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NATCON2020

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Contents

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Ar. Anand Palaye

EDITORIAL

IIA CAD
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OF IIA CAD 2020

Dear Fellow Architects and readers

Although the year 2020 has continued to present many challenges to the mankind, in some ways it has also brought out some better aspects in it.

One of a major response to the present situation was the initiative by IIA to hold its National Convention on line under the banner “NATCON 2020 TRANSCEND ON LINE”. In a very short time, the team under the leadership of Ar C R Raju put up an excellent program with participation from architects across the globe, that too on a newly set up digital platform with great success. The occasion was inaugurated by Shri Venkaiah Naidu, Hon Vice President of India and was widely attended by members, details of this special event are presented in this issue.

Another milestone in IIA's history is launching of a dedicated CAD software for the exclusive use of IIA members and student members at a very affordable price, under the banner of “IIA-CAD”, spearheaded by a team led by Ar Lalichan Zacharias. This software should help all members to carry on the design process in a very efficient way.

We are sure our members and readers will appreciate these milestones in the journey of our institute.

Ar Anand Palaye
Executive Editor

Ar. Divya Kush

PRESIDENT'S MESSAGE

Dear Fellow Architects,

Warm Greetings!

While the entire world is struggling to cope with the challenges through by the Pandemic COVID-19, we all have been exploring ways to move on with life in many non-traditional ways.

We at IIA took the decision to organise the **NATCON-19** in the online format avoiding the physical gathering. The two days event was not only well received and attended by the members but was also appreciated widely including by President UIA, Ar Thomas Vonier.

NATCON was inaugurated by our **Hon'ble Vice President Shri Venkiah Naidu ji** on 11th June 2020. The eminent key note speakers included the legendary Architect Moshe Safdie and Social reformer and activist Er Sonam Wangchuk.

During the NATCON we also launched the IIA**-CAD** software for the benefit ofthe members.

I am sure you all must have enjoyed the online experience of NATCON-19 from the comfort of your homes.

I look forward to more such online events in the times to come.
JAIHIND

Divyakush

Ar Divya Kush
President
The Indian Institute of Architects

INAUGURAL ADDRESS

Shri Venkaiah Naidu
Hon. Vice President of India

The eminent Vice President and Chairman of the Rajya Sabha Shri Venkaiah Naidu ji virtually addressed the attendees of IIA's NATCON 2020 today. While paying homage to India's rich architectural history spanning millennia, Shri. Naidu spoke about the key aspects towards designing for the future – including resilience and inclusivity – especially in the aftermath of a pandemic that has severely affected many sectors, including construction.

Shri. Naidu's call to architects going forward is to not only look towards aesthetic, but sustainability, basic comfort, among other aspects of design. He called upon architects to prioritise protecting nature, and preserving culture and our heritage while designing. Balance is key – to build structures that offer shelter, security, comfort and safety, while maintaining sustainability and aesthetics. Shri. Naidu urged the community to develop smart cities and realise PM Modi's dream of housing for all, while preserving the heritage and local sensibilities of each area, and engaging immensely talented local craftsman and artisans who are struggling to keep our culture alive. He mentioned that it would be useful to seek the views of the locals while designing new projects, to maintain the inclusivity and uniqueness of the area.

Prime Minister Modi's call is to reform, perform, and transform, while transcending to self-reliant, resilient and inclusive architecture. Shri. Naidu emphasised greatly the need to take inspiration from the drivers of Indian architecture, and adopt concepts that are environmentally friendly – a major challenge before the current generation. Urban centres have long since faced issues of flooding and water logging – precipitating the need for an effective drainage system, while also focusing on rainwater harvesting.

Shri. Naidu's address concluded with a call for the IIA to work together with national and local authorities to pave the way forward, while reiterating a call to take note of comfort over fashion while designing. He reminded everyone concerned to keep soundaryamma soukaryama – beauty, hope and comfort – in mind as they move forward.

Ar Thomas Vonier
President, IUA

GUEST OF HONOUR

Ar. Thomas Vonier, President of the International Union of Architects (UIA), present at NATCON 2020, expressed his compliments to the IIA for hosting a virtual conference on a theme and platform that is most appropriate to the current times. He recalled the previous UIA Council meeting in Lucknow in 2018, and invited the members of the IIA to the next UIA World Congress re-scheduled to 18-22 July 2021 at Rio De Janerio.

Ar Divya Kush
President-IIA

WELCOME ADDRESS

TRANSCEND 2020, the first virtual NATCON came to a start as scheduled at 10am, with the Presidential address by Ar Divya Kush. The President welcomed and acknowledged Vice President of India, Rt. Hon. Shri Venkaiah Naidu Ji, and the dignitaries present on the dias, who have come together across Nations to show their solidarity with the IIA in its endeavour to think beyond the normal way of doing things and discuss topics of transcending, resilience, innovation, inclusiveness and self-reliance. On the NATCON platform were the President of UIA, Ar Thomas Vonier, President of ARCASIA, Ar Rita Soh, President of SAARCH, and Ar Kishore Thapa. The President welcomed the dignitaries, speakers, panellists, fellow architects and students, and spoke of the contribution of the IIA members towards overcoming the current crises through fund raising, providing food for stranded migrant workers, engaging with the architectural community through knowledge sharing webinars, talent hunting, sketching and photography competitions, ideas and essay competitions.

To conclude in his message to our Vice President, he expressed that as a responsible Institution of the Nation, the IIA in this troubled times will, stand shoulder to shoulder with the government and ask only what the Institute can do for the Country.

PRESENTATION BY MASTER SPEAKERS

Sonam Wangchuk
Engineer & Founder
SECMOL, Ladakh

MASTER SPEAKER : ER. SONAM WANGCHUK

Sonam Wangchuk born in the Trans Himalayan Region of Ladakh on September 4th 1965 is an Indian Engineer, Innovator and Education Reformist. He is the founding Director of the "Students' Educational and Cultural Movement of Ladakh" SECMOL. His innovative idea of Ice Stupas and his initiatives on "I LIVE SIMPLY", Earthern Architecture, Social Reforms and many more jave already made him a legend at a young age when most still struggle to settle down.

Ar Moshe Safdie
Safdie Architects

MASTER SPEAKER : AR MOSHE SAFDIE

Moshe Safdie, the Master Architect was born on July 14th, 1938 in Israel. Over a celebrated 50 years of career, Safdie has explored the essential principles of socially responsible design with a distinct visual language. His wide range of works include, Cultural, Educational, Institutional, Neighbourhoods, Public Parks, Housing, Mixed use Urban Centre, Airports and City plans across the continents. He has many iconic projects to his credit in India which includes, Heritage Centre at Anandpur Sahib, Punjab.

NATCON 2020: TRANSCEND ONLINE - July 11 & 12, 2020

Ar C R Raju
Convenor-NATCON

CONVENER'S MESSAGE

Dear Members,
The National Convention of The Indian Institute of Architects is an annual event which we all look forward to meet, exchange ideas and learn from the presentations and interaction with renowned architects and panel discussions to understand and update our knowledge, apart from the opportunities for bonding, friendship and fellowship among our fraternity.

This year the IIA NATCON 2020 is being organized on a virtual platform due to the prevalent pandemic situation. The theme of the conference Transcend…God Beyond---Towards a Self Reliant, Resilient and Inclusive Architecture will give an opportunity for all of us to introspect and discuss about the way forward to face the challenges and the opportunities to explore new ideas and strategies.

The organizing committee has been working with great enthusiasm for a very balanced program involving Master Speakers, Moderators and Panel members from India and world-wide.Various online Competitions like Sketching, Photography, Architectural Quiz and Music have been organized as a run-up to the event with good participation.

I wish to place on record my appreciation to all the members of the organizing committee for their valuable support, time and effort. We thank the Office Bearers and the IIA National Council for the confidence reposed on us.

Wish you all a Happy Online Experience.

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Ar.Lalichan Zacharias
Jt. Hon. Secretary, IIA

Ar Divya Kush
President, IIA

LAUNCH OF IIA CAD

An initiative of the IIA for its members, driven by Ar Lalichan Zacharias, was launched today by President Ar Divya Kush.

Ar Lalichan Zacharias announced its launch, making it a very special day for more reasons than one, as the first virtual NATCON, hosted by the IIA, almost 103 years of the Institute's formation, and the day we have our own 2D & 3D software. Indeed, a day of pride, when the Institute has leaped forward and transcended into a new thinking.

This made- in- India software, which will be available to IIA members and colleges affiliated to the IIA, will liberate fellow architects from the dependency on multi-national CAD companies, by offering the choice of an indigenous software at reasonable costs. After a lot of hard work and beta testing of the software by members of the Institute, the IIA CAD will be in the market shortly, in about 2 months, for members. The logo was designed by Ar Ritesh Gurukar, and the launch marked a milestone in the history of the Institute.

IIA AWARDS 2019 : VALEDICTORY CEREMONY

BREAKING NEWS

President IIA, Ar Divya Kush declared during the valedictory function that **Shri Sonam Wangchuk** from Ladakh will be given Honorary Fellowship in **IIA,** during the Valedictory Ceremony.

IIA BAHURAO MHATRE GOLD MEDAL, is instituted in the memory of Late AR BABURAO MHATRE, Past President of IIA. The award includes a Gold Medal with Citation and a Certificate. The award is presented to a Distinguished Architect or a person of Science or Letters who has produced works tending to promote or facilitate the knowledge of Architecture and related branches of science.

Ar Premnath was born on 6th June, 1941 at Lyallpur in undivided India, now in West Pakistan. In recognition and appreciation of his outstanding contribution to the field of Architecture, The Indian Institute of Architects takes great pride in presenting the IIA Madhav Achwal Gold Medal 2019 on this 12th day of July, 2020 (Online)

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Ar S Gopakumar was born on 29th May, 1946, Trivandrum, Kerala. In recognition and appreciation of his outstanding contribution to the field of Architecture, The Indian Institute of Architects takes great pride in presenting the IIA Madhav Achwal Gold Medal 2019 on this 12th day of July, 2020 (Online).

IIA MADHAV ACHWAL GOLD MEDAL, instituted by IIA to honour Late AR. MADHAV ACHWAL, an eminent educationist, who had dedicated his life in the course of education and service to community. The Award includes a Gold Medal with Citation and a Certificate is awarded to honour a Distinguished Educationist Teacher/Administrator, who has made a lasting and dedicated contribution to promote Architectural Education and Community Service.

Dr. Ashalatha Thampuran was born on 18th February, 1947 at Tripunithur is one of the most accomplished academicians to receive the prestigious IIA Madhav Achwal Gold Medal for her lifetime contribution in the field of Architecture Education. The Indian Institute of Architects takes great pride in presenting the IIA Madhav Achwal Gold Medal 2019 on this 12th day of July, 2020 (Online).

Ar Pramod Shinde, was born on 15th May, 1940, at Varangaon, Dist-Jalgaon, Maharashtra, is one of the most accomplished academicians to receive the prestigious IIA Madhav Achwal Gold Medal for his lifetime contribution in the field of Architectural Education. The Indian Institute of Architects takes great pride in presenting the IIA Madhav Achwal Gold Medal 2019 on this 12th day of July, 2020 (Online).

PRESIDENTIAL AWARDS AND CITATION

Gold Medal for The Lifetime Contribution to the Profession of Architecture & Dedicated Service to IIA

Ar H C Thimmaiah

Ar Pradeep Sachdeva (Posthumus)

Ar Rusi Khambatta

President's Trophy of Outstanding Contribution to Architectural Education & Activities of IIA

Ar Alok Ranjan

Ar S C Garg

President's Trophy for Outstanding Contribution to the Profession of Architecture & Activities of IIA

Ar Dilipchandra Chatterjee

Ar Jit Kumar Gupta

Ar Muzzaffar Ali Khan

Ar N Mahesh

Ar Paresh Kapadia

HONORARY FELLOW OF IIA

In recognition of his special interest and distinguished contribution to the field of Architecture, the Council of IIA unanimously decided to confer the honour of Honorary Fellow of the Indian Institute of Architects on Shri SONAM WANGCHUK during the IIA NATCON 2019.

NATCON2020

IIA AWARDS 2019 : VALEDICTORY CEREMONY

IIA BEST SUB CENTRE AWARD
IIA Karad Subcentre

Ar Udayan Kulkarni

IIA BEST CENTRE AWARD
IIA Trivandrum Centre

Ar Saiju Mohamed

IIA BEST CENTRE AWARD
IIA Kolhapur Centre

Ar Satish Jagdale

IIA BEST CENTRE AWARD
Runner Up - IIA Satara Centre

Ar Mayur N Gandhi

IIA BEST CHAPTER AWARD
IIA Goa Chapter

Ar Manguesh R Prabhugaonker

IIA BEST CHAPTER AWARD
IIA Maharashtra Chapter

Ar Satish Mane

IIA BEST CHAPTER AWARD
Runner Up-IIA Raj. Chapter

Ar Gyanendra Shekhawat

OUTSTANDING MEMBER AWARD

Ar Jitendra Mehta

Ar Brijesh Shaijal

SPECIAL AWARD-IIA UP CHAPTER
(for Hosting UIA Council Meeting & Architects Mahakumbh)

Ar Virendra Kumar Agarwal

IIA NATIONAL CRICKET TEAM (For Winning the ASIA CUP at SRI LANKA)

Ar Jitendra Mehta

PRESIDENTIAL AWARDS AND CITATION

PRESIDENT'S TROPHY OF OUTSTANDING CONTRIBUTION TO THE ACTIVITIES OF IIA

Ar Jayakrishnan (Posthumous)

Ar Jayakrishnan K. B.

