Issue No. 10 September 2022

THE CHANGE IN NATURE OF NATURE

Newsletter by Indian Society of Landscape Architects

Content

Editorial

We, the ISOLA Rajasthan Chapter, are happy to present to you the 10th Newsletter of ISOLA!

This newsletter is a short compilation of updates from the happenings at the ISOLA Centre and Chapter levels since August 2020 till May 2022. Newsletter also offers a few insightful articles on the theme '**The change in nature of nature**'. We hope it makes for an interesting read.

ISOLA

The change in nature of nature

Kavita Kedawat

Wild fires in California, flooding in Venice, urban flooding scenes in Delhi, prolong drought conditions in Rajasthan are the scenarios, we see in the sequence of pictures.

Do we have anything in common here? Do we see the climate and weather changing frequently around us? Is the climate change real and we have started to witness the effects of climate change?

Global climate change is defining environmental issues of our time. From devastating wildfires to historic storms and rising seas, shifting wildlife populations and habitats, the effects are already being felt and will continue to get worse.

While climate change is global, its manifestations is differing in various part of the world. For instance, sea level rise may be the issue of greatest concern to small island nations, but for a land-locked tropical country, intensifying heat waves, droughts, and floods may be of more concern.

In some areas change in habitat are of major concern. Few species—including mosquitoes, ticks, jellyfish, and crop pests—are thriving as a result and populations of bark beetles is booming that feed on spruce and pine trees which have devastated millions of forested acres in the U.S.

The IPCC (Intergovernmental Panel on Climate Change) reports are capturing a global snapshot of climate change.

Continue....

Wildfire in California summer 2019, Source: www. sia.az

St. Mark's Basilica on November 15, 2019, Source: www.forbes.com

Delhi flooding in july 2020, Source: www.dailypioneer.com

Churu,Rajasthan March 2019, Source: www.asianews.it

Climate change will have profound effects upon every aspect of our society, our economy and the ecosystems which support them. All of these present risks for landscape in its broadest sense and are of direct concern to the work of a landscape architect. Through their training and expertise, landscape architects are well positioned to provide holistic approaches to the planning and management of the built environment and rural areas. They have the ability to help address the environmental, social and economic challenges which face us all.

Mainstreaming nature based solutions to fight with these new environmental issues is the need of hour. For example, a growing number of cities are stepping up to the challenge of sea-level rise. Alongside mitigating their carbon footprints through reducing emissions, they are fielding hard engineering projects like sea walls, surge barriers, water pumps and overflow chambers to keep water out. In other strategies they are adopting environmental approaches involving land recovery and the restoration of mangroves and wetlands to help cities cope with floodwater inundation. This is where the collaboration with landscape architects plays an important role in mitigation strategies.

One such landscape based approach is sponge city concept, the sponge strategy requires to create the land sponge infrastructure around the city which can absorb the water during floods and otherwise can work as open recreation spaces. A few countries like China, Vietnam and India has started working on these ideas to deal with flash floods, drought conditions and rising sea levels at the same time.

Landscape professionals can offer an alternative way not only of tackling specific climatic challenges head on, but of realising multiple secondary benefits at the same time

"As we witness our planet transforming around us we watch, listen, measure ... respond."- Alisa Singer, Environmental Graphiti

In this newsletter we are trying to highlight environmental issues bred by this change in nature of nature and role of landscape architects in providing the leadership to battle these issues now and in the future.

Message from the president

Dr. Sridevi Rao, ISOLA President

As with previous editions, adding to the visibility, outreach and impact of Landscape Architecture, this Newsletter is brought to you by the Indian Society of Landscape Architects (ISOLA).
With ten Chapters, ISOLA has navigated a challenging year quite productively since it has added more firsts detailed in the Newsletter! They refer to the ISOLA Symposium and the ISOLA National Competition.

