: In a similar background, Jaipur or the "Pink City", can be traced in an assortment of chronological and artistic destinations that dwell in the city. The credit solely goes to Vidyadhar Bhattacharya, who created plans of the city in line with the prehistoric Hindu dissertation on architecture known as "*Shilpa Shastra*", the science of Indian structural design. Therefore, Jaipur has been divided into nine wards developed within a "corridor planning" and has a city wall running along with seven entrance gates. The Pink colour, distinctive of the terracotta coloured lime plastered walls of all the buildings, adds an alluring character to the city.

Le Corbusier's Green City of Chandigarh: Chandigarh, the dream city of independent India's first Prime Minister Jawahar Lal Nehru, is known as one of the best experiments in urban planning and modern architecture in the twentieth century in India. The city plan was conceived as post independence "Garden City" solely by Le Corbusier, wherein using a grid iron pattern, the metaphor of a human being was employed, keeping in view the socio-economic

critical, especially at this sensitive stage of our cities. Therefore, the architect/planner needs to lead and not to be led by the political and bureaucratic British ruling fabric of governances.

Smart City: It is the great vision of honourable Prime Minister to develop 100 new smart cities in India, meaning cities which use technology to run itself and manage resources efficiently. Everything from a smart city's governance to its public transport network, water distribution and waste disposal systems would use technology to provide better services and make efficient use of resources. The currently on going GIFT City in Gujarat proposes a modern town boasting of high rise buildings and skyscrapers. But, what we need to think about is whether it really is feasible to convert Modern Day India into the downtowns of the West? Should we not focus more on adapting passive strategies of sustainable development rather than only on technology implementation and creating glass buildings and skyscrapers?

As we know, Indian cities have their unique and specific issues, related to cultural, social, climatic and economic aspects that perhaps are different from the western world. Due to the unplanned mushroom growth in Indian cities post independence, our cities are choking. Imitating the



Grid Iron System of Sectors in Chandigarh



Palace Assembly alongside a water body in Chandigarh

conditions and living habits of the people.

Architects' Intervention: Grasping from the above, it is evident that the role of an architect in urban development needs to be redefined. In the present scenario, most of the visualisation of detailed project feasibilities and analysis of the urban issues are being hindered due to interferences which act as counterproductive and thus dilute the contribution of the planner. A professional architectural intervention is

West in terms of gathering a 'smart city approach' would only leave us with limited advantages and many more problems. Moving away from the typical cogitation that use of technology is enough to build a smart city, we should consider a simple historical fact: The previously built Indian cities were simple yet intelligent without an abstract use of technology. Then we can ask ourselves, what if we can envision a smart city with minimal use of energy and technology?

Understanding cities is vital to understanding our civilization. Therefore, I propose a city which is embedded with nature and incorporates the passive strategies of sustainability whilst gaining from the historically successful planning approach.

Restoration of Water Resources: Revival of our water resources such as *baolis*, *kunds*, lakes and stepped wells, an entire category of architecture that is slipping off history's grid, would be the first step towards improving living conditions in a smart city. "Baoli" was much more than just a water reservoir in its golden days; it was a candid retreat for the locals from blazing summers and a gathering place for recreation. Restoring our natural water resources can help us in dealing with hot temperatures and fluctuating water availability.

As our rapidly globalising Indian Cities move further into the 21st century, a long term solution needs to be matured that employs our existing assets and sustainability strategies in the most beneficial way to focus on turning 'ordinary to extraordinary'.

Mutual Shading: Another factor that can be picked up from history, would be the application of "mutual shading" in our buildings. Cities like Jaisalmer, Jodhpur and Jaipur, being case

examples of this design principle, prove that when we mutually shade buildings, an immense amount of energy application can be avoided due to intelligent and abundant use of daylight and heat.

Building Orientation: This basic design strategy is given less importance than it deserves. Rather than adding intelligent facades to avoid the harsh sunlight, placing a building along its N-S direction can result in maximising daylight and minimising heat gains, letting the structure breathe and thus reducing the need for energy consumption in the hot and dry climatic conditions.