Ar K K Asthana

Ar Gyanendra Shekhawat

Ar Gita Balakrishnan

Ar Leena Kumar

Ar Satish Madhav Mane

Ar Sagarendra Mohapatra

Ar Antony Morais

Ar Saiju Mohammad

Ar Ashutosh Agarwal

Ar Saurabh Suman

Ar Darpan Balerao

Ar Jaykrishnan R J

Ar Gaurav Agarwal

Ar Manguesh Prabhugaonkar

CERTIFICATE OF MERIT 2019

CHHATTISGARH CHAPTER
Ar Ravi Chauhan
Ar Subham Ghatage

GOA CHAPTER
Ar Nisha Soares
Ar Rahul Sardesai

GUJARAT CHAPTER
Ar Rajesh Joshi
Ar Ketan Shah

HARYANA CHAPTER
Ar Dalip Kumar Khurana
Ar Vikas Kumar
Ar Akhil Gupta

KARNATAKA CHAPTER
Ar Prem Chandavarkar
Ar Bharath Gowda
Ar Vijay Narnapatti

NORTHERN CHAPTER
Prof Manoj Mathur
Ar Archana Khanna

RAJASTHAN CHAPTER
Ar Arpit Sancheti
Ar Sneha Arora Sharma
Ar Kavita Jain

TAMIL NADU CHAPTER
Ar Yuvaraj Balaraman
Ar B Manoharan
Ar Abubakkar Siddique

TELANGANA CHAPTER
Ar Gatti Sandeep Naidu
Ar Asha G Acharya

M P CHAPTER
Ar Apoorva Kumar Gupta
Ar Snehal Sontake

ODISHA CHAPTER
Ar Devraj Das
Ar Swopnadutta Mohanty

UTTARAKHAND CHAPTER
Ar Kanika Agarwal
Ar Kritharth Bhandhari

MAHARASHTRA CHAPTER
Ar Mahendra Chavan
Ar Priya Deshpande
Ar Kanchan Bambal

U P CHAPTER
Ar Sandip Kumar Saraswati
Ar Fouzan Mohammed Khan

PUNJAB CHAPTER
Ar Balbir Kumar Bagga
Ar Juile Khanna
Ar Bimaldeep Singh
Ar Geetanjali Kapoor
Ar Herzi Singh

HIMACHAL PRADESH CHAPTER
Ar Manuj Sardia
Ar Rajkumari Sharma

CHANDIGARH CHAPTER
Ar Kuljeet Singh
Ar Umesh Batra

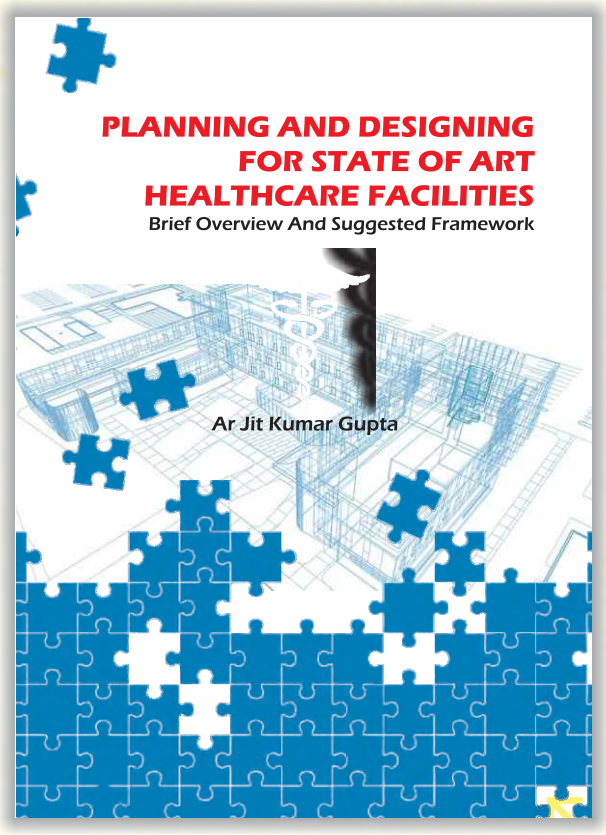
KERALA CHAPTER
Ar Varghese Paniker
Ar Shobak Thomas
Ar S R Vipin

WEST BENGAL CHAPTER
Ar Debjit Adhikari
Ar Ranit Maiti
Ar Jaydeep Deb

PRESIDENT'S TROPHY OF APPRECIATION FOR THEIR DEDICATED SERVICES TO IIA

Mrs Vijayamma Unnikrishnan
Mr Anthony Rozario
Mr Anant Tambe
Mr Gajanan Koli
Mr Bharat Velonde
Mr Atmaram B
Mr. Hemant Solanki
Mr Kalpesh Tapal
Mr Pramod Jogale
Mr R. K. Desai
Mr Rajendra Kakade
Mr Sanjay Palsamkar
Mr Subhash Sutar
Mrs Valsala Balachandra
Mr Vijaykumar S Tribhuwan
Mrs Vijayalaxmi D. Nair

The ceremony was sponsored by **CERA** and a technical presentation was given by **Mr P K Shashidharan**



Planning and Designing for State of Art Healthcare Facilities
-Brief Overview & Suggested Framework
By Prof Jit Kumar Gupta
2020
E-Book
Pages 52
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About the Author:
An emeritus academician with an experience of over five decades in architecture, Ar Jit Kumar Gupta has also taught at foreign universities in USA, China, Nepal and Bhutan.

A former advisor to Dept. of Town Planning, Punjab, Urban Planning and Development Authority & Founder Director, College of Architecture, IET Bhaddal, Punjab, he also finds time teaching at architectural institutes of eminence across India, which includes, CCA Chandigarh, IKG PTU Campus, Kharar, SPA Vijaywada, NITTTER Chandigarh, MGSIPA Chandigarh, HIPA Shimla, CRRID Chandigarh, SMVDU Katra, GZCET Bathinda, DCRUST Murthal, LPU Jalandhar, Jamia Millia University Delhi. An author of over 250 papers and books, he has also served as member of the prestigious working group of the Planning Commission of India during the Ninth Five Year plan.

BOOK LAUNCH

The book 'Planning and Designing for State of Art Healthcare Facilities' by Jit Kumar Gupta which elucidates a global overview of the healthcare infrastructure, was formally launched at the NATCON 2020 by the august hands of Ar Divya Kush, President, Indian Institute of Architects. The E-Book version is available on the website of IIA and is "FREE" for all IIA members and students of architecture.

Healthcare facilities play a critical role in promoting health and hygiene of a nation besides responding to various emergencies including pandemics, epidemics, mass casualties etc.

This document tries to provide way forward and basic principles, approaches and essential information about how the healthcare facilities need to be planned and designed to take care of healthcare challenges faced by any community at local and national level and how these facilities can fulfill their mandated role in making nation healthy.

Target users for this brief write up would be architects engaged in designing new healthcare facilities across India, hospital management and staff who are vested with the responsibility for establishing and maintaining the preparedness of hospitals.

Information furnished by the author would be relevant to the public, private, non-government, governments, para-statal agencies, health authorities, financial institutions, disaster management organizations and local suppliers which support and contribute to the hospital planning, designing, construction, operation and management through policy guidance or otherwise.

- Editor

Urban Green Spaces: An Indicator of Residential Neighborhood Quality

- Dr Sanjay S Jadon

Dr Sanjay S Jadon is an architect and Professor at the Dept of Architecture, Madhav Institute of Technology & Science, Gwalior. He has a post graduate degree in building engineering and management and a doctoral degree in architecture.

His academic work has ranged from various subjects to thesis at undergraduate and post graduate level in the past 23 years and his research work has primarily focused on urban design and conservation issues. His doctoral thesis dealt with the parameters of imageability in historic cities. He also has a wide consultancy experience in institutional and public projects.

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ABSTRACT:

Green spaces in urban India is not a priority issue when basic services like water supply, sewerage and transportation are yet to be provided for comprehensively. Yet the level of green and open space is an indicator of the city's health in physical and psychological terms. This paper is a study of the green cover of an urban case study at the city level and with reference to primarily residential land use. The paper attempts to link level of green cover and urban green spaces to residential neighbourhood indices. The paper also attempts a preliminary linkage of green space and environmental social equity.

Keywords: tree cover, recreational green, liveability, perception

INTRODUCTION:

Urban settlement has primarily meant the built over the open area of forest, field or pasture. When the size of the urban settlement was small, it naturally was surrounded by green open areas, with the surround areas fulfilling the physical environmental needs of the

Central Park in Manhattan, New York, USA

Image Courtesy: Animish Thaker

citizens. But as our urban settlements have increased in size, naturally the function of the open green needs to be included among the prime functions of urban land use.

URBAN FORESTS:

Urban forests are systems of trees, other vegetation and water bodies within an urban area. World Health Organisation (WHO) defines Urban Green Space as a component of 'green infrastructure'.[1] For urban settlements the general recommendation of WHO is minimum 9sqm of green space per person. Tree canopy broadly represents the footprint of the urban forest. The percentage canopy cover is essentially the two-dimensional aerial view of tree canopy. While it is not a perfect measure of tree cover (for e.g it does not give tree diversity, age/maturity, health, density), yet it is a tool easy to measure, assess, communicate and monitor.

Optimal canopy cover level cannot be a fixed percentage considering the varied type of cities in terms of population, climate, vegetation type, land form, land use and economic functions. In the US, the urban canopy cover targets vary from 20% to 40% generally, with some cities having over 40% utc targeting up to to 60%utc. e.g [2]

Tree canopy cover targets for urban areas are difficult to specify broadly but are best developed for specific cities considering:

- development densities
- land use patterns
- legal provisions
- climate
- topographical & geological constraints

It is increasingly recognised that green infrastructure also has a high tangible and intangible value. A recent valuation of urban forests carried out by the City of London showed that the 8 million trees growing in the urban area produce annual benefits of about £132 million, mostly related to the removal of air pollution, and they have an amenity value estimated at £43 billion (Rogers et al, 2015).[3]

FORESTS IN THE INDIAN CONTEXT:

The term forest cover in India includes all lands more than one hectare in area with a tree canopy of more than 10%, irrespective of land-use, ownership and legal status.[4] Thus urban institutional areas with more than

Iguatemi Cinepolis Mall set in mixed use vista, Sao Paolo, Barzil

10% tree cover or commercial plantations with 10% tree cover also get covered within the term forest cover. Our forest policy sets a goal of 33% of total land area under forest and tree cover for eco-security.[4] The state of the forest report (2017) points to a stark reality of our green cover. Of the total forest cover currently at 21.54% of the geographical area, moderate and dense forest contribute only 12.37%, 6.32% is sparse forest area and 2.85% is non-forest tree cover area.[5]

The forest policy includes promotion of urban greens and trees outside forests among its management principles.[1]

RESEARCH FRAMEWORK:

This paper is a preliminary research study of the green cover of an Indian urban city (case study Gwalior). The study delineates the types of green spaces within the city and explores the relationships between land-use patterns, green cover and user perception.

METHODOLOGY:

The forest cover of the planning area of the city is studied with reference to the GIS map of the city. The forest cover calculations have been done through a 100mx100m grid mapping (1Hectare) with over 10% canopy cover.

Some sample cluster study areas have been delineated to study green cover linkages with land use patterns, public perception and residential liveability

A limited survey of city dwellers on public perception to their localities with reference to recreational and open spaces underlines the dearth of open spaces. A convenience sampling method has been used in 4 clusters of the city.

CASE STUDY: GREEN COVER ASSESSMENT

The case study city is a million plus city with its primary

function being an administrative and market centre for the region and is a major educational hub. Its population stood at 10729 (Census 2011) and is estimated at 13 lakhs (estimated 2019). The city grew out of 3 distinct historical settlements which have consolidated into the current planning area of 13600 hectare. The city still has some undeveloped pockets within and has had its share of informal development. Given below is the land use analysis of open or recreational areas. (Fig 1,Table 1)

While the Development Plan 2021 of the city proposes 8.4% of land under recreational land use, the above

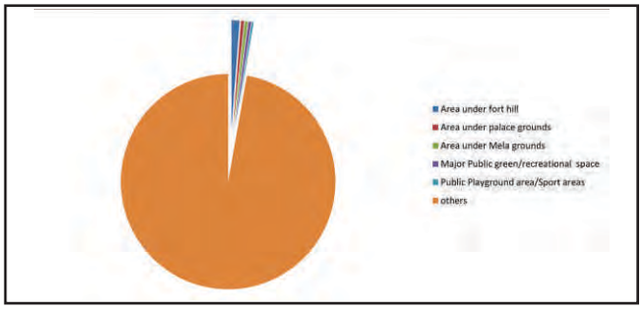

Figure 1

DESCRIPTION	Area in Hectares	% of total area
Total City Area	13600	------
Area under Fort hill	163	1.2%
Area under Palace grounds	64	0.47%
Area under Mela grounds	60	0.44%
Major Public green/ Recreational space	60	0.44%
Public Playground area	35	0.25%

Table 1: Case Study Green Area

table shows the low priority in physical allocation of public green areas in the city. The forest cover of the case study city is analysed herein. (Table 2)

DESCRIPTION	Area in hectare	% of total forest cover	% of total area
Total forest cover	2080	------	15.3%
Forest cover in public spaces	88	4.23%	0.65%
Forest cover in institutional area	260	12.5%	------
Forest cover in other areas	1732	83.26%	------

Table 2: Forest Cover In Case Study City

The above table is an indication of the low level of conscious development of tree cover. The city has a substantial undeveloped land area which also contributes to its current forest cover. As seen in Table 2, less than 0.65% of the city is under public access forest cover. The access of the public to some of the institutional open areas provides many of the citizens at least partial access to some green spaces.

Given below are the general standards for provision of open spaces followed in India. (Table 3)

DESCRIPTION	minimum area each	minimum area per 1000	population served population	maximum distance from served area
Tot lot	0.03H	0.03H	1000	0.15KM
Play area	0.3H	0.06H	5000	0.3KM
playground	1.5H	0.10H	15000	0.5KM
Park	0.75H	0.20H	5000	0.3 KM
Neighbourhood park	1.5H	0.20H	15000	0.3 KM
District Sport Centre	4H	0.24H	1-3 lakhs	------
City park	4H	0.30H	1-3 lakhs	------
Regional park	20H	0.02H	10 Lakhs	5KM
Divisional sport Centre	20H	0.02H	10 Lakhs	5KM
Others (parade grounds, etc)	20H	0.1H	3 Lakhs	5KM

Table 3: Standards For Provision Of Open Space And Recreational Spaces (source: Gwalior Development Plan)[6]

Provisions based on the above standards (Table 3), for a city of 13 lakhs people (estimated population 2019) translates to 86 playgrounds of 1.5 hectare each, 86 neighbourhood parks of 1.5 hectare each, 260 parks of 0.75 hectare each besides tot lot and play areas amounting to 39 hectare and 78 hectare, grossing an area of 570 hectare. Sport centres, city parks, regional park, heritage sites and parade grounds demand additional area of 880 hectare.

INFERENCES:

The appraisal of Development Plan 2005 shows the least achieved Plan land-use development objective under the recreational and green space at 35%. The current Development Plan 2021 proposes an increase in recreational space to 0.7hectare/ 1000 persons (1140 Hectare) i.e 8.4% of the total land allocation. To achieve this objective, allocation of playgrounds and parks need to be addressed at the city level. The new development areas need to be looked at from a spatial urban design point of view to provide balanced development with proper allocation of green and recreational areas. The city lies in a semi arid hot dry zone. Hence tree cover has to be consciously built up and sustained over the initial years.

Most residential localities have 1 to 2% of area under small parks or play areas. New planned group housing projects have mandatory 10% open spaces. But the current trend of gated communities partially due to law and order situation does not ensure unrestricted public access to these spaces. Thus, comparatively less privileged housing areas are denser with poor access to open spaces.

PERCEPTION SURVEY ANALYSIS:

The perception study of users has been used on 4 residential clusters. Cluster 1 is an old city residential locality in the heart of the old and vibrant Lashkar. Cluster 2 is one of the older residential localities near Lashkar. Cluster 3 is part of a highly commercial mixed

land-use part of Lashkar but within 1.5 kilometres of major public green area. Cluster 4 is a residential locality in the newer developed area. The location maps of the 4 cluster areas give an indication of the surrounds and the physical attributes of the area.

The survey used open ended questions on likable and disliked aspects of the neighbourhood. Most listed among the disliked aspects were polluted air, traffic, lack of greenery and play spaces. While greenery was listed as a necessity by all respondents, some acknowledged the role of the citizens towards developing and maintaining green areas.

A rated scale was used to assess performance qualities of the neighbourhood including access, walkability, security, pollution level, ambience, greenery, play/leisure facilities.

The inferences from the responses are tabulated herein. (Table 4) The least rated feature has been greenery followed by play area. The cluster response differentiation seen is attributed to the level of green area features of locality and its surrounds.
The cluster response differentiation seen is attributed to the level of green area features of locality and its surrounds. for example, cluster 4 area has a tree cover of about 8% of the total area, has an open public area of 10% and is in close proximity to green institutional areas on 2 sides with tree lined avenue as its main access.

ATTRIBUTE	Rating (1 to 5) (Mean)	Cluster 1 (Mean)	Cluster 2 (Mean)	Cluster 3 (Mean)	Cluster 4 (Mean)
Ease of access	3.57	3.4	2.75	4.43	4
Walkability	3.22	3.0	3.75	3.0	3.2
Security	2.87	1.4	4.0	4.0	2
Ambience	3.13	2.2	2.75	3.43	4
Pollution free	2.91	2.4	2.75	3.71	3.4
Play/ leisure facility	2.48	1.4	1.5	3.29	3.2
Greenery	**2.3**	**1.0**	**1.75**	**2.0**	**4.4**

Table 4: Residential Locality Evaluative Assessment

CONCLUSIONS:

The current definition of forest cover is a misnomer in a way since it does not convey the factual status of dense contiguous forests. The study of green cover in the case study has pointed to the contribution of institutional area in urban tree cover. It has also shown up a lack of green cover in the residential areas in general and the lack of open play spaces. The perception studies too point to the gross deficiency in green spaces and play areas as felt by the citizens.
While the limited size and non-random method of sampling cannot justify drawing up of statistically significant conclusions, the inferences are an indication of the factors affecting evaluation of environmental perception by users. The perception study methodology can be applied on a larger sample for conclusive results.