This edition is the result of the hard work of the Rajasthan Chapter and includes articles from Isola members and allied professionals. ISOLA invites you to enrich yourselves with the learnings and takeaways that would increase your understanding of Landscape Architecture and ISOLA. Through the Newsletter, ISOLA is confident that it will open new vistas of areas for collaboration with readers and the organizations, departments, and institutions that they represent. Besides getting familiar with member advantages of international networks through the International Federation of Landscape Architects (IFLA), readers will understand the profession and can reach ISOLA through its website www.isola.org.in to work together to reach the 2030 goals.
ISOLA has recognised Institutions which have departments with faculty who train students to join the pool of Landscape Architects. Student members who later become professionals have made ISOLA a professional body that is respected internationally and approached for collaboration by a cross-section of Institutions and Organizations. This has benefitted members with assignments and network exposure.
The close-knit network of ISOLA members who are Landscape Architects in Practice and Academia, have supported each other not only professionally but also during personal loss. There is no doubt that the Firms, teaching faculty, and students have shown resilience, ingenuity, and a can-do attitude in their impact on the ground and instilling leadership in solving problems. The ISOLA Newsletter is one more link in the bonding that ISOLA instills through its Chapters.
Get ready to join us in learning how to achieve goals for the common good through the next edition of the ISOLA Newsletter by the Maharashtra Chapter!

ISOLA'S way forward

Dr. Sridevi Rao, President, ISOLA

Based upon various Executive Committee discussions and conversations, and as a representative of the Indian Society of Landscape Architects (ISOLA) I am grateful for this opportunity to share some ongoing initiatives. Over 19 years, the detailing and foundation for these initiatives have led to what ISOLA is today. In a few months all past Presidents will be contacted to meet and discuss ISOLA AT TWENTY FIVE or ISOLA@25.

ISOLA thrives and is dependent upon members. ISOLA members have the advantage of membership of the International Federation of Landscape Architects (IFLA) which has professional bodies from 77 countries as its members. The IFLA Asia Pacific Region (IFLA APR) and IFLA websites can be accessed to understand world trends in our profession which emphasises encouraging biodiversity and sustainability in our design decisions to achieve the Year 2030 goals. The IFLA APR also welcomes ISOLA Members below the age of 35 years to join the Young Landscape Architects Alliance.

ISOLA ratified the Climate Action Commitment shared by IFLA with member countries and this would benefit our members for their future. The Sustainable Development Goals are the foundation upon which this stands. India's 2021 stimulus package has two thirds of the resources targeted towards green recovery. So, our academic thrust and design decisions by professionals will have to reset thinking along these lines if we, as Landscape Architects are to continue to be relevant in the subcontinent and on the world stage.

In terms of our subcontinent, most of our neighbouring countries are not members of IFLA. Since there is a minimum quorum required, for example, Bhutan has two Landscape Architects, ISOLA could perhaps reach out to our immediate neighbours by inviting them as preferred invitees to our Conferences and PAN INDIA INITIATIVES by chapters. The networks that would develop would collectively impact our members positively in terms of academic or work assignments. This could be called the SAARC INITIATIVE.

In terms of our own country, India that is Bharat, there remains the task of representation of States that are not covered by our chapters at present. The Executive Committee in the past has held events in those States. Landscape architects from those States who cannot form a chapter can join mainstream activities of ISOLA and propose activities in collaboration with any chapter which comes forward for the same. Going forward, the Awards Ceremony will be held in states which don't have a chapter. ISOLA could invite institutions and allied professionals from those states to such ceremonies or conferences, where in a dedicated vertical they would share their experiences that impact or have reaped the benefits of landforms, vegetation or water and their interaction.

As Landscape Architects we are aware of the rich cultural legacy that has nurtured the landscapes of most States. ISOLA student members from recognised Institutions have formed the ISOLA Student Forum. They could capture memories, stories and facts thus enriching our own design decisions with more sensitivity. We are aware of the tremendous wisdom that exists with learnings about sustainability and habitats for biodiversity.

ISOLA can ensure that the country does not lose this wisdom by documenting and sharing and using that wisdom. This could be a joint initiative of the ISOLA Education Board and ISOLA Resource Centre. I have shared three major long term tasks that would take forward the founding objectives of ISOLA. With its rightful place on the world stage, ISOLA will continue to grow with our talented aspirational and innovative members. It is in this context that holding the 2025 IFLA APR CONFERENCE in India would benefit our members. This conference has been held twice in India with great success.

The ISOLA Conference alternating yearly with the ISOLA Symposium and the Annual Awards Ceremony will have much to offer in the coming years! Member suggestions are needed and can be shared through email with the EC.

For details and updates do access *www.isola.org.in*

Thank you and do stay in touch.

Personally, I am just a call away. *Namaste*.