Courtyard Planning: A courtyard continues to define a perfect spatial organisation since the time of *Havelis* in Rajasthan. Being the heart of the *haveli*, it also served as a climate modifying factor. Courtyard planning emerged when the concept of air-conditioning did not exist. Technology was minimal and it all depended on the sheer magic of architectural concepts, plans, forms, elevations, sections and details to achieve a comfortable living. Borrowing this planning principle from our past, we can ensure a moderate temperature and better articulation of spaces in our current buildings.

It is safe to say that with the rate of urbanisation increasingly rapidly, as designers, a consciousness and a careful reinterpretation of our definition of 'smart architecture' is required. Learning from our history does not mean that we start building like our ancestors, but go back in context and take advantage of the successful ways of planning.

Smart Villages, Not Just Smart Cities: Anna Hazare rightly said, "India needs smart villages and not just smart cities". As architects who play a strategically important role in this matter, our intent should be to provide urban facilities in rural areas to prevent migration from under developed villages to ever-growing cities. Rural development, in turn, would create job opportunities through agro-based centres and such, for all the classes and masses.

With a similar intent, Creative Group has moved forward to address the issues of sustainable architecture and evolve a new India in an efficient and sustainable manner.

Master Plan of Jamshedpur: Vision 2057: In 2013, Creative Group was shortlisted by TATA Steel Ltd to propose the redevelopment plan for Jamshedpur, which is a small town at heart with its own community fabric and short distances between work, home and community recreation. A lot of factors were taken into consideration



Concept of mutual shading in Jodhpur



Adalaj Stepped Well, Ahmedabad

before planning the future development for this green city that produces tonnes and tonnes of steel every year.

"Our idea begins by placing the industry

systems that could become ecological buffer zones, parkways to individual towns. In many ways, it is the inverse of the "Central Park" concept, where instead the park surrounds the town, instead of the town surrounding the park.

The basic model multiplies and creates several parkway systems that intertwine. City Centres have also been identified that overlay the Jamshedpur Command Area. These are resources that are provided for the city-at large. Centres like Jubilee Park, Rivers Meet Park, the City Nursery, Museum town, Centenary Park Malls and the entire "new" Jamshedpur Riverfront community and its boardwalk, which is activated by active/passive recreation, access to the water and commercial activities.

The challenge of this master planning was to direct the change and blend Old Jamshedpur with New Jamshedpur and to assure that the change is beneficial and productive and not destructive to Jamshedpur's legacy of life.



Master Plan Zoning, Jamshedpur



Semi covered peripheral freight transportation network



aside from the centre of the basic model for a town, where community is at the core. We imagine each town as self-supporting and include all daily life requirements to nourish the population it supports," illustrates Gurpreet Shah, principle architect of Creative Group.

A concept of "A town within a park within a city" earmarks the crux of the Master Plan.

Surrounding the concept of the town is the concept of park, when looked at the city of Jamshedpur and compiled its passive and active recreation areas, it seemed clear to me that there was tremendous opportunity with the amount of green space available within the city. I began weaving the opportunity of the existing green network together with areas of aged Tata housing (50 years or older) and natural stream corridors.

I was then able to identify natural "belting"

Koba Circle Master Plan: Transit Oriented Development: Given the trajectory of urban development, there is an alarming growth of private vehicles that have begun to crowd the roads and foul the air thus choking the cities of any breathable space.

In today's day and age, India's smart cities are evaluated by their ability to solve the persistent urban challenges. With the same motive, Creative Group was invited by MEGA (Metro Link Express for Gandhinagar and Ahmedabad) to do the feasibility report on the Koba Circle: Transit Oriented Development.

Provided with an untouched vast area of 283 acres, Creative Group had the opportunity to reassess, redefine and re-evaluate the physical planning around the Metro link to a diameter of 1.2km and develop a neighbourhood to enhance

the human lifestyle to create an independent city in itself and provide last mile connectivity.