Tree lined roads of New Delhi

The older areas of the cities are dense in-built form, hence conscious pocket area development of green areas and tree cover can be done. Comparatively less privileged housing areas are denser with poor access to open spaces. Redevelopment schemes have to provide for play areas. The new development areas need to be looked at from a spatial urban design point of view to provide balanced development with proper allocation of green and recreational areas.

REFERENCES:

1. World Health Organisation, Urban Green spaces, retrieved from http://www.euro.who.int/data/assets/pdf_file/0010/342289/Urban-Green-Spaces_EN_WHO_web.pdf
2. Leff Michael, 2016,The Sustainable Urban Forest, retrieved from http://www.itreetools.org/resources/content/Sustainable_Urban_Forest_Guide_14Nov2016.pdf
3. Food and agriculture Organisation of the UN, 2016, Guidelines on Urban and peri-urban forestry.
4. Draft national forest policy 2018, retrieved from http://www.moef.nic.in
5. India State of Forest Report, 2017, Retrieved from fsi.nic.in/isfr2017
6. Town and Country Planning Organisation, Gwalior Development Plan.

BUDDHIST STRUCTURES OF INDIA

- Ar Shubham Jaiswal

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Dr. *Fergusson*, a *British archaeologist* classifies the Indian Buddhist architecture under five heads, viz.:

1. Stupas or topes
2. Viharas or Monasteries
3. Chaityas
4. Railings
5. Stone pillars or Lats

STUPAS (TOPES):

The stupa ("stupa" is Sanskrit for "heap") is a sepulchral and/or commemorative structure designed to encase Buddhist relics and other holy objects. (Grover, 2010) This word is now used for the pre-eminent type of Buddhist monument, which is at least a freestanding mound, usually with a circular drum (Medhi) forming the base for a massive solid dome (anda) topped by a turret (chattri), while the bell or dome-shaped mound covers the relics or holy objects.

At its simplest, a stupa is a dirt burial mound faced with stone. Stupas exist all over the world and are one of the oldest Buddhist monuments. Historically, stupas have been symbolizing and represent the following elements:

1. The Buddha,
2. The path to Enlightenment,
3. A mountain and
4. The universe all at the same time. (Shelby, 2012)

History of Stupas

The earliest known mention of the word "stupa" occurs in several ancient scripts. Rigveda refers to a Stupa raised by the King Varuna above the forest in a place having no foundation (Rigveda; verse 28). The word *'estuka'* is also used in the same sense in Rigveda, probably by then anything raised on the ground like a heap/pile might have been known as Stupa.

However, the Pali word *'thupa'* is quite similar to the term 'Stupa.' Thupa means a conical heap, a pile, or a mound or a conical or bell-shaped shrine containing a relic (Panth, 1976).

Fig.#1: Dhamek Stupa, sarnath

According to mythological sources, following Buddha's cremation, his ashes were divided into eight parts and distributed among various rulers to be enshrined at special burial mounds (Cunningham, 1960). After a few decades of Buddha's Nirvana, the mound of clay or mud changed to decorated objects of veneration(Brown, 2014). Emperor Ashoka, 274–236 BCE Maurya Empire, redistributed the relics housed in the original stupas into 84,000 stupas throughout the world. (Shelby, 2012), (Brown, 2014), (Cunningham, 1960). While this is an exaggeration and Ashoka built the stupas some 250 years after the Buddha's death, Ashoka is also credited with the construction of numerous stupas that remain to this day, including those at Sanchi and Sarnath. (Sahai, 2006).

Types of Stupas

According to *A. Cunningham, Maisey and Foucher* the Stupas can be classified into five categories:

- ***Relic stupas:*** Relic stupas are those in which the relics of Buddha and other religious persons are buried. - Relic Stupa, Sanchi.
- ***Object stupas:*** Object stupas are those in which the objects belonging to the Buddha or his disciples are buried.- Buddha Stupa, Vaishali.
- ***Commemorative stupas:*** Commemorative stupas are built to commemorate events in the life of Buddha and his disciples. - Jethawanaramaya Anuradhapura.
- ***Symbolic stupas:*** Symbolic stupas are those which are built to symbolize various aspects of Buddhist theology. - Shanti Stupa, Leh.
- ***Votive stupas:*** Votive stupas are constructed to commemorate visits or gain spiritual benefits, can be made from metal, stone, glass, etc.

Present Day Stupas

The core ideology of the stupa is retained in terms of architectural design across millennia, and even to this day. However, the difference lies in the material used in the modern-day stupa. For instance, Patliputra Karuna Stupa, Patna has a glass facade, along with a void stupa concept so people can see the holy relics along with ramp design for entrance instead of stairs, which makes the Karuna stupa a barrier-free design for everyone.

Fig.#2: Patliputra Karuna Stupa, Patna

VIHARAS (MONASTERIES)

The communities of monks (sangha), had no fixed habitat. They were wanderers living in the forest, under the trees, hill caves, cemeteries, etc. During the rainy season, temporary shelters were made where they lived for three months. Gradually these led to the development of monastic abodes for monks to meditate in peace and perform communal ceremonies.

Early viharas:

Initially, viharas were built of thatched Bamboo, huts of simple wooden construction similar to secular cottages. The following considerations make site selection:

- Proximity of habitation.
- Selection which ensures a proper atmosphere for meditation.

Hence all-important Buddhist establishments were slightly away from towns. Example Bodhgaya is near to Gaya, Sarnath - Varanasi, Kushinagar - Gorakhpur

Plan-form: the basic idea for the planning of monasteries was based on the traditional concept of a house around the courtyard.

The viharas mainly consist of:

1. Cells or private chambers
2. Wells with shed attached
3. Gate chamber or Porticos
4. Storehouse
5. Washrooms
6. Services Hall
7. Promenade
8. Tanks

CHAITYA HALLS

The term Chaitya owes its origin from the Sanskrit word “Chita.” Chita means ash dunes formed after the cremation of a dead body. In time, the settling of the fragments of saints marked it as a holy place for worshipping. Chaitya is a Buddhist sanctuary/shrine while Chaitya hall or Chaitya-Griha, conventional in Buddhism, refers to a shrine / temple / prayer hall comprising a stupa.

Fig.#3: Nalanda Mahavihara, Bihar

The reason behind Chaitya being worshipped lies in the fact that the Earth mound bestowed on the ash's relics of a saint. During rainy days, the monks and the ascetic's retreat in the carved-out chambers of the Chaityas.

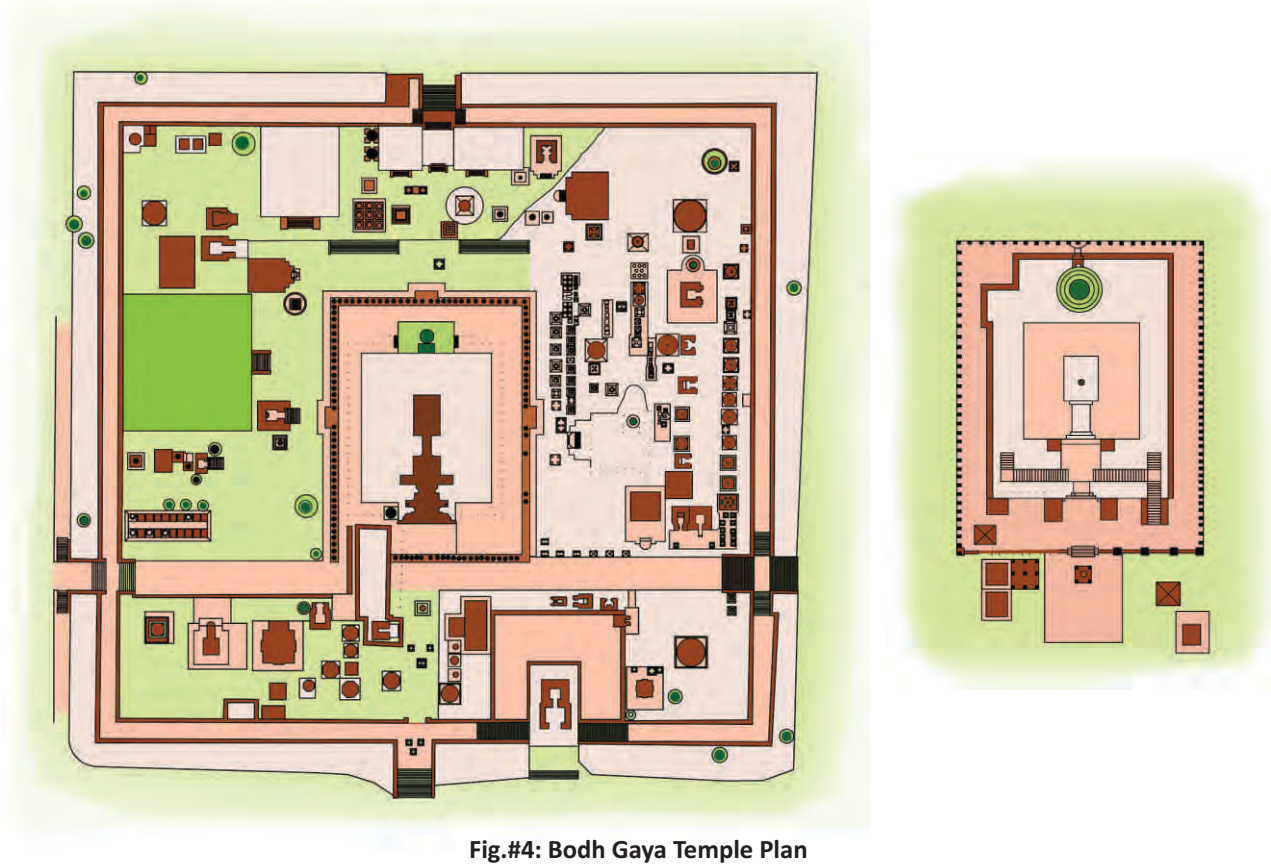

Fig.#4: Bodh Gaya Temple Plan

Fig.#5: Sanchi Stupa

Fig.#5: Shant Stupa, U. T. of Leh

Fig.#5: Bodh Gaya Stupa

Earliest Buddhist Chaitya Shrines and monasteries were made from rock-cut that exists from c. 200 BC. The architecture of the time resembles the wooden structures with interiors in barrel vaults and the walls, which are vertically grooved to mirror wooden beams and members. Moreover, thatched vedikas, toranas, and built-up stupas were made to mimic the parallel developments in woodwork.

Architectural Characteristics:
Prayer hall, Stupa, Vaulted hall, Apsidal end (for circumambulation), Side aisles (for circumambulation), Wide nave (for congregational service), Colonnades.

Construction Material:
Chaitya halls were built all over the country from bricks or were excavated from rocks. The use of wood has been found in roofs and entrance arches of some halls.

Features:

- The plan is rectangular with an apsidal end referred to as the Basilica – Shaped Hall with side entries and high-level plinth to shield them from floods.
- A wooden harmika and chhatri crown the rock-cut stupa within the apse.
- Chaityas do have a large pillared portico or a large arched Torana with an arched portico at the entrance.
- Horseshoe archway within the facade, with a sun window at the center is a prominent feature.
- Facades have several mortice holes for fixing complex wooden frontages.

Types: Circular, quadrilateral, apsidal
Plan: The ritualistic need for worshippers dictates the plan form of these halls.

Fig.#4: Ajanta Caves, Aurangabad

RAILINGS

The original railings were in wooden panels describing Buddha's life event or depicting different symbols of Buddhism.
But Railings built during the Mauryan period and those during the sunga period were made of sandstones.

3.5 STONE PILLARS (LATS)

Freestanding stone pillars (stambhas) rising to great heights (about 40 feet) topped with a stone lion. Made of sandstone, pillars are mainly circular or square with inscriptions regarding Buddhism or royal edicts of King Asoka. Usually erected near a stupa.

Fig.#4: Ashokan Railings preserved at ASI Museum (Above), and within the temple precincts in Bodhgaya (Below)

REFERENCES

- Brown, P. (2014). Indian architecture: Buddhist and Hindu periods. Delhi: K.R.J. Book International.
- Cunningham, A. (1960). Mahâbodhi or the great Buddhist temple under the Bodhi tree at Buddha-Gaya. Varanasi: Indological Book House.
- Chakraborty, U. (2019). Bibliography on Indian Buddhist art and archaeology: general and classified under geographical sites. New Delhi: DK Printworld
- Krishnan, G. P. (2008). On the Nalanda trail: Buddhism in India, China & Southeast Asia = Fo xue zhi guang: Yindu, Zhongguo he Dongnanya de fo jiao chuan cheng. Singapore: Asian Civilisations Museum.
- Fisher, R. E. (2006). Buddhist art and architecture. London: Thames and Hudson.
- Le, H. P. (2010). Buddhist architecture: with architectural drawings by the author. Lakeville, MN: Grafikol.
- Coomaraswamy, A. K., & Coomaraswamy, A. K. (2006). The origin of the Buddha image; & Elements of Buddhist iconography. Louisville, KY: Fons Vitae.
- Goldberg, K., 2016. Along The Path. Pariyatti Publishing, pp.113-135.
- Snodgrass, A. (1992). The symbolism of the Stupa. Delhi: Motilal Banarsidass.
- Asher, F. M. (2008). Bodhgaya. New Delhi: Oxford University Press.
- Chakravarty, K. K. (1997). Early Buddhist art of Bodh-Gayā. New Delhi: Munshiram Manoharlal Publishers.
- Kail, O. C. (1975). Buddhist cave temples of India. Bombay: Taraporevala.
- Grover, S. (2010). Buddhist and Hindu architecture in India. New Delhi: CBS & distributors.
- Sahai, S. (2006). Indian architecture: Hindu, Buddhist, and Jain.
- Dorjee, Nangzey. Secretary; BTMC (Personal Interview), 04 October 2019
- Kumar, Dilip. Librarian; BTMC (Personal Interview), 04 October 2019
- Prasad, Dr.Kailash. Librarian; MSI (Personal Interview), 05 October 2019
- Lama, Kiran. Secretary; Daijokyo Buddhist Temple (Personal Interview), 23 December 2019 Deep, Bhikkhu Pragya. General Secretary; AIBS (Personal Interview), 27 December 2019

Chartering a new Agenda for Architectural Education post COVID-19

- Prof Jit Kumar Gupta

An emeritus academician with an experience of over five decades in architectural education and Town Planning, Ar Jit Kumar Gupta has also taught at foreign universities in USA, China, Nepal and Bhutan.

A former advisor to Dept. of Town Planning, Punjab Urban Planning and Development Authority & Founder Director, College of Architecture, IET Bhaddal, Punjab, he also finds time teaching at architectural institutes of eminence across India, which includes, CCA Chandigarh, IKG PTU Campus Kharar, SPA Vijaywada, NITTTER Chandigarh, MGSIPA Chandigarh, HIPA Shimla, CRRID Chandigarh, SMVDU Katra, GZCET Bathinda, DCRUST Murthal, LPU Jalandhar, Jamia Millia University Delhi.

An author of over 250 papers and books, he has also served as member of the prestigious working group of the Planning Commission of India during the Ninth Five Year plan.

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INTRODUCTION

Year 2020 will be known in the human history for its most disruptive impact on the human living, working and mobility. Known as the 'Corona Year' or 'Year of Lock down', 2020 will be considered as the year of economic and social disaster. Behaving like an invisible and imminent enemy, Covid 19 has raised question mark on the ability of human beings to counter the challenges posed by the pandemic.