EC 2021 -2023

ISOLA welcomed its new EC for tenure 2021 to 2023. Elected members took charge from 1st of April 2021. Meet our elected members

Elected Office Bearers-

Honorary President,
Dr. Sridevi Rao,
Hyderbad

Honorary Vice President,
Prashanta Bhat,
Bangaluru

Honorary Secretary,
Devayani Deshmukh Upasani,
Mumbai

Honorary Treasurer,
Deepak U Rao,
Chennai

Elected members-

Past President,
Sujata Kohli,
New Delhi

Elected Fellow Member,
Ashish Patankar,
Mumbai

Elected Fellow Member,
Ganga Krishnan,
Thiruvananthapuram

Associate members-

Associate Member,
Venkata Lakshmi,
Coimbatore

Associate Member,
Charvi Samdani,
Mumbai

Chairperson message

Hemanshu Taneja, Past Chairperson,
ISOLA Rajasthan Chapter (2020-2022)

Greetings!

I am thrilled to introduce Rajasthan Chapter's first and ISOLA's tenth newsletter to the entire Landscape fraternity.

We started ISOLA Rajasthan Chapter on 1st April 2020 since then we are in process of achieving goals and objectives for the interest of our community. This newsletter is outcome of enthusiastic, diligent members of the chapter, volunteers and participants. Along with covering news and past events of ISOLA, we have utilized this platform to bring together the wisdom and experiences of Landscape professionals, allied experts and researchers through their piece of writings in form of short articles.

On behalf of all chapter members, I would like to thank our ISOLA president, EC members and all our mentors for their support and time to time guidance while outlining this newsletter. The whole process of making the newsletter "The change in nature of nature" was an experiential journey.

Hope you will enjoy reading and going through it!

Managing committee (2022- 2024)
ISOLA Rajasthan Chapter

Kavita Kedawat
Hon. Chairperson

Aparna Bhargava
Hon. Secretary

Bineet Chhajer
Hon. Treasurer

Hemanshu Taneja
Elected MC member

Kapil Sachdeva
Elected MC member

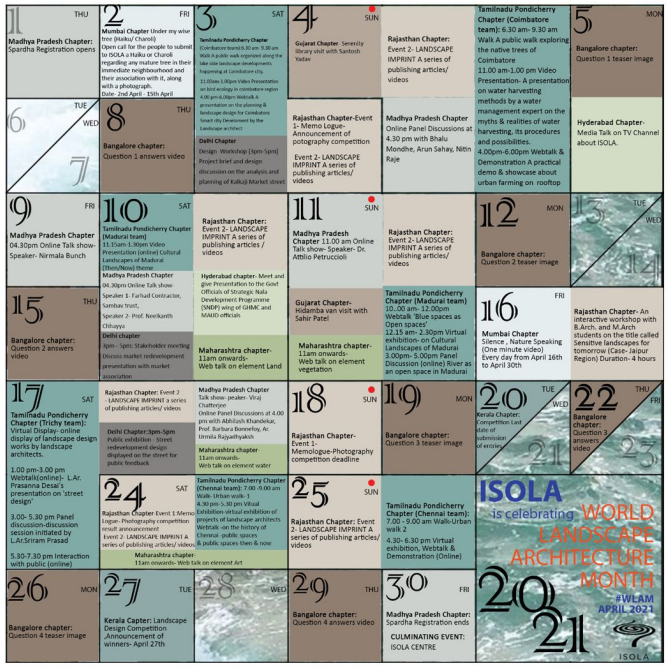
ISOLA Highlights

WLAM -2021

The month of April is designated as World Landscape Architecture Month (WLAM). WLAM is a month-long international celebration of landscape architecture to witness the creation of artful designs in our man made, cultural and natural environments.

All ISOLA chapters celebrated this month with full fervour. Various events were conducted in both online and offline modes which included talks by eminent speakers, design competitions, walk to celebrated landscape spaces, workshops for students and professionals, experiential landscape descriptive was asked by commons in terms of photographs, poetry, stories, sketches etc to explore the vision.

The events attracted many footfalls and eyeballs of commoner to professionals irrespective of place and age. WLAM celebration came to its fruition by reaching out across the globe.



Landscape Legacies

In depth conversation with the first generation of Indian Landscape Architects!