The master plan proposes 5 metro stations, Koba being the hub along with Akshardham, Vadaj, AEC and Paldi stations, each having its own unique identity yet exhibiting a sense of connection with the other stations.

The entire Koba sub-city is proposed as a pedestrian friendly development which enhances walkability thus easing the traffic movement. Underground subways are proposed under road-crossings for pedestrian safety. Koba is also proposed as a bicyclist friendly sub-city with bicyclist tracks running through the belts of commercial and residential developments to the cultural hub and the metro terminal. This proposal increases the sustainable value of the sub-city by saving transportation cost and fuel.



Interior of the Koba Circle Metro Station



Koba Circle Master Plan

"Consequently, our intention behind the development of Koba Circle Metro Station is to make the experience of public transport an enjoyable one and to arouse the theory of live, work, play," explains Prabhpreet Shah, executive director, Creative Group.

The most important feature of the sub-city is its relationship with nature. Greenery and

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landscaped plazas practically flow through the built environment, letting both coexist with each other. Apart from maintaining a buffer between the metro line and the built environment, the lush greenery establishes a relationship between man and nature. A sustainable green roof runs over all the commercial areas, developing a feel of mutual coexistence of buildings and nature. Thus, Koba illustrates perfectly how indulging a structure in the realms of nature can be gratifying. The Master Plan consists of retail outlets, exhibition spaces, art museums, convention centres and residential development around the Metro Terminal, creating a cultural and recreational hub posing as a panoramic visual delight, enhancing public engagement and revitalising the city's economy by generating revenue for MEGA. Creative Group envisions Koba Sub-city as an iconic gateway to Gandhinagar.



Agrasen Ki Baoli, Delhi

Conclusion – Motivating Tradition through Modernity: Some Indian states are already experimenting with creating new cities with “smart” elements. These include the Gujarat International Finance Tec-City or Smart City Kochi, in the southern Indian state of Kerala. While reading several articulations pertaining to Smart Cities and their development, I wonder if it is all a technological humdrum or will planners and architects realise that a lot more than just availing the best of technologies is required.

Still grappling with the nuts and bolts of

building a smart city, our country is on the lines of fully understanding what an ‘Indian Smart City’ should be. The GIFT city with its gleaming high rise glass towers and skyscrapers, along with Dholera, another ‘future smart city’, both welcome top notch technology and modern living.

However, the current situation calls for a more economical solution in terms of land use, having many social advantages in terms of services and at the same time provide for very close contact with the ground and with nature, i.e. low rise, high density structures. These structures bring together the best of both worlds: they are dense enough to achieve urban benefits namely access to public transportation and civic amenities while accommodating an integration of open spaces whilst providing a sense of individual identity.

India has a very strong heritage which cannot be ignored and thus only one thing needs to be made sure of. Motivating Tradition through Modernity. Attributing simple yet the most effective ways of urban and rural planning, we need to focus on strategies like neighbourhood planning, inter phase between accessibility, efficiency and people’s movement. But, is the architecture network around us capable enough to withstand the functioning of such technology? Are we just adding layers and layers of new innovations rather than upgrading the existing infrastructure? These questions raise an alarming situation.

Therefore, the cynosure should be on building cities that enhance its residents’ lives by utilising the underlying passive strategies of sustainable architecture and not just relying on technology to solve all our problems. Would we want the people to believe that the only way a city can be ‘smart’ is when it never gets built? Or does a ‘smart and sustainable city’ with open spaces, connected neighbourhoods, intermodal hubs and minimalistic energy utilisation sound like the way to go?

Therefore, a planning and architectural intervention is very important to be realised and merge the strong Indian Ethnic architecture and the modern trends of planning with advanced use of technology in terms of services, infrastructure and city development, thus creating sustainable and futuristic Indian Smart Cities ✚

Prof Charanjit S Shah is the founding principal of Creative Group who takes a special interest in green architecture initiatives in India.