It has impacted both small and big; rich and poor; cities and villages besides developed and undeveloped economies but worst impacted are the most valued cities and most vibrant economies.

In the larger cities, different sectors of economy and professions have been impacted to variable degrees. Profession of architecture can be ranked among the most adversely impacted profession in the current unforeseen, unprecedented and unpredictable situation created in the human history by the invisible Covid 19.

With country going for a series of lockout and curfew, to check the spread of Corona virus, real estate/ construction was the first sector of economy which came to immediate halt. This has impacted the professional architects both structurally and financially. In addition, architectural education has also been impacted adversely, with the closure of the educational institutions.

The closure of institutions came in month of March- during the middle of the semester, with large contents of course yet to be covered. Architectural education came to be most impacted because core subjects including architectural design and building construction; could not be effectively taught through the remote process.

Elongated lock down and closure has posed major challenges to institutions and faculty to effectively communicate with the students. Accordingly, architectural education is passing through a difficult phase of evolution and devolution.

Technology is being used to variable degrees by the institutions to communicate with students. Institutions are searching for appropriate solutions to make education more relevant, effective and efficient to meet the emerging challenges of planning and designing of creating appropriate and sustainable built environment and challenges posed by rapid urbanization and industrialization, besides glottalization and liberalization of economies, to make cities healthy and inclusive. Covid 19 has made the search all the more hazy, uncertain and difficult.

In this era of uncertainty, there is need to identify the challenges faced by architectural education and profession and to suggest way forward to make the

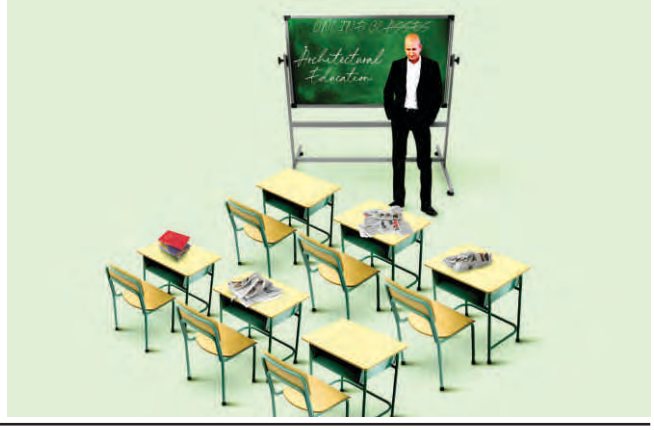

Image Courtesy: Animish Thaker

education and profession most sustainable, relevant, productive, effective and efficient.

This brief writing tries to focus on existing status of architectural education in India; bringing out challenges faced and the way forward to achieve the objective of imparting quality education. Writings also tries to redefine the role of Council of Architecture, as a regulator, to ensure that architectural education is made both qualitative and globally competitive.

Challenges faced by Architectural Education in India

Architectural education involves a pentagon of stake holders which include- Students, Teachers, Management, Regulatory agencies and Infrastructure which are key determinant of quality of architectural education. Based on the understanding of the existing scenario of teaching-learning, institutional framework, faculty involved in teaching, students getting enrolled for architectural education, mushrooming of architectural institutions etc.

Architectural education in India faces numerous challenges in terms of:

- Architectural education remains static, outdated, repetitive, lacking innovations.
- Education remains teacher centric- with students remaining passive partners.
- Focus of teaching- learning remains--on Input rather than Output.
- Focus is on Product not on Process in architectural design.
- Approach of teaching remains purely theoretical.
- Teaching remains largely, 'Talk with Chalk'.
- Focus remains on physical infrastructure and services—not on quality of education.
- Lack of Research and Development in architectural teaching- learning
- Lack of involvement of Quality practicing architects in Academics
- Minimum Standards of Architectural Education 1983- outdated and largely irrelevant considering the present context-- needs immediate, review, revision, rationalisation and redefinition.
- Challenge posed by mushrooming of architectural institutions.
- Challenge posed by education system rooted in the old British thought and philosophy.
- Challenges posed by large number of students graduating every year.
- Challenges posed by quality of graduating students. Challenges posed by low wages and poor employability of graduate architects.
- Challenges posed by quality and quantity of faculty. Challenges posed by variable standards of architectural institutions.
- Challenges posed by larger duration of the course- Engineering Vs Architecture.
- Challenges posed by teaching methodologies adopted- lack of exposure to ground realities.
- Challenges posed by poor industry-academic interface.
- Challenges posed by dominance of Engineering- for institutions forming part of engineering colleges.
- Challenges posed by Regulatory Agencies- COA, AICTE, DOTE, Affiliating Universities.
- Challenges posed by quality of majority of students admitted- with sanctioned annual intake exceeding 20.000.
- Challenges posed by outdated curricula, quality of faculty and lack of innovations in teaching- learning.
- Challenges posed by liberalisation, privatisation and commercialisation of technical education.
- Challenges posed by globalisation and liberalisation of economies- killing the local architectural traditions/vernacular architecture.
- Challenges posed by ever decreasing students opting for admission to architectural courses.

Way Forward to promote better Teaching- Learning in Architecture

Considering the challenges enumerated above, Architectural Education- Teaching- Learning needs to be made more vibrant, realistic , rational and focused by making it based on emerging ground realities, understanding changes in construction technologies, involving state of art technologies, changing teaching methodologies, redefining teaching curricula and syllabus, including sustainability as the basic approach,

Image Courtesy: Animish Thaker

making teaching more practical and promoting research in the art and science of teaching- learning. Accordingly following approach is suggested to promote better quality of education.

- A collaborative effort based on mutual understanding between students and teacher.
- Teaching based on detailed study and in-depth analysis of real-life projects & application of new ideas, material and technology.
- Education to be ever evolving/devolving to remain relevant to changing needs of society and construction sector.
- Making technology integral part of teaching-learning process- Teaching 3 D technologies, Virtual Reality, BIM etc.
- Looking and learning from global good practices in architectural teaching –learning followed in the institution of architectural excellence.
- Making quality of education relevant to-professional needs, ethos, objectives, environment and ecology.
- Changing orientation of architectural education from merely theoretical to a judicious mix of both practical and theoretical.
- Making education student-learning centric; instead of teacher focused.
- Focusing and valuing output (learning) of student rather than input of teacher- as a measure of quality of education.
- Recognising and awarding best practices in architectural education.
- Adopting- Back to Basics- working with nature and using five major natural elements of- Prithvi, Jal, Agni, Vayu and Aakash- Panch mahabhutas as part of designing buildings.
- Focusing on process rather than product to make students understand the principles of governing/guiding any activity/subject.
- Creating different skill sets, capacity and capabilities driven by state of art technologies-planning, designing, construction, operation, materials and management of built environment etc.
- Making study of anatomy of building integral part of architectural education-replacing building construction, service, materials, construction technology, services, structures etc.- linking a different typology of building under construction with the teaching of every semester.
- Using Videos by students for documenting, understanding, &communicating buildings, for teaching- learning, appreciating the context of spaces, communicating designing and construction of buildings. Videos are known to be strongest, most effective, powerful and comprehensive way of telling a story; known to be the best option for teaching architecture and experiencing architecture; connecting with masses and communities; to bring alive imagined/realised spaces; expanding student's horizon and thinking about design; communicating experience of spaces/places to those unable to experience firsthand.
- Making architectural education global in nature, content and scope for creating` global graduate architects- for promoting quality and their employability.
- Reinforcing the dictum of Marcus Vitruvius Polio-Roman Architect – that art and science of architecture must revolve around- perfectly understanding human body; following proportions and understanding climate. Buildings must follow trinity of – Strength, utility and beauty.
- Having Architectural educators- persons having combined qualities of both practical architect and theoretical architect- for not only explaining / proving the intent/properties of his design but also able to carry it to its logical conclusion of successful execution on ground.
- Focusing on Educators- to make them more skilled in the art of teaching by developing excellence in communication skill; obtaining field experience; exposing them to the latest subject knowledge; improving interface with professionals; preparing well researched and qualitative handouts and promoting self-learning.
- Making sustainability integral part of teaching learning process by including it as part of study curricula to make it as key principal of designing buildings.
- Carrying out institutional reforms to create a culture and supportive/enabling environment of teaching and learning.
- To frame, rationalising and re-orienting curriculum-so as to leave enough space for teacher to innovate and bring flexibility and experimentation in teaching.
- To review, revise and redefine the eligibility criteria for admission to B Arch course by inducting a dedicated subject of architecture related subject at 10+1/2 level for attracting quality students and

eliminate leftovers joining architecture.

- Changing role of regulating and parastatal agencies from negativity to positivity and creating space for institutions to grow and become competitive, both locally and globally.
- Regulatory agencies to focus on promoting quality of education rather than on quantity of low-quality graduates produced- avoiding mushrooming of institutions; keeping checks and balancing on institutions to eliminate any malpractices by them.
- Awarding quality institutions for branding quality in education. Rating institutions on quality- based on well defined, transparent and objective criteria.

Teaching methodology to invariably follow the dictum of --Confucius--- Chinese Scholar--who said; ***I Hear—I Forget; I See-- I remember; I Do--- I Understand***

Changing Role of Council of Architecture

In this journey of making architectural education more relevant and qualitative, regulating agencies in general and Council OF Architecture has a major role to play. The new redefined role of COA should include:

Changing and strengthening the nature of COA from a Regulatory body to that of body dedicated to promoting of architectural education and profession.

Changing role from negativity to positivity from policing to enabler, supporter and ensurer of quality of architecture and profession of architecture besides builder of institutions.

Collaborating and co-operating with International Professional bodies of architecture and academic institutions of global excellence for sharing and promoting new ideas and making innovations in the architectural education and practice.

To review, revise and redefine norms and standards for minimum land, built up area, space, physical, infrastructural, student's intake and faculty for architectural institutions- new and old- to make them more realistic and rational, making architectural education universal, cost effective and affordable.

Focus on making education qualitative, productive, more focused by permitting redefinition of the study curricula, promoting innovations, experimentation, evolving new techniques of architectural teaching-learning.

Considering the large number of existing institutions- 573(465+1) in India- putting on hold opening of the new architectural institutions. Evolving well defined, objective and transparent policy for approval of new architectural institutions- based on need, quality, credibility, commitment of the promoter institutions- to avoid mushrooming of poor-quality institutions.

With annual sanctioned intake exceeding 20,000 students – reviewing the sanctioned strength of existing institutions- to restrict maximum intake should be limited to 80 in any institution to regulate both quantity and quality of architecture.

Strengthening in-house capacity and capability by including quality manpower to promote research; innovations in making profession qualitative; studying the best global practices of teaching-learning architecture; evolving new strategies, policies and programs to make education qualitative; creating new options for profession in the area of designing, construction, material and management of built environment.

Promoting research in architectural education by earmarking minimum 10% of the total budget of COA for Research and Development under a dedicated head to be spent annually. Any unspent amount carried over to the next year as additional amount.

UNITED NATIONS COVID-19 RESPONSE

Courtesy: World Health Organisation

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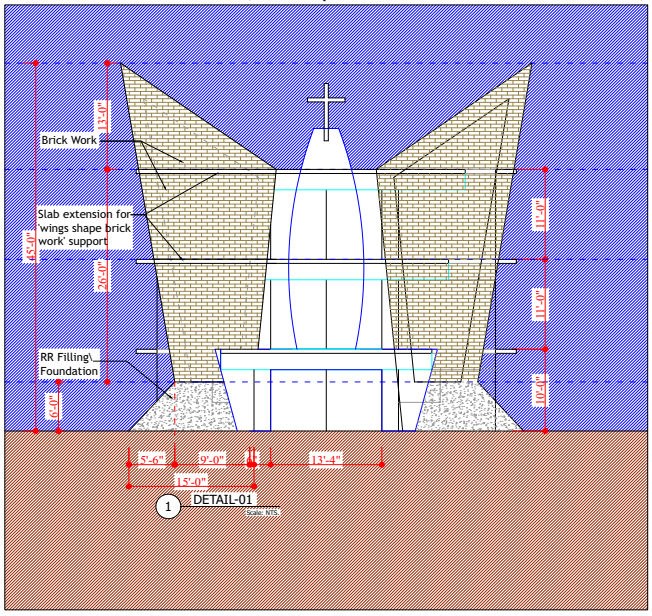
Church at Proddatur, Kadapa, Andhra Pradesh

- Ar Naveen Kumar

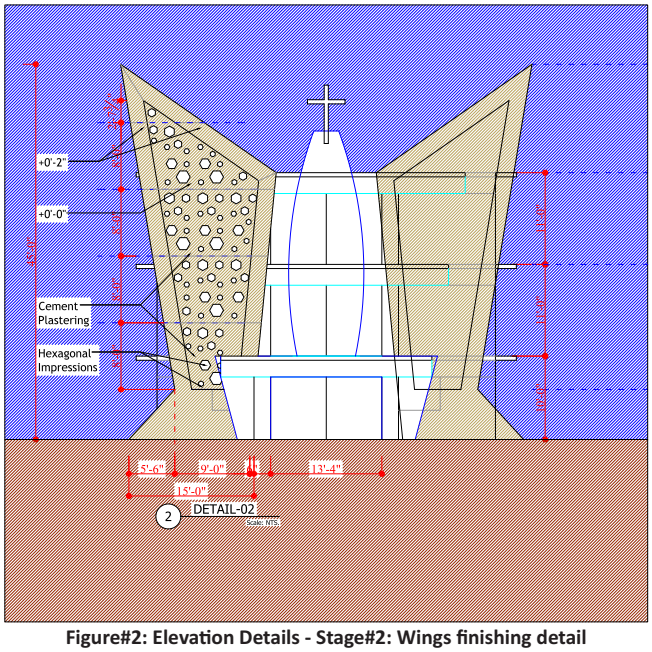
An alumnus of CSIIT, Secunderabad (2004) Naveen, a practicing Architect, completed his Masters in Engineering from Osmania University, Hyderabad in 2008. He has over 16 years of experience in projects ranging from Residential, Educational, Religious, Hospitals, Government Buildings, Multi-level Parking Designs, Industrial and Transport Buildings in India as well as the Middle East.

naveen.adonai@gmail.com

Religious architecture has always been one of the most exciting typologies which has long paved the way for various design and structural innovations. The project, located at Proddatur, Kadapa in rural Andhra Pradesh, where the Pastor Bharath Kumar wanted to have an unique elevation and also his Dove logo to be highlighted. It would help define new models of religious buildings, capable of making the values of the Gospel message more clearly relevant, as well as to be combined with an increasingly lively attention to environmental and social sustainability.