ISOLA and LA Journal co-hosted insightful conversation on September 25, 2021 with Guru's of Indian Landscape Architecture – Ar. Ram Sharma, Ar. Kishore Pradhan, Ar. Satish Khanna, and Mrs. Bhan (w/o Ar. Ravindra Bhan), recipients of the ISOLA gold medal.

They encouraged the listeners, practicing landscape architects and academicians with their professional experiences and challenges.

Spoorthi Sthalam

ISOLA hosted its first landscape design competition "Spoorthi Sthalam" for Late Jaipal Raddy's memorial at Hyderabad on behalf of Jaipal Reddy Memorial Foundation.

The goals of the competition were, promoting excellence in urban infill design, Exploring design and construction strategies to inform and enhance quality, sustainable and bio-diverse environs, Demonstrating the unique features of the site with reference to landscape definition and integration in the Memorial landscape, Engaging and building the capacity of Landscape architects to act as critical partners in the development of city-owned, vacant sites.

The competition was over 5 months in 2 stages. Many landscape architects participated with enthusiasm. The winning entry by Ar. Smruti Balvalli, an ISOLA member from Bangalore was showcased on 80th Janamtithi of Mr. Reddy, 16th January 2022.

Through this competition, ISOLA advances the cause of our profession amongst the common man and hopefully policy makers.

Research Symposium

The ISOLA EB (Education Board) Research Symposium 2021 was organized by the Indian Society of Landscape Architects (ISOLA). It was conducted online on Friday and Saturday, the 26th and 27th of November, 2021.

The ISOLA EB research conference aimed to cultivate the research domain, with the long-term goal of embedding research practice and application as an intrinsic element of both academics and practice in India's Landscape Architecture discipline.

This symposium was intended to enhance, promote, and strengthen the capacity of our members, non-members, institutions, landscape architects, and students in understanding research as an intrinsic part of their careers and adding to its growth.

The symposium included talks by famous Indian and international scholars, academicians, and practitioners, along with mentorship sessions and discussions. Several panel discussions were organized on subjects such as research possibilities, bridging the gap between research and academia, establishing a research culture, global collaboration prospects, publishing your findings, and so on.

Presentations were followed by mentorship sessions on the process of research, Literature review, Overview of research methodologies, and writing research proposals.


ISOLA
INDIAN SOCIETY OF LANDSCAPE ARCHITECTS
EDUCATION BOARD

RESEARCH SYMPOSIUM 2021

Theme: Perspectives and Pathways in Landscape Architecture Research

Friday, 26th and Saturday 27th November 2021

Day 1: 13.00Hrs - 20.15Hrs Day 2: 10.00Hrs - 18.30Hrs (VIRTUAL FORMAT)

CALL FOR ABSTRACT

Call For Abstracts:
Friday,22nd Oct 2021

Deadline for Receiving Abstracts:
Monday, 8th November 2021

Announcement of the selected abstracts selected through email to the respective participants:
Monday, 15th November 2021

Submission of the abstract along with the presentation (MS Power point -Max 10 slides- 16:9 template):
Monday, 22nd November, 2021

Confirmation will be sent to the selected participants via an email, with respect to the time slot under each topic/ track for the mentorship sessions:
Tuesday, 23rd November 2021

Abstract Template:
https://drive.google.com/drive/u/0/folders/1Ht9Y2aCf7g5n8wvTNTSQMTFmrGdO34x

Abstract Design and Timelines:
https://drive.google.com/drive/u/0/folders/1Ht9Y2aCf7g5n8wvTNTSQMTFmrGdO34x

Email ID for Submission and Queries:
isolasymposium@gmail.com

REGISTRATION DETAILS

Register here:
https://isola.smebusinesssoftware.com/

For further details:
Visit the website:
http://www.isola.org.in/research-symposium-21/

Zoom link for Virtual Symposium:
Links shall be shared with participants a day prior to the symposium

REGISTRATION FEES

All below mentioned fees are in INR
Registration Starts: 18th October 2021
Early bird ends: 8th November 2021
Last date: 22th November 2021

	Early Bird	Regular
ISOLA Delegates	1250	1750
Non ISOLA Delegates	1750	2250
ISOLA Staff Delegates	1750	2250
International Delegates	3500	4000
ISOLA Students	500	750
Non ISOLA Students	750	1000

This symposium intends to build, enhance and strengthen the capacity of our own members, and non members (institutions, landscape architects, students) in terms of undertaking research as an integral part of their career towards its advancement. The symposium is planned as a combination of presentations by renowned Indian and international researchers (both academicians and practitioners) along with mentorship sessions and panel discussions.

Session Themes and Tracks

a. Keynote: Scope, significance and challenges in the practice of research - present and future

Dr. Jala Makhzoumi
Sir Geoffrey Jellicoe Awardee 2021, by IFLA

b. Panel Discussion
- Research opportunities, challenges in LA
- Collaborative and interdisciplinary research practices between LA and allied fields
- Bridging the gap between LA practice and research/ academia
- Societal, ecological, and economic aspects to connect practice and research

c. Presentation topics:
- Towards building a culture of research in the discipline of Landscape Architecture
- Types of Research and academic writing
- Research- Sources and systems of Funding and Opportunities for Collaboration across the globe
- Publishing Your Research
- Presentations of research projects/ work from researchers in academia and practice

d. Presentations followed by mentorship sessions on the following topics:
- Steps in research and the research process
- Literature review
- Research Methodology and Overview of research methods
- Writing a Research Proposal

ISOLA National Conference 2022

TThe Indian Society of Landscape Architects (ISOLA) 14th National Conference 2022 held on 11, 12 and 13 February in the virtual format. The Hyderabad Chapter hosted the Conference with Naveen Panuganti as the Convener.

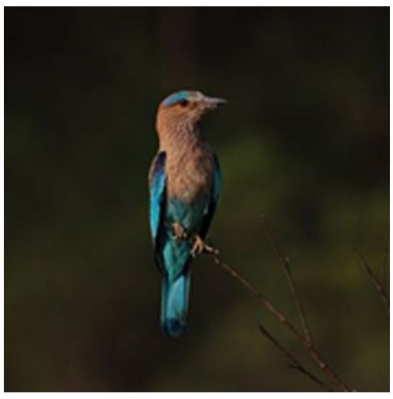
The theme of the Conference was Unbuilt Landscapes: Balance, Transformation and Renewal.

The focus was on the global perspectives of landscape design responses to the diverse and complex interactions of the built with the unbuilt and the consequences of these interactions. While continuing the thread of discussions from our previous conferences, an attempt has been made to include the broader and more expansive nature of Landscape Architecture in today's changed scenario compared to what it was, even a decade ago

As we settle into the new normal, let us not forget that we have adapted to a change. This change has not only made us more observant but has also re-aligned the way we perceive open spaces. Nature has been able to reclaim its space in the absence of human activities during the lockdowns. These temporary changes have allowed residents to re-imagine their city as a place that feels and smells better, sounds more peaceful and permits better sleep. The scale, speed and impact of the crisis have made it clear that we are living through a profound transformation. We are experiencing a tectonic shift, where the ground is moving beneath us, changing the fundamental principles and rules that have governed our practices and lives. The progress in mitigating the negative impacts on the unbuilt environment by the rapid expansion in the built habitats will impact global dynamics in many ways.

The lessons learnt will be carried forward as a collective response of ISOLA, not only for agencies involved in India, but also for other countries facing similar trends, and will have the potential to enhance the lives of the impoverished millions.

The Keynote Speaker was Kotchakorn Voraakhom who is a Landscape architect from Thailand. She works on building productive green public space that tackles climate change in dense urban areas and climate-vulnerable communities.



The State Bird - Palapitta
(Indian Roller or Blue Jay).

Besides presentations by others of eminence, Paper presentations were held on Day 2 that is, 12 February 2022. There were three workshops as well which reinforced other aspects of the theme of the Conference.

As the mascot for the Conference, was the Indian Roller bird or Indian Blue Jay, Coracias benghalensis emphasises the fragile nature of natural interrelationships and human interference. It is commonly known in Telangana State as Palapitta or Neelkanth and is a protected species. It comes under the IUCN Red List. It is the State Bird of Telangana. Its vibrant colours are reflected in the Conference brochure which can be accessed on the ISOLA website www.isola.org.in

Rajasthan Chapter algorithm

ISOLA ONE/1 ONLINE GUPSHUP SERIES (April-August 2020)