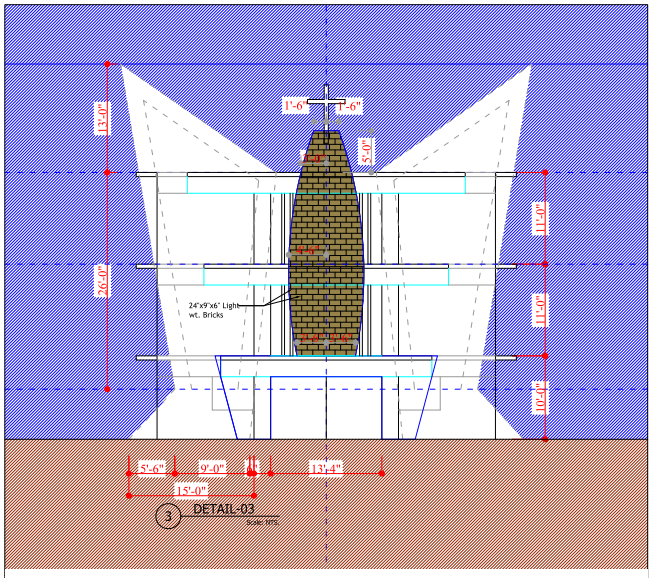
Figure#1: Elevation Details - Stage#1: Wings shape Construction



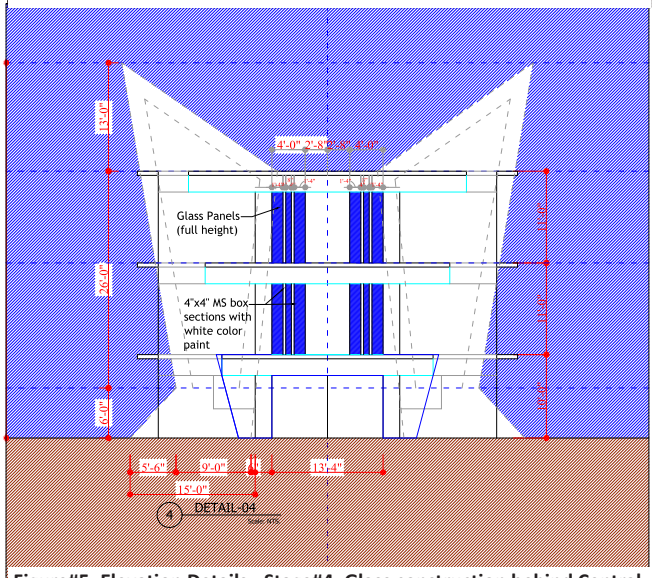
Figure#2: Elevation Details - Stage#2: Wings finishing detail

The designer based on the brief has given a different feel instead of regular Pyramidal shapes to Church without compromising the Sanctity. The new building also contains spaces for various activities, both liturgical and social, with areas also dedicated to meetings of the various neighbourhood associations. In addition to the large liturgical space for worshippers,

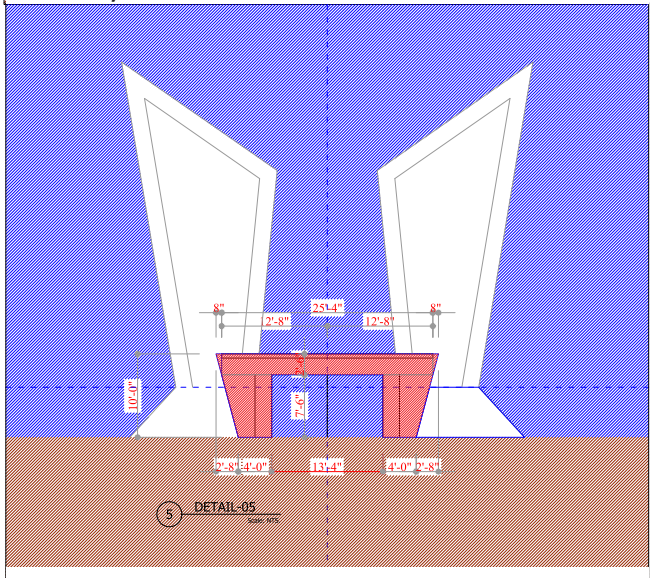
Figure#2: Church Elevation view



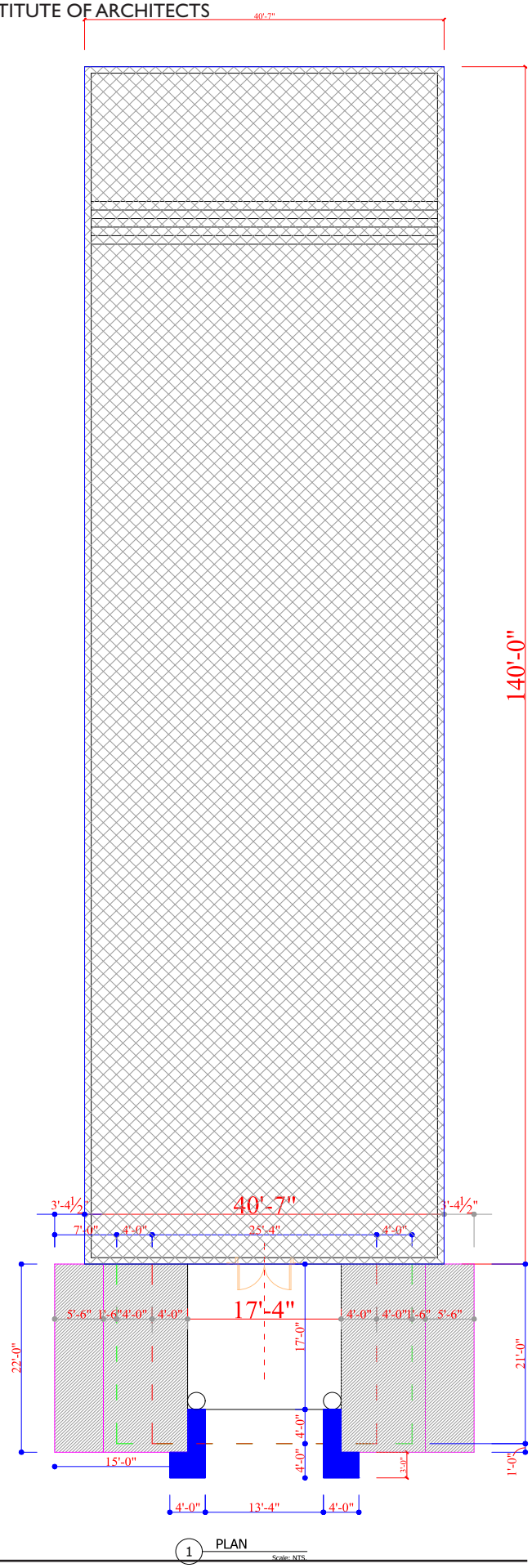
Figure#4: Elevation Details - Stage#3: Central curved body construction

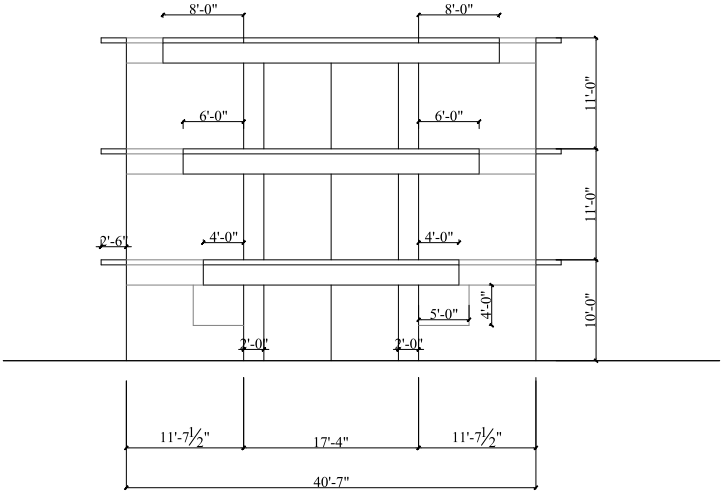


Figure#5: Elevation Details - Stage#4: Glass construction behind Central curved body



Figure#6: Elevation Details - Stage#5: Portico construction





Figure#8: Elevation Dimensions as per site

Figure#9: Construction in progress - Stage #3

Figure#10: Before Construction of Curved body and wings

Figure#11: Construction details

the rectory and catechism rooms, there are spaces for study, play and community-support activities.

The design intervention represents a sign of renewal for the whole neighborhood, an example of open participation in the rural township, the result of active collaboration between social and institutional stakeholders. It has been extended to improve usability, facilities and livability for the whole community involved.

It is therefore, a high goal for this building, designed for the community but above all to start a path of

Figure#12: Final finished elevation - side view

Figure#13: Final finished elevation - front view

existential regeneration that seeks to combine values of faith and of civil and social commitment.

The design has evolved along the main themes to be addressed in the construction for the attention of the designers: the memory to be preserved, the restrained search for the noble simplicity of liturgical and pastoral beauty, the complexity to be healed on the urban and landscape level.

The construction faced many challenges because of sharp angles for the wing shapes and were eventually overcome with help of the design team, Structural

Figure#14: View of the Portico at night

Engineer and civil contractors. The design choice is based on a conceptual and constructive restraint, which avoids any 'monumental' approach (unsuited to the place and its history). It rather emphasizes characters of 'solidarity' and 'hospitality' that have always been typical of the life of this parish. Its character is also defined by simplicity of form in combination with straightforward construction and honest materiality while maintaining a visual presence to the general community.

The simple geometry and limited material palette of the church building helps create a majestic entrance leading to adequate gathering space for congregations.

DESIGN TEAM

Principal Architect	:	B. Naven Kumar
Senior Architect	:	Venu Gopal
Junior Architect	:	Tarun
Civil Engineer & Site Co-ordinator	:	M. Srinivas
Project Duration	:	FEB'18 - FEB'20

MATERIALS DESCRITION

Front side	:	Light weight clay Brick work
Centre	:	Light weight Brick work.
Sides	:	Drop wall
Wings shape	:	Foundation with RR masonry and wings shape with Light weight Brick work
Portico	:	foundation RR masonry above brick masonry

GAP-SEAL: GEOGRAPHY, ARCHITECTURE, PLANNING-SCIENCE, ENGINEERING, ART, LITERATURE

- Dr S S Bhatti

Ar Dr Prof SS Bhatti [FIIA: 895] is alumnus of Sir JJ College of Architecture, Mumbai. He is founder-teacher and former Principal of Chandigarh College of Architecture. He holds three PhDs: (i)"CHANDIGARH and the Context of Le Corbusier's 'Statute of the Land': A Study of Plan, Action, and Reality"; (ii) "CREATIVE MYSTICISM: A Study of Guru Nanak Bani with special reference to Japuji"; and (iii) "SRI HARMANDAR SAHIB: A Study of Architecture, Engineering, and Aesthetics".

Theorist, practitioner, researcher, and pedagogue, he is the most versatile professional among Indian architects. His M. Arch. Research thesis from The University of Queensland Australia, made Chandigarh's Rock Garden world-famous. He is co-founder of Institute of Indian Interior Designers, and founder of First Friday Forum. His 20+ honours include IIA Lifetime Achievement Award for Architectural Education and University of Roorkee Award for Innovative Engineering. Seven of his 35 books have been published in America.

PREFATORY NOTE

I delivered an oration on the above-noted theme under the auspices of First Friday Forum that I had founded in October 1999 as an Open Platform for the dissemination of experience-based knowledge by professionals drawn from various fields of human endeavour for the benefit of public to awaken and enhance respect for aesthetics of the Built Environment.

Every month on the First Friday, the Forum has regularly held Monthly Interaction Programmes and until December 2019 successfully organised 240 such talks on a staggering variety of subjects / themes / issues / disciplines. The noteworthy thing about this initiative is that this NGO [Non-Government Organisation] has sustained itself without aid from government or any other source. In October 2006, we introduced Annual Oration-cum-Annual Awards-Giving Functions and honoured over 70 professionals including medicos, architects, artists, poets, engineers, musicians, scientists, and so forth for their outstanding contribution to the aesthetic enhancement of the Built Environment.

The maiden venture launched in October 2006 was on the theme that established Chandigarh as Modern Heritage. Taking notice of the bold deliberations of the symposium, the Government of India constituted in 2010 a high-powered committee for the conservation of Architectural Heritage of Chandigarh. I was made an expert member of this committee which functioned under the chairmanship of Punjab Governor-cum-Administrator Chandigarh Union Territory His Excellency Shri Shivraj Patil. I made good use of my first PhD on Chandigarh done in 1991 that won 5th JIIA National Award for Excellence in Architecture [Research Category]. My aim to inform and educate the powers-that-be met the expected success in the extensive research-based Report that I authored.

The Report was approved by the Government of India thereby establishing Chandigarh as "Modern Heritage"—an unprecedented achievement because the Archaeological Survey of India does not recognise as the country's "heritage" any site or building which is less than 100-year old! Rules and regulations concerning Chandigarh Heritage have since been notified by the Chandigarh Union Territory Administration and are being enthusiastically enforced.

We had the proud privilege of honouring Ar Divya Kush, President IIA, with First Friday Forum Award for Creative Excellence [FFFACE] on 15 October 2015 when he had graced the annual function as the Chief Guest. It is imperative to point out that like many other offbeat oration themes GAP-SEAL was unusual. It was I to have attempted for the first time to show from my diverse expertise and lifelong experience that the rapid deterioration of the Built Environment as a result of maverick pursuing of the so-called development projects countrywide entailing as they do in a huge way the tools and techniques and materials of large-scale Urbanisation that urban decay had begun and continues to occur due to an ever-widening G-A-P between the disciplines of Geography, Architecture, and Planning.

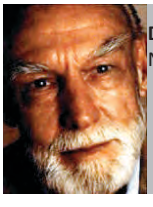
Since this G-A-P could not be wished away the sensible thing would be to S-E-A-L it by deploying the knowledge of Science, Engineering, Art, and Literature. Later in this write-up I have given these disciplines new interpretations in terms of the imperatives of holistic creativity that this theme encompasses and actively, if

unconsciously, deploys.

Such an unprecedented approach would warrant, to begin with, a profound understanding by a conscientious gumption of how the human brain works. From my study of diverse disciplines, it came to light that in everything tangible that the *Homo sapiens'* species creates, invariably both the hemispheres of the human brain come into active play. The **Right Brain** caters to the emotional needs of **ART** [concepts, ideals, images] while the **Left Brain** responds to the rational imperatives of **SCIENCE** [materials, methods, construction].

It will be conceded that, without the sustained contribution of the two faculties of EMOTION [Right Brain Function] and REASON [Left Brain Function], human CIVILISATION cannot advance. Yet the two opposed cerebral powers are seldom exercised *intelligently* in a balanced measure. The result is that an overdose of EMOTION produces Myths and superstitions while excessive REASON leads to Mammonism and self-centredness. I do hope that a serious reading of this presentation cast into the mode of an article will provoke you to think your own thoughts so as to contribute in your own way to the advancement of our beloved profession ARCHITECTURE that has been hailed globally as the Great Mother Art but is now in an utterly confused state.

An epoch-making scientific discovery was made by the American Neurosurgeon Dr Roger Sperry through laboratory experiments on epileptic patients that there are Two Separate Sides of the Brain.
"Each hemisphere of the human brain has its own private sensations, perceptions, thoughts and ideas, all of which are cut off from the corresponding experiences



Dr Roger Sperry [1913-1998]
Nobel Laureate in Medicine 1981

RIGHT: Two hemispheres of the human brain

in the opposite hemisphere…. In many respects, each disconnected hemisphere appears to have a separate mind of its own."

TWO HEMISPHERES OF THE HUMAN BRAIN AND THEIR DISTINCT CEREBRAL FUNCTIONS
MY IDEA OF ARTISTS WORKING IN DIFFERENT MEDIA

Creativity is a Prerequisite of Humanity.

LEFT HEMISPHERE		RIGHT HEMISPHERE
Parsing	-	Holistic
Sequential or Successive	-	Simultaneous
Logical Expression	-	Gestalt Expression
Focal Perception	-	Oriented Awareness
Analytical	-	Synthetic
Aggressive (Male)	-	Passive (Female)
Sense of Time	-	Present Mindedness
Literal	-	Metaphorical
Linguistic/Symbolic	-	Configurational
Verbal Intelligence	-	Practical Intelligence
Intellect (Reason)	-	Sensuousness (Emotion)
Quantifiable Knowledge (Measurable)	-	Experiential Knowledge (Immeasurable)
Mathematical Calculation	-	Apprehension of Pattern

Naghma-zan, sha'ir, musawwar,
kuchh to ho warna tira
Ai bashar, iss daihr mein aana na aana ek hai
(Be a singer, poet, painter, at least something, otherwise
O Man, your advent into the world is a living demise!)