Chapter has organized a series of webinars (starting from 18th April 2020 to 15th Aug 2020) in collaboration with Gujarat chapter to present the work and experiences of Landscape Architects PAN India. The aim of this series was to share the professional work of ISOLA members amongst themselves, and to a larger audience. seventeen sessions were organized with Landscape Architects across the country and eighteenth finale session was with guests from Asia Pacific called "Beyond Boundaries".
Donor for the finale session were Sun Irrigation, Jaipur.
Event Video Link: *https://youtu.be/V7HJgZDdbKk*

NURTURE NATURE: A planting initiative

Chapter has organized a planting initiative 'Nurture Nature' on 12th July 2020, to demonstrate the idea of planting native trees in the campus of Mahatma Gandhi Government English Medium School, Mansarovar, Jaipur. Donor for this event were Jaipur Landscape Developers. Chapter members encouraged and introduced the benefits of planting native species during the event. Many representatives of institutes and organizations like PWD Jaipur, Nagar Nigam Jaipur, Town Planning Department, Central University of Rajasthan, Aayojan School of Architecture, Poornima University, etc were part of this drive.

WLAM -2021 Memo-logue

An online photography competition was organised which was open for all. The participants were asked to go down their memory lane and share the pictures from their archive that talked about different natural landscapes. The participants were encouraged to think about their association and perception of landscape. Chapter received an overwhelming response for the same. Photographs were analysed on the basis of pre-listed parameters by experienced jury members and awards were distributed to winning entries.

WLAM -2021 Landscape imprints

A series of informative videos where chapter members had a dialogue with allied professionals, adding take aways from their experiences and knowledge. Subjects covered in landscape imprints

1. Importance of Native Plantation, Expert- Vijay Dhasmana
2. Sound Planting techniques, Expert- Rajesh Kumar Saini
3. Inclusive landscape for all- An informative guide
4. Urban Farming, Expert- Prateek Tiwari
5. Connecting Open Spaces, Expert- Ar. Vijay Kulkarni
6. Connecting Open Spaces, Expert- Ar. Pushpak Pandit
7. Rain Water Harvesting Systems, Expert- Sunil Sharma
8. Integrated landscape approach to master planning (Water Focused), Expert-Dr Rina Surana

WLAM -2021 Student Workshop - Sensitive Landscapes For Tomorrow

Chapter organised an interactive online workshop with B.Arch. and M.Arch students. This workshop provided a platform for students to share their perception of Landscape in their own city, Introspection into issues and problem in the city landscapes. Workshop was followed by a thought provoking discussion by eminent panellist from prestigious institutes and government officials. The event oriented the students towards"Sensitive Landscape" for tomorrow.

Articles on newsletter theme

Climate change and insect outbreaks

Aparna Bhargava

"India is facing a severe wave of locust attacks across several states including Rajasthan, which has badly affected farmers in the state "we often read such news. Do we ever introspect the reason behind these unanticipated attacks? A serious locust attack was registered in May 2020 in villages near Dholpur, Rajasthan, which caused major disruptions resulting in humongous crop damage.

The answer to this question is "the change" in climatic conditions which has notable impacts on agriculture as well as crop pests. Crop plants and their associated pests both are directly and indirectly influenced by it. As it affects insects, mites, nematodes, other invertebrates, vertebrates and also microbial pests and the damage they cause is largely determined by their reproduction, development, survival, spread, or altering host defenses and susceptibility.

In Rajasthan's Dholpur. Swarms of locusts descended on several districts of the western Indian state in the worst locust attack since 1993. Credit: Vikas Choudhary

A few broad direct reasons of such outbreaks are winds which act as a major carrier of desert locusts to India's northwest and central regions, other reason is increased precipitation which supports fresh vegetation i.e. food for insects and can facilitate population buildup. As seen with the desert locust prolonged rain allowed them to have food, multiply in numbers and spread. When food for the insects is no longer a limiting factor, their populations continue to build up.

Also change in precipitation patterns result in Increased, frequent drought and flooding incidences. These environmental stressors create an impact on plant productivity, plant chemistry, defenses, nutritional quality, palatability, and digestibility. Consequently, insects eat more plants and this can result in more crop damage. Predators are also affected by climate changes in many ways. For instance, they can be sensitive to increases in temperature and precipitation, ultimately reducing their numbers. Fewer natural enemies could result in production of more insect pests.

These effects are complex, food loss is a big challenge need to be addressed today and tomorrow .