THE SCULPTOR

Fan but-taraash ka hai niraala funoon mein
Rakhta hai kya byaan ki ravaani junoon mein
Baatin se zauq-o-shauq se zaahir use kare
Duniya jo mooraton ki base is ke khoon mein
(Novel among the arts is art of the Sculptor.
It has the flow of expression that in passion swells
From the hidden it manifests by taste 'n' fervour
The world of idols that in his blood dwells)

THE PAINTER

Taab-i-tasawwuraat se tasveer ban gayi
Takhleeq apni aap hi tadbeer ban gayi
Pesha se hai musawwari ka martaba buland
Fankaar ke liye to yeh taqdeer ban gayi
(A picture gets done by the imagination's power
Creativity by itself finds its own best technique
Art of Painting is higher than its vocational stature
For the Painter it's his destiny unique)

The Indian Tradition has listed 64 Fine Arts in which the Five Topmost in descending order are as shown below.

- Poetry
- Music
- Painting
- Sculpture
- Architecture

To celebrate its unique status here is my Ode to Poetry that tops the List of Fine Arts.

POETRY

Funoon-i-lateefa mein rutba sukhan ka
Buland itna jaise iram ke chaman ka
Byaan-i-saleem iska wahid hunar hai
Taqaaza yahi to hai takhleeq-i-fan ka

(Among the Fine Arts the status of Poetry
Is as high as that of the Garden of Eden
Perfect expression is its unique artistry
This, indeed, is Creativity's signal condition)

MUSIC

Main hoon navaaye rooh-i-bashar kaayenaat mein
Sun lo mujhe na aaoon nazar kaayenaat mein
Arpan Saraswati ke dar-i-paak par rahoon
Izhaar-i-haq hai mera hunar kaayenaat mein

I am the Sound of Man's Soul in the Cosmos
Hear you may, but Me you can't discern in the Cosmos
I pay constant obeisance at Saraswati's sacred door
My Art is Truth's divine expression in the Cosmos

ARCHITECTURE SPEAKS FOR ITSELF...

Khalvat kee fizaaon mein karoon jalvatein paida

Jo khaak mein pinhaan hain woh hon sooratein paida
Utroon main lahoo ban ke rag-i-sang mein jis dam
Hon Taj-o-Ajanta see haseen mooratein paida

(In desolate Emptiness I'm creating Habitations
Forms that lie hidden in dust become Manifestations
When I course like blood thro' the veins of Stone
Taj-'n'-Ajanta emerge as Beautiful Configurations)

MATRIX OF CIVILISATION

Human Settlements in the form of Built Environment which, being the largest single contributor as the Matrix of Civilisation, the kind of role that **Emotion** and **Reason** play during workaday existence is crucial, determining as it does what we are in for and where we are headed.

Prompted by the intrinsic force of this premise I have noticed a glaring **GAP** between the three basic and indispensable disciplines of **G**eography, **A**rchitecture, and **P**lanning.

The aim of this Symposium [now presented as an article] was to discuss and determine if we could together **SEAL** [which stands for Science, Engineering (Technology), Art, and Literature (the Humanities)] the **GAP** [which stands for **Geography**, **Architecture**, and **Planning**] by our expertise and experience drawn from many varied fields by adopting a holistic approach to the amelioration of pitiable pathology of the human condition!

The acronym SEAL may be noted to represent the Four Major Fields of Human Endeavour: the Humanities, Art, Science, and Technology.

- The **HUMANITIES** [Philosophy, History, Economics, and other disciplines that are classifiable as such] **THINK.**
- **ART** [Visual, Performing, and Literary] **EXPRESSES**.
- **SCIENCE** [Natural and Biological Sciences] **EXPLORES.**
- **TECHNOLOGY** [materials, means, methods, processes] **INVENTS.**

ARCHITECTURE, by its very nature and scope, has the unique capacity to *actually* use the inputs from the Four Major Fields of Human Endeavour: the Humanities, Art, Science, and Technology, in its conception, creation, and construction.

This revelation should facilely substantiate the global claim that Architecture is the Matrix of Civilisation!

INTRODUCING THE THREE DISCIPLINES

1. GEOGRAPHY is the discipline that describes the Earth's surface. Since the features of the Earth's surface cannot be considered apart from the atmosphere above and the outer layers of the crust below, a zone of considerable vertical extent must be held in view, and all the phenomena, natural and man-made, that occur within it must be examined.

There is a special aspect in which the nature and intent of Geography is akin to that of the discipline of ARCHITECTURE. In my view, Geography is the Architecture of the Earth's crust; and Architecture is the product of human intervention to alter Nature's creation to meet the ever-growing and progressively more and more varied and complex needs of the peoples of the world. When Architecture assumes a colossal scale it becomes Planning in which the lobbies and corridors of a house become the CIRCULATION [to use Le Corbusier's terminology] system of a town; one building enlarges itself into a huge mass of many structures, and domestic activities diversify and blow up into the function of Working; the residential function transforms itself into LIVING; and all the recreation at the level of the house changes into CARE OF BODY & SPIRIT at the town-level.

It is in this Aura of Commonness that ARCHITECTURE becomes the art and science of altering Nature's Architecture, which I call GEOGRAPHY, to meet ever-increasing and progressively more complex and varied human needs—without detriment to the existing Ecology.

2. ARCHITECTURE is the imaginative blend of Art [EMOTION: Right Brain Function] and Science [REASON: Left Brain Function], with inputs from the Humanities and Technology, in the design of environments for people.

The conception, creation, and construction of Architecture thus make for a balanced use of all the powers of the Human Brain. People need places to eat, work, live and play. Architects transform these needs into concepts and then develop the concepts into building images that can be constructed by others. These projects can be as small as an entrance way and as large as an entire college campus—and everything in between. Or, in modern parlance, as Le Corbusier proclaimed, **Architecture, in its expanded scope, is Town Planning at the city-level!**

3. PLANNING designs Human Settlements, from the smallest towns to the largest cities. Urban-, city-, and town-planning integrate land-use planning and transportation planning to improve the built, economic, and social environments of communities.

Regional Planning deals with a still larger environment, at a less detailed level. Planning can include urban renewal, by adapting urban planning methods to existing cities suffering from decay and lack of investment.

The concept of GAP-SEAL is based on Synergism which is the interaction of elements which when combined produce a total effect that is greater than the sum of the individual elements, contributions, etc. **GAP-SEAL, therefore, also means, and works synergistically with, the following:**

G = Gumption/Grasp;
A = Awareness/Aim;
P = Passion/Prudence;
S = Sensitivity/Sensibility;
E = Energy/Ergonomics;
A = Analysis/Application;
L = Language of Love.

HOW GEOGRAPHY, PLANNING, and ARCHITECTURE are related and interdependent?

Planning precedes **Architecture** like it does every human activity—as a scheme or method of acting, proceeding, etc., developed in advance.

These two disciplines, by their very nature, scope, conception, construction, and evolution, use **Geography** as their vast, though limited canvas.

- Geography being Nature's Planning and Architecture of the Earth's crust is characteristically altered by the intervention of human Planning and Architecture which gravely affects **Ecology** leading to serious long-term problems.
- We must, therefore, develop an **Ecology of Consciousness** to make these Three Primary Disciplines, namely, GEOGRAPHY, ARCHITECTURE, and PLANNING, proactive, reactive, interactive, and synergetic if the Planet Earth is to be saved from the short-sightedness with which we continue its wanton destruction in the name of growth and advancement driven by individual and corporate GREED as manifest in so-called Development Projects involving Urbanisation!

To underscore the metaphysical integrity of the Three Primary Disciplines I have enunciated the following axioms:

- GEOGRAPHY is the Mother Science. Geography is the BODY and Ecology is the SOUL of Natural Environment. GEOGRAPHY SUSTAINS.
- ARCHITECTURE is the Mother Art. Architecture is the Built-Form of Micro-Planning. ARCHITECTURE REALISES.
- PLANNING is the Mother Strategy. Planning is realised Macro-Architecture. PLANNING ANTICIPATES.

CONSTANTINOS APOSTOLOU DOXIADIS (1913 - 28 June 1975), a Greek architect and town planner, formulated an interesting theory of Human Settlements. He became known worldwide as the lead architect of Islamabad, the new capital of Pakistan, the city of Rawalpindi, Baghdad, and later as the Father of Ekistics: which is a science dealing with human settlements and drawing on the research and experience of professionals in various fields (such as architecture, engineering, city planning, and sociology). Described as a scientist, salesman, visionary, and man of action, he was an apt public speaker.

Doxiadis believed that the conclusion from biological and social experience was clear: to avoid chaos we must organise our system of life from Anthropos (individual) to Ecumenopolis (global city) in hierarchical levels, represented by Human Settlements. So he articulated a general hierarchical scale with fifteen levels of Ekistic Units:

I. **Anthropos – 1**
II. room – 2
III. house – 5
IV. **House-group (hamlet) – 40**
V. small neighbourhood (**village**) – 250
VI. neighbourhood – 1,500
VII. small polis (**town**) – 10,000
VIII. polis (**city**) – 75,000
IX. small metropolis – 500,000
X. metropolis – 4 million
XI. small megalopolis – 25 million
XII. megalopolis – 150 million
XIII. small eperopolis – 750 million
XIV. eperopolis - 7,500 million
XV. Ecumenopolis – 50,000 million

NOW LET US EXAMINE HOW GAP IS CREATED AND PROGRESSIVELY WIDENED TO A POINT OF NO RETURN BY URBANISATION.

Urbanisation is the process by which a population becomes concentrated in cities or "urban places".

- **Urbanisation** is a necessary evil.
- It is necessary because without urbanisation large-scale development leading to the general weal of a given populace can never be effected.
- It is evil because it brings in its wake a host of new problems some of which acquire such proportions as to become almost intractable: depleting natural resources, and dwindling forest-cover, to mention only two.
- **Urbanism**, as a way of life, or the consequences of living in urban places, is not free from problems either: air-, water-, and noise-pollution, along with higher urban temperatures compel people to use artificial modes which are decidedly **not** healthy.
- The formidable tools of Urbanisation are **Architecture** and **Planning**.
- Both these disciplines have their own metaphysics, ideals, concepts, and visions which, when translated into reality on ground, entail mass-scale physical alteration of the existing terrain represented by **Geography**.
- Their aim and action are directed towards the making of a Built (or Human) Environment to be raised predominantly with artificial materials.
- The entire process creates a new micro-climate and related ambient changes—which prompt the cult of Mammonism (money-mindedness) at the high cost of mind-moneyedness that is absolutely necessary to enrich the Spirit of Man.

Unless handled with a seismographic delicacy of perception the processes, to which the tools of Urbanisation give rise and provide impetus, tend to be pathogenic.

- The result is an ever-increasing number of psychiatric cases.
- Such large-scale mental mishaps are, indeed, the mute lamentations of **Mother Earth**.
- Her Body represented by **Geography** has been mutilated mercilessly.
- But why should such unpalatable results occur?
- The reason is that the so-called professionals to whose lot falls the making of the Built-Environment are ill-equipped to rise to the occasion.

An Architect has no idea of Planning and Geography; a Planner knows little about Architecture and Geography, and a Geographer is ignorant of Architecture and Planning.

To illustrate the essential interdependence and inter-connectedness of the three Primary Disciplines of **Geography**, **Architecture**, and **Planning**, let me give the example of CHANDIGARH that was designed as a state capital for the Indian Punjab has the historic distinction of having become *The Mother City* for national capitals of the modern world like Islamabad, Dacca, Brasilia, etc.

- In the first place, CHANDIGARH is an irony of history. It was *created* out of widespread chaos and *destruction* in the wake of the country's political partition into two independent nations: India and Pakistan, in August 1947.

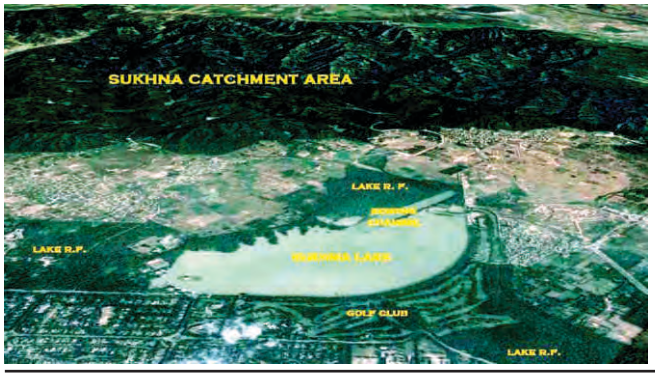
- The **Geography** of its site suffered an irreparable loss when Le Corbusier **superimposed** his master plan on a land dotted with more than 50 villages each one of which had a topography, and setting of its own with an indispensable pond: the rural habitat's time-tested rainwater harvesting appurtenance. The plan sketched by him in just four days was transplanted with the bulldozer that felt no pain in the maverick mutilation of Mother Earth's BODY.

This modern-day tragedy lies buried under innumerable concrete and brick structures beyond the professionals' and the people's view alike.

As if that weren't enough, another heinous tragedy was made to occur by callous politicians when Chandigarh was made a Union Territory on November 1, 1966. The largest manmade landmark "SUKHNA LAKE" continues to suffer, with looming threats to its very existence, because the catchment area that feeds the rainwater to it lies in the Haryana state whose government is totally obdurate to the needs of this marvellous water-body which the city's founding fathers had magnanimously gifted to its future citizens.

- **This hideous drama doesn't stop there.**
- **The land behind the CAPITOL COMPLEX, which falls in the jurisdiction of the Punjab state, continues to catch the wistful glances of a couldn't-care-less coterie of politicians, bureaucrats, and industrialists.**
- **These power-drunk people are hell bent on raising skyscrapers in audacious violation of the dictate that no high-rise structures would be raised north of the Capitol Complex to preserve the sacrosanctity of its World Heritage Architecture. Thanks to our persistent campaign in which I had actively participated.**

The Supreme Court has finally held that the Rs 1,800-crore controversial multi-storey, high-end proposed Tata Camelot Housing Project housing project near the Sukhna Lake in Chandigarh cannot come up as it violated environmental norms.



- The timeless-universal Lesson from this gory example is that the conservation of Geography or Nature's Fragile Architecture is not merely the responsibility of Architects and Planners. It must also be that of the Politicians and Bureaucrats in whom is vested the nation's power of decision-making by the Indian Constitution.
- Implicit in this Herculean power rests the responsibility of protecting the Human Environment against the land-grabbing greed of Corporate Houses, Industrialists, Businessmen, and Traders. But, ironically, driven by greed, they abuse their power more to destroy than to create!
- Inputs from my co-speakers also showed how their disciplines such as Engineering, Art, and Literature figured in the Symposium's deliberations.
- Surely we need such a constant reminder for goading us on to get down to the basics of what I call Geography-induced Socio-Cultural Behaviour that nurtures our collective responsibility for preserving the *Homo sapiens'* species which means MAN The WISE!
- Such preservation can be done only by conserving **Geography** against the onslaught of aimless **Architecture** and perilous **Planning**!

I concluded my presentation with my 50-word poem [see the satellite picture of the Globe alongside] that I feel should become a household rhyme from Nursery School to University Education. ■

My seed, soil, flower, fruit
My life's plant—branch and root
Spring from the Womb of Earth
My Mother, nurse,—home and hearth
Loving is my life's expression
The Aesthetic of Her Superb Creation!

The more I think
The more I probe
And find my Heaven
In the Globe

New Urban Development & Public Space: A case for re-establishing Public Places

- Prof Rebecca S Jadon

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ABSTRACT:

Public spaces in traditional city development served multiple functions in the political, social and commercial spheres. Most of our cities have had traditional public spaces in terms of public squares, street corners, market places or market streets. This paper is a questioning look at public spaces or the lack of it in new development in our urban centres. The paper attempts to define the needs of the people especially the youth and new spaces in the public realm. The paper tries to investigate these concepts through case study examples.