INSTINCT

Amruta Barve

That small little bird with stripped browns
I spotted her in the backyard, under shady frowns
The scene so rare, I started gazing
But lost her alas after a couple of rounds
What made her go and suddenly disappear
Is that the 'nature of changing nature' oh dear?
The disappearing gardens,
The grain fields being empty,
Loss of green neighborhoods
and the concrete sprawling in plenty.
Sun, moon and the winds performing crazy
The galloping developments being random and easy
The seasons changing without informing,
The corridors of migration much narrowing.
The city's denial for the nesting sites,
And the drift far away from the rural delights.
That, made her change her very fond nature
To rest near humans and being so social
She went from 'common' to becoming 'extinct'
As the change was prompted by a very strong instinct!!

Urban landscape - City Planning Perspective

Pushpak Pandit

The built environment is, by its very nature, is a disruption in the natural environment. This disruption, when carried out in an unsustainable manner is one of the key reasons for climate change. The built environment from the architect's perspective encompasses everything from a home to a neighbourhood to the city and the strategies at each level need to be carefully calibrated to address the issues of water shortage, urban heat island, transportation network, urban sprawl, and equity. This will require rethinking on tools and policies that the planners, architects, engineers, and administrators use to order the physical environment from the city level to the neighbourhood level.

Some of the areas where the intervention can take place are:

1. All the natural resources like wetlands, wetland fringes, forest and hill fringes, etc are susceptible to encroachment, disruption, and garbage disposal hence disturbing the natural drainage pattern and the ecosystem.

The use of GIS in the framing of master plan and enforcing the suggestions becomes important.

Identifying landfill areas and adherence to solid waste management rules will help in partly mitigating the ill effects of unchecked urbanisation.

2. To identify the natural drainage pattern of a particular area and plan the settlement accordingly.

This can work if a city-level network of natural drainage channels is mapped and becomes a pivotal point of the development process.

3. To develop small sewerage treatment plants for plotted development. These small S.T.P.s can be integrated with the parks/open spaces within the vicinity of the development. This arrangement can then supply treated water to the residences for flushing, landscaping etc.

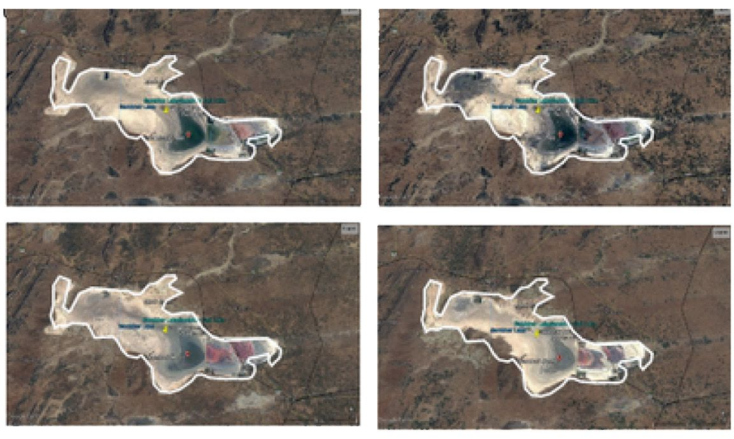
4. The idea of collection of stormwater and connecting it to a major drain ,Nallah ,lake or river can be rethought by providing urban sponges within the neighbourhood. These urban sponges can again be a part of an open area network. The park itself turns into an urban sponge.

5. The road network often does not consider the Swales as a part of the system. The smaller road widths(9m-15m) can have swales to increase the recharge and increase the green cover. This arrangement may work at a small neighbourhood level where the unauthorised occupation of these can be checked by the community.