Keywords: public space, streets, squares, identity, access

INTRODUCTION:

Public spaces in traditional city development served multiple functions in the political, social and commercial spheres. Be it the Greek Agora, the Roman Forum, the medieval market square, the Renaissance *piazzas*, the Asian market streets, the Indian temple complexes, the public space was the social and cultural hub of the urban settlement. Asian common spaces may have had a pre-dominant socio-cultural or commercial function compared to its European counterparts, which had socio-political origins; but public space as a common open space for shared use existed.

DEFINING THE PUBLIC SPACE

Walzer (1986) defines public space very simply: 'Public spaces are spaces which we share with strangers.' [1] Public space is the space which is not owned by one, but used by all. Public space is that where any resident of the city can go anytime and where he would like to go to spend some leisure time. i.e. public space is characterised by universal access.

Public space need not necessarily be state owned, but any space with universal access.

Space is transformed into 'place' when humans give it bounds and believe it has value. (Wolf et al, 2014).[2] Public space becomes a 'Public Place' when its function and identity has a value and meaning to the public in general.

Outdoor public spaces provide opportunities for people of diverse backgrounds to come together for mutual enjoyment; public spaces can carry positive communal meaning. Residents who are more attached to their community create higher levels of social cohesion and social control, express less fear of crime,

Flora Fountain, Churchgate, Mumbai

Image Courtesy: Animish Thaker

Central Business district in downtown Toronto, Canada

and contribute to the vitality of the neighbourhood. (Wolf et al, 2014)

Thus, public spaces need to have equitable access to various sections of the society. Not only the amount of public space, but its equitable access can be said to be parameters of a city's liveability index.

Goal 11 target 7 of the 2030 Sustainable Development Goals, which states: "by 2030, provide universal access to safe, inclusive and accessible, green and public spaces, particularly for women and children, older persons and persons with disabilities", provides significant recognition of the importance of public space in sustainable development.

Public spaces can be put into 3 major categories:

- **open spaces** - such as beaches, parks or other natural spaces streets, squares, pavements
- **closed spaces** - public usage buildings - such as libraries, museums, spiritual and heritage sites
- **public function spaces** - transit sites, recreational sport or other areas.

Main city squares, waterfront developments, city parks qualify as city level public spaces. Sub-city level spaces may be in terms of community grounds, recreational areas, plazas. Streets, neighbourhood parks or even tot lots can qualify as neighbourhood level public spaces.

CHARACTERISTICS OF PUBLIC SPACE:

Jacobs (1961) rightly argues that DIVERSITY is the characteristic that make a city's spaces safe and vibrant. She put forth four prerequisites towards generation of diversity:

- the space must have multiple primary functions
- built form need to be punctuated with nodes
- a varied building typology in terms of age
- a sizable number of people using the space at different times. [3]

The basic characteristics for a successful public space can be listed as follows:

- diversity - a mix of activities
- environmental ambience – basic environmental comfort and visual appeal
- sense of security
- sense of place – space and its elements with meaning.

PUBLIC SPACE IN THE INDIAN CONTEXT:

The typology of the public space is defined by, besides the socio-political and economic factors, the climatic and cultural parameters. The Indian society primarily held the spiritual at the highest and all our spaces oriented towards or radiated from it.

The temple courtyards or *prangans* were the basic public spaces of an Indian settlement. They fulfil the four tenets of diversity as put forth by Jane Jacobs. The Ghats at Varanasi is a vibrant example of Indian public space – where life and death is celebrated with Nature. The south Indian temple complex is an inimitable expression of spirituality, market economy, culture and art.

The administrative or commercial areas are the next series of public space. Traditionally urban Indian public space has been in its market streets as in other Asian societies.

Image Courtesy: Siddharth Jadon

Fig 1: Spaces for people (Photo courtesy: Siddharth Jadon)

STREET AS A PUBLIC SPACE:

Traditionally in India streets may have fulfilled many of the roles of the public space – in terms of social space, meeting space, while serving primarily as a shopping street or local residential street. The pedestrian street varied in its dimensions and expanded into spacious

nodes at points of major public functions or intersections. But the usurpation of the street by the vehicular load, especially in the last 50years, has deprived the street of its multiple functions or at least made it unsafe and grossly inefficient.

Informal shopping has been a characteristic of the Indian market be it the temporary stall (*gumti*), the handcart (*thela*) or the roadside pavement open shop.

New development areas generally do not give spaces for these, resulting in the taking over of main thoroughfares with street shops and mobile *thelas*. Absence of a spill over space near main streets or street junctions result in inefficient and unsafe management of the main road traffic.

The neighbourhood street needs to be given its rightful place as a path than a vehicular access. Street is often the child's first playground. More children are generally found playing in the streets rather than the playgrounds. The street is typically the space for

Image Courtesy: Siddharth Jadon, Sandipa Malakar

Figure 2: Street games

interaction of households- with each other, with mobile tradesmen, as a leisure walk space or informal play space.

Image Courtesy: Animish Thaker

Figure 2: Tiananmen Square, Beijing, China

PUBLIC SPACE – A POLITICAL STATEMENT:

In the western context the public place has had its historical roots as a political forum. In contemporary world, the city square has been the symbol for the voice of democracy. Even in autocratic societies, the square has been the symbol of public political dissent. So be it Tiananmen Square (1989), Tahrir Square (2011), central public spaces have often become the spontaneous place of public gatherings.

The public space as a political space is a notion which took root in India with the anti-colonial protests. So while Shivaji park, Azad Maidan and Flora fountain area in Mumbai became synonymous with political protests – both pre- and post- independence; Red Fort, India Gate in Delhi became symbols of public movements.

In Gwalior, the Bada square and the Phoolbagh grounds are the primary sites of public meetings, protests, rallies or events – as places of democratic expression. Yet these places per se have their origin in authoritarian rule. Thus, they are, at the same time, the symbols of the city's historical heritage and its current democratic character.

Public space is a powerful instrument of social inclusion.[4] Access to the public place and an identity with it for all its citizens is a measure of spatial social equity. The proportion of public and open spaces in the lower income residential neighbourhoods is substantially lower, even in cities of developed countries.

As our society is becoming highly commercial, the commodity value of space has overshadowed the social aspect of public space. The cost benefit assessment of public spaces hasn't been systematically evaluated for its environmental and social benefits.

PUBLIC SPACE IN FORMAL URBAN PLANNING IN INDIA:

Most of our cities have traditional public spaces in terms of public squares, street corners, market places or market streets. In the modern town planning schemes of the cities generally land uses and zoning is done, yet public space per se is not defined nor planned. Local area plans are more often not prepared in tier II & III cities. If we look at recent city developments, other than coastal park or a neighbourhood public garden, rarely do we see a public space provided for use.

Since land parcels are privately owned, the city develops in new directions with no regard to public spaces for the new inhabitants. The spaces available for the citizens especially the youth are the commercial mall, theatres or restaurants, gaming units for recreation or just hanging out. Sport facilities, even playgrounds are increasingly becoming reserved paid spaces. School playgrounds are often not available outside school hours. Religious structures which traditionally served as community spaces with large public open spaces are also increasing becoming multi storied built properties.

Current town planning systems may need to address

Image Courtesy: Animish Thaker

Open spaces in Ramanagar, Bengaluru encroached by street vendors

the issue in a more pro-active way. Its only action towards provision of public space is in giving Plan objectives in terms of land-use percentages and demarcating a PSP zone. But the materialisation of the same is hardly ever planned for or monitored through the Plan period.

In small towns where the extent (size) of development was low, the dearth of open spaces within the city was not felt since the surround open space was accessible. With the growth of the settlement both in size and density, the dense settlement does not provide enough

Image Courtesy: Animish Thaker

Illegal encroachments and multi-lane parking has robbed many public spaces in India easy access for pedestrians as seen here in the precincts of Charminar in Hyderabad, Telangana.

open areas for healthy living and recreational needs.

The traditional market street, the choupal, the nukkad does not limit a person from accessing it; the new commercial mall has an indirect way of screening people. The open playground or maidans are open to all sections of the society; but formal sport complexes often limit access in terms of user charges.

Other usurpers of many open spaces are informal commercial activities or formal community activities. While the street vendors are an inherent part of the Indian economy, but none of our planning or administrative solutions cater for it realistically. Hawker zones in a remote location won't work. The emphasis on vehicular access has created the grid street without the spill over space at junctions. Streets and market areas need physical spaces incorporated within the planned areas for multiple functions, after which practical administrative controls can be implemented.

The Indian public space shall ideally need to be multi-functional, in spatial, functional and temporal terms. Yet it needs to be taken care that the primary functions

Image Courtesy: Animish Thaker

Children's Play area in Ireland temporarily closed due to COVID-19.

are never relegated when various activities vie for the same space. For example, the community grounds in a neighbourhood is the space for the children to play, for social or festival functions, meetings.

If the space gets predominantly used for functions, the children are deprived of their play space. A playground during the day may have a hawker's food court by night, but not a permanent hawker's zone. Residential streets need to give children and cyclists priority.

Public spaces need to have equitable access. Hence private holding led development can rarely provide for public spaces both in terms of area and access. The city administrative body has to have a conscious stake in development of public spaces for the overall health and economy of the city. Large showcase projects may not be always be the answer to the needs of the majority of the city dwellers who do not own cars. [5] Local area plans have to create public zones and pedestrian paths or pedestrian priority linkages, just as it has to create connected green habitats. Large showcase projects may not be always be the answer to the needs of the majority of the city dwellers who do not own cars.

A rider which has crept into public space design today is the security angle, be it threats of vandalism, crime or terror. It limits the very definition of public space – that it is open for all. Hence we have to innovatively use technology to make our public spaces safe without putting up barriers.

A REVIEW OF SOME PUBLIC SPACES:

Singapore has followed a policy of green and public spaces in its urban development. The LUSH

Image Courtesy: Animish Thaker

Singapore has some dramatic examples of buildings incorporating greenery including the Park Royal on Pickering Hotel which is dripping in greenery. The Singapore Government encourages green roofs and green walls by giving floor space bonuses.

Image Courtesy: Animish Thaker

Maximum City, Mumbai : a megapolis with contracting public spaces

(Landscaping for Urban Spaces and High-Rises) programme of Singapore's Urban Redevelopment Authority requires for new developments to provide publicly accessible green spaces that are at least equivalent to the site area of the development. [6]

Chandigarh is one of the few cities in India with a forest cover of almost 20% and a fair linkage of green spaces between sectors. Yet its public spaces lack a cohesive character. The mega capital square falls short of its objective due to the security restrictions.

New Delhi: It has created some commendable public spaces utilising the existing built and natural heritage such as the Lodhi gardens, Yamuna *Ghat* zone, Connaught Place. Delhi as a capital city has maintained a concept of public space. Yet many marginalised zones in the city have limited amenities and safe accessibility.

Mumbai: The beaches, sea-fronts, *maidans* and parks are the prime public spaces. But the crowds in these spaces reflect the need for more open public spaces, especially wherein the housing space per person is very low.

Gwalior: The total public space, other than the fort hill, is under 1% of the city area. The new development area

of the city has no substantial 'public' spaces. Small parks within residential localities serve as a breather for

Image Courtesy: Prof Rebecca Jadon

Figure 3: Public use of spaces – Dry tank/Streets/ Public Qquare

young children or senior citizens. The large institutional campuses have served to dual at least as green open spaces, some of which have at least partial public access. With the street primarily as a vehicular route, spaces for public use need to be specified or allocated. Some areas off the street have automatically become spaces for the young citizens, but in terms of spatial quality they fall grossly short of requisite standards.

PUBLIC SPACE IN THE DIGITAL AGE:

The virtual space is today a space of exchange of ideas, information, mis-information and debate; functions once served by public spaces. The virtual space also blurs the identities of the users as well as their self-identities. Virtual public spaces fill the void created by the lack of public spaces and places in our cities and towns that allow for public mixing and interaction. Yet the virtual space is not an upgrade over the real world.[7] Public space has a crucial role in the exposure to the real world and establishing the cultural context of the place.

SUMMARY:

When commercial spaces become the alternative to public space, the city is failing in one of its primary functions. The physical public space has significance for the physical, mental and psychological wellbeing of its users, as well as for the identity of the city.

The paper seeks to reiterate that the public policy to provide urban spaces is vital to provide a city wherein people can communicate with one another, at the personal, social and public levels.

Use of the same space by different people is itself a means of communication. Innovative variations of the public space in today's context with support from the urban administration and the people can be feasible options for our cities.

REFERENCES:

1. *Walzer, M., 1986, Pleasures and Costs of* Urbanity in *Dissent, Vol. 33 no.4 September 1986*
2. *Wolf, K.L., S. Krueger, and K. Flora. 2014. Place Attachment and Meaning - A Literature Review. In: Green Cities: Good Health (www.greenhealth.washington.edu). College of the Environment, University of Washington.*
3. Jacobs, Jane, 1961,
4. The Death and Life of Great American Cities, vintage Books edition 1992. https://www.saferspaces.org.za/understand/entry/public-spaces
5. Miao, Pu. ,2001, Asia Public Places: Characteristics, Challenges, and Responses -- Introduction to Public Places in Asia Pacific Cities: Current Issues and Strategies. 10.1007/978-94-017-2815-7.6 https://www.ura.gov.sg/Corporate/Planning/Master-Plan/Key-Focuses/Public-Space
7. Smith, Marc, 2015, Virtual-public-spaces-are-not-public-spaces, retrieved from https://www.connectedaction.net

Evolution, Relevance and Design of Urban Public Spaces in India

- Dr Aarti Grover & Ar Poonam Saini

Dr Aarti Grover, an alumnus of the prestigious School of Planning & Architecture, New Delhi, completed her Bachelor's degree from Guru Nanak Dev University, Amritsar. A multi-disciplinary architect with a specialization in Landscape architecture and Doctorate in Architecture, her doctoral thesis explored Gender perceptions and preferences in Urban Public Spaces. With a professional experience of almost 18 years, she is presently working as an Assistant Professor at the Post-Graduate Course of Landscape Architecture in SPA Delhi. She has worked on projects of various natures and scales related to Landscape Architecture, Architecture and Interior Design, in the capacity of both advisor and consultant. Her career is a balanced mix of practice, teaching and research. The key areas of her interest are Regional-Planning and Site-Planning, Landscape Urbanism, Habitat Studies and Ecology, Social aspects of Urban Landscapes especially Gender-Space Relationship.

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INTRODUCTION

Our perception of well-being and quality of life is determined by the extent of fulfillment of our needs. These needs can either be physical or psychological. To fulfill the psychological needs one has to interact with others. This act of interaction gives rise to the idea of outdoor space where one can sit, chat and share his thoughts. From here originates the concept of 'open space' in general and 'urban space' in particular.

In the Indian situation, many traditional open spaces have sustained life for centuries. Moving ahead with time, these spaces got crowded with people and activities but are still relevant in modern context. Indian towns are characterized by the clustering of buildings with balconies overlooking streets and courtyards providing public space both at neighborhood level as well as at city level. These courtyards or squares accommodate multiple activities ranging from religious activities, marriage ceremonies and celebration of festivals. Taking examples from Indian cities, it has been observed that the nomenclature and character of these community open spaces may have varied at regional level due to cultural diversities but the function they serve remains more or less same. 'Chowks' in Jaisalmer, Ahmedabad and 'Chaupars' in Jaipur, all speak the same vocabulary in spite of being present at different places and times.

Basically, an urban open space is distinguished by predominant characteristics, such as the quality of its enclosure, the quality of its detailed treatment and activities that occur in it. The square or plaza is both an area framed by buildings and an area designed to exhibit its buildings to the greatest advantage. A small city may have a single square that serves as traffic hub and gives its character. Great cities have squares of every size, style and purpose, demonstrating the varied ways in which space can be contained and manipulated. Typically a plaza is paved, enclosed by high density structures and surrounded by streets or in contact with them. It contains features meant to attract groups of people and to facilitate meetings.

The research aims in understanding the essence of urban plaza that exists in the urban city structure. It tries to highlight what kind of squares enrich our cities, bringing in certain issues and solutions pertaining to their design aspects. It will illustrate examples of urban plazas in traditional and contemporary times, especially Indian examples.