Inching Towards Cohesive Landscapes

Snehal Mathur

The climatic change has become a global concern over the last few decades and has affected life on the earth in multitudinous ways. These changes have various impacts on the ecosystem and ecology. The severe impacts of climate change are evident in a large number of plants and animal species, biodiversity losses, change in behaviour and have started to bring about deep and irreversible ecological shifts. Wetlands play a crucial role in the biosphere and provide numerous services. They perform multiple functions such as the recharge of groundwater, safeguarding the biological resources, water purification, acts as a carbon sink, and provides habitat for amphibians and birds alike. A Ramsar site in Rajasthan, India-The Sambhar Lake is one of the largest inland saline wetlands present in the arid region of Rajasthan. It offers a unique habitat suitability for the winter avifauna migrants like flamingos and falcons. The existence of suitable climatic conditions and food availability like brine shrimps (Artemia salina) attracts flocks of migratory birds. From the past few decades, Sambhar Lake has been continuously facing degradation due to anthropogenic activities, which disturb the lake's natural ecology and existence. These cause disturbances in habitat suitability of migratory birds in the Sambhar Lake, which leads to a reduction in the density of population of migratory birds. Although there have been improvements in water-sensitive environmental design, including advances in micro-irrigation, water harvesting, stormwater management, wastewater reuse, and there have been an inclination towards building strict conservation policies, there definitely is a need for more. We as responsible landscape architects need to step forward and pose the right set of questions. Are contemporary landscape architecture projects sustainable? How could they be if we still draw upon non-renewable groundwater, extract the very essence of a region to build up a business, and take advantage of public subsidies? Some design projects deplete the scarce local water supplies of nearby settlements, muddle with fragile habitats, and barge into the natural systems in the name of development. Are these water-associated projects beautiful? Especially when they ironically advance away from ecological health, sensitivity towards the regional ecology, morphology, and history of the site in the name of landscape design. Animals and birds will never gain the moral rights they deserve if people continue to operate within the parameters of the indirect view. The human race is not the pinnacle of all species, but rather it is the midst of nature, so let's weave together patches that promote a cohesive living amongst humans as well as biodiversity.



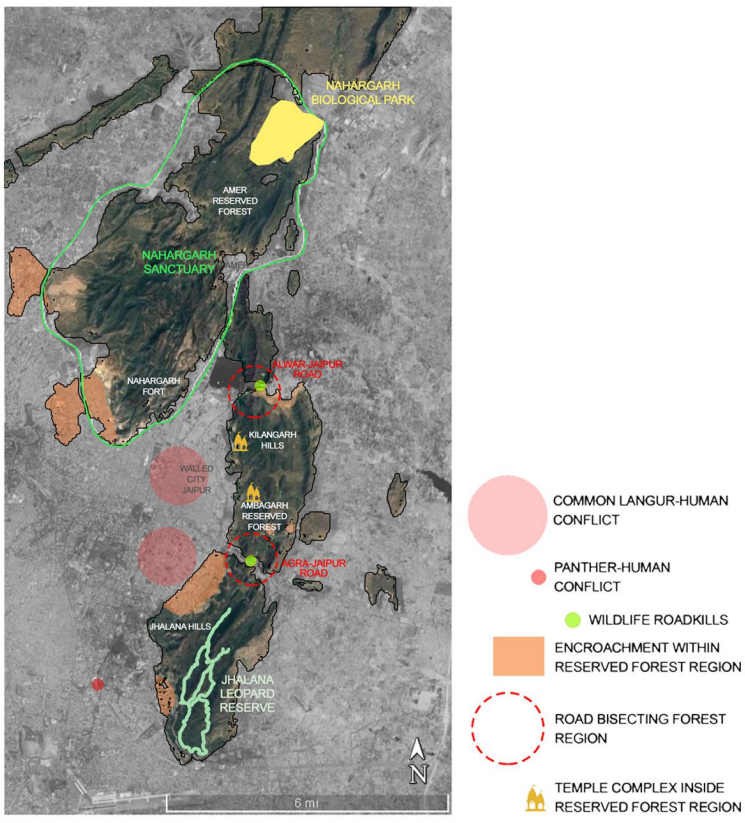
The extent of the water body has decreased significantly over the years. This is mainly due to surrounding anthropogenic activities and construction of check dams, anicuts in the catchment area which curtail the runoff into Sambhar Lake, Salt extraction, degradation of waterfowl habitats and lack of ecosystem

Depleting Wildlife Habitat at Aravalli Hills, Jaipur

Aayushi Sharma

The hills have been a habitat to the endemic wildlife (flora & fauna), an important component of biodiversity and eventually ecosystem, here from past many years but from 20-30 years is under threat of depleting due to numerous anthropocentric activities (poaching, cattle grazing, mining, fuel & fodder collection, road development and urban expansion into protected area without buffer etc.) as well as natural reasons (climatic conditions, etc.). The Forest Department along with Landscape Architects, Environmentalists, Conservationists, Private Organisations, NGOs etc. is taking efforts to overcome this challenge of protecting these fragmented habitats (refer image) like protecting areas as Nahargarh Biological