URBAN OPEN SPACES IN INDIAN CONTEXT – STREETS AND CHOWKS

Many open areas in Indian cities and villages are bisected by 'desire lines'. These paths are either formed by trampled lawn or compacted earth, 'line of least resistance' or the shortest and easiest route from point A to point B. These desire lines were the genesis of many streets in Indian villages and traditional cities. In some cases these streets evolved from left over spaces after building or were designed elements imposed on the landscape in a grid or other pattern. For example Chandni Chowk in Delhi is one of the most known streets.

According to Charles Correa

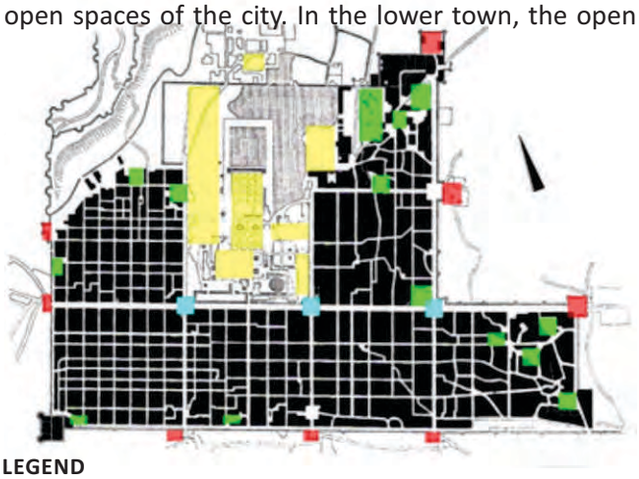
"A component of primary importance to any city is the quality of its streets."

The chowk has been an important public space in traditional Indian cities since ancient times. Often where two streets crossed they would open up to form a chowk. Whether as a market square or temple square or a square in front of a mosque, these spaces have been important parts of people's lives. The chowks were the 'pulse' of the city, acting as markets, open spaces, venues for cock fights, storytelling, preaching and spending time. Chowks can also be seen in villages – the village square or in older parts of large metropolises, e.g. Hutatma Chowk (Flora Fountain) in Bombay. It is also a place for elders and women to relax and gossip, children to play and generally a central community place for the village where dramas are enacted and singing and storytelling in the evenings mark festivals and celebrations.

Correa claims that several chowks have been converted into "glorified parking lots" in many Indian cities. It is suggested that chowk sand public plazas need to be rehabilitated as important nodes in the city. Parking should be restricted and should be discreet at the edge of such square if at all allowed.

OPEN SPACES OF MOHEN-JO-DARO, INDUS VALLEY CIVILIZATION

Mohenjodaro is one of the oldest examples of city planning. The city comprised of two major parts – the citadel which was raised and the lower town. The citadel had large open spaces for public activities, the most important being the Great Bath. The streets of the city were wide and are at right angles to each other with chowks at the intersections. They formed the major open spaces of the city. In the lower town, the open spaces were in the form of courtyards surrounded by houses. These were the major places of interaction for general public.



LEGEND

- **Open spaces in city palace precinct**
- **Chaupars as public open space**
- **Large & small open spaces in residential areas**
- **Open spaces in religious buildings.**

Fig.#1 Plan of walled city of Jaipur showing public open spaces; Source: www.harappa.com

CASE STUDY 1: CHAUPAR AS AN URBAN OPEN SPACE – BARI CHAUPAR JAIPUR

Re-planned in early 18th Century, the city of Jaipur was designed according to rules of Vastu Shastra. The major open spaces in the city were palace precincts, Chaupars, Large and small pockets of open spaces within each mohalla for informal gathering and open spaces with in temples and monuments. ***(Fig.#1)***

CONTEXT

Chaupar is a cruciform board game played with quaternary lots in the form of long dice. The design of the cross junction of roads in Jaipur city resembles with that of Chaupar and hence the name.

PRESENT SITUATION

The Chaupar which was initially designed as the prime open space for large scale activity served well in the conditions that prevailed at that time but with the changing time, increasing population in the city, changing life-styles and increasing vehicular traffic, the character of the space has transformed drastically. The chaupar which used to be a highly active space housing public gathering and activity stands merely as a rotary intersection.

CASE STUDY 2: SECTOR 17 PLAZA, CHANDIGARH

The city centre was literally the central geographical point of the city and the heart of the urban life during the first phase of Chandigarh. Four wide pedestrian ways were designed to lead into a central chowk or square on which would front the principal buildings. Access to these buildings as well as to the central district is throughout a slow- traffic loop road with large area as set aside for parking space, thus making the entire complex free form traffic noise and hazards. Over time, many changes in context, landuses and design have come up leading to piecemeal development in the absence of any integrated landscape. The plaza lacks appropriate landscape structure to respond to the contemporary changed needs of the users. ***(Fig.#2 & #3)***

CASE STUDY 3: ANSAL PLAZA, NEW DELHI

The plaza lies amidst the major commercial area of HUDCO place. It is surrounded by residential area at the back and large green which imparts quality to the space. Landscape design of the plaza consists largely of hard landscape. Vegetation/ plant material has been introduced minimally only for aesthetics. The plaza is constructed on a slab, with two basement levels below

Image Source: Authors

Fig.#2 Fountains and seating areas offer a comfortable environment to visitors during hot months.

Image Source: Authors

Fig.#3 Tree planters designed to incorporate seaters

thus limiting the height of trees. Lighting has been designed as an integral part of landscape of the plaza, using similar materials and integrating the design with planters, etc. Red sandstone and white marble have been used for paving. The hard surfaces generate enormous amount of heat during summers that it becomes difficult to sit there in the day time. ***(Fig.#4 & 5)***

COMPARATIVE ANALYSIS OF THREE CASE STUDIES

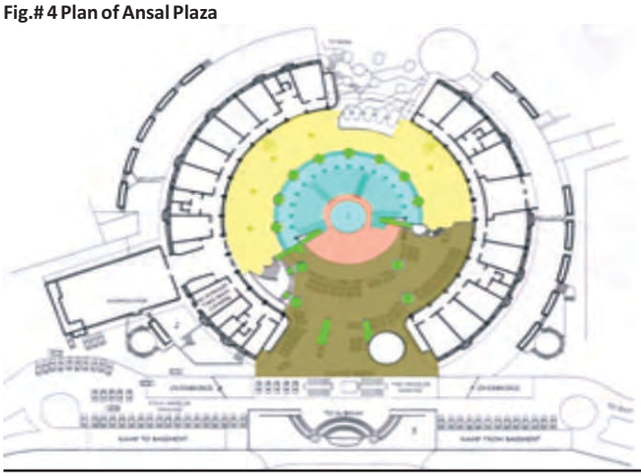
(Please refer to next page)

BROAD RECOMMENDATIONS BASED ON INFERENCES FROM THE LITERATURE AND CASE STUDIES

From the above study it is understood that there are certain basic principles and essentials which need to be taken care of while designing any urban plaza or town square:

- The urban plaza should be located in a central location which is linked well with the city by means of transportation to attract people.
- The success of a plaza depends primarily on the activity it holds to generate interest in people. Certain of such don't get visited by people only because they don't offer any activity which can attract people.
- Also, there is a need to distribute the landuses and thus the activities in such a manner that all areas of the plaza are activated leaving none of those dull or redundant.
- The scale of the plaza should relate well with the number of people it is expected to cater to. There should be enough flexibility so that it can serve to individuals as well as large crowds. Small details and niches can be worked out to create intimate spaces.
- The most important requisite for any plaza is that there should be practically no conflict between the vehicular and pedestrian traffic. These plazas need to be pedestrian-friendly. Also the accessibility of the specially-abled and the essential services like the fire-tenders should be considered while deciding on the circulation scheme.
- The response to climatic conditions is very essential. The distribution of hard and soft areas needs to be worked out. The presence of shade-giving trees and water features can help in modifying the microclimate in hot areas.
- All the landscape elements used in a plaza should be in the same vocabulary leading to unity in design and visual continuity. This would help generate a

Fig.# 4 Plan of Ansal Plaza



Source: "A+D March April 2002

Fig.# 5 Complete view of amphitheatre

Image Source: Authors

COMPARATIVE ANALYSIS OF THREE CASE STUDIES

ANALYSIS		SECTOR 17 PLAZA, CHANDIGARH	
LOCATIONAL ASPECTS	Open space closely related to dense built environment. Hence has potential to be designed for community.	Centrally located with regard to city's structure. Easily accessible to all.	Located in a prime position and well connected with the circulation network.
HISTORICAL SIGNIFICANCE	In earlier times this open space was used as meeting place as well as for large scale gatherings in times of religious / political rallies.	Originally designed as a cross-axial motif with 4 pedestrians culminating into a chowk - a concept in traditional Indian markets.	------
FUNCTION AND ACTIVITIES	Space designed for both active and passive recreation as well as city level gatherings. But now serving as traffic intersection and local shopping.	Main activities - commercial and recreational (both active and passive).	Primarily shopping arcade but also designed for passive recreation and cultural events.
SCALE	Space is perceived at a human scale as the vertical planes containing the space are only 2-3 storey high.	Not comprehendible at human scale due to its dimensions.	Space lies well within human scale limits. Small scale detailing creates intimate spaces.
CIRCULATION	Enormous chaos between pedestrian and vehicular traffic as the space does not provide separate routes for different users.	Primarily for pedestrians. The conflict between pedestrian and vehicular occurs only due to the absence of proposed over bridge and improper edge detailing.	Mainly pedestrian plaza as vehicular entry is restricted to the basement.
MICROCLIMATE	Initially designed as microclimate modifier due to presence of step-wells but today acts as a generator of heat and glare due to intense vehicular activity.	Lot of paved surfaces generate enormous heat; trees and water have been used as microclimate modifiers.	No shade provided in terms of vegetation in the central space. Hence difficult to use in hot summers, not responsive to the climate.
LANDSCAPE ELEMENTS	Trees, fountains, benches, steps for seating, roof-terraces.	Trees, Planter edges designed as seating, fountains, benches, murals, sculptural fountains.	Amphitheatre steps, planter edges, decorative light fixtures, topiary forms.
CULTURAL / SOCIOLOGICAL VALUES	Initially designed for day to day cultural and social activity, today primarily acts as a rotary intersection; but on festivals serves the original purpose.	Major hub for social activities and cultural events on weekends.	Mainly acts as a relief and relaxation space for the shoppers.
SURFACES	Total absence of soft surfaces.	Large paved surfaces initially barren, now dotted with vegetation and soft surfaces.	Mainly hard paved surfaces with negligible incorporation of soft surfaces.
VISUAL PERCEPTION OF SPACE	A large open space which loses the effect of being large due to unforeseen growth of traffic and encroachments.	Visually the whole plaza seems to be a series of small courts linked to each other.	The plaza seems to be the visual centre of the whole setting and catches attention due to its centrality, scale and detailing.

distinct design image and render identity to space.

- The design and detail of a public area should essentially relate to the socio-cultural habits of the users to make the place popular among them.
- The plaza has to be visually comprehendible. It should not give the visitor a sense of being lost. Also factors like security, safety etc. need to be considered.
- The basic needs like utility blocks, drinking water fountains, appropriate lighting etc. need to dealt with care and distributed uniformly.
- The encroachments need to be checked in such areas and in case it is inevitable like in Indian context, the vendors and hawkers should be sympathetically treated and spaces for them allocated in the design layout.

BIBLIOGRAPHY

1. Moughtin, Cliff, 3rd Edition. Urban Design – Street and Square: Architectural Press, London.
2. Webb, Michael, 1990. The City Square: Thames and Hudson Ltd., London.
3. Roy, Ashim Kumar, 1978. History of Jaipur City: Manohar Publications, New Delhi.
4. Spreiregen, Paul D., 1965. Urban Design – The Architecture of Towns and Cities: Mc Graw – Hill Book Company, New York.
5. Whyte, W. H. (1980). The Social Life of Small Urban Spaces. Washington, DC : The Conservation Foundation.
6. Whyte, W. H. (1988). City: Rediscovering the Center. New York: Doubleday.
7. Wimbush, E and Talbot, M. (Eds.). (1988). Relative Freedom: Women and Leisure. Milton Keynes, UK, Open University Press.
8. Lofland, L. (1998). The Public Realm: Exploring the City's Quintessential Social Territory. New York: Aldine De Gruyter.
9. Canter, D. (1977). The Psychology of Place. New York: St. Martin's Press.
10. Saini, P. (2008). Landscape Appraisal of City-level Open Spaces-The Urban Plazas and City Squares.
11. www.harappa.com

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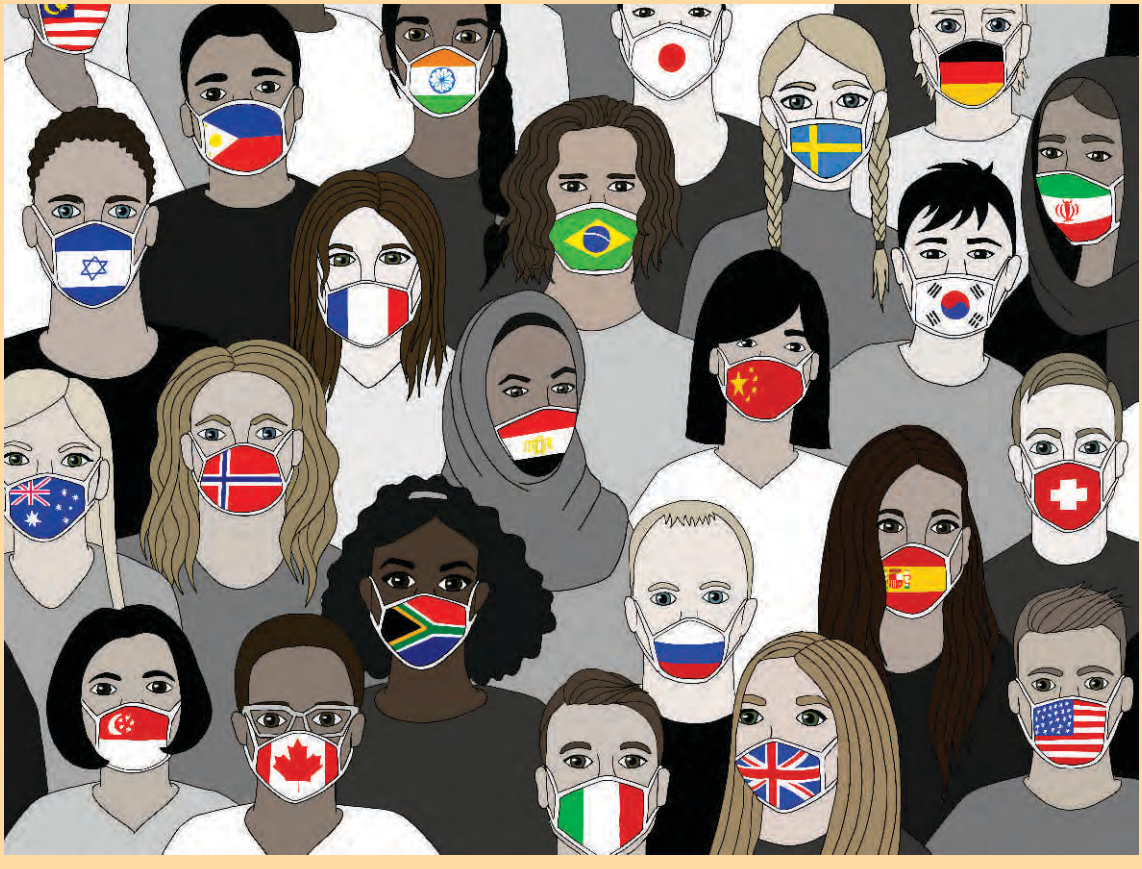

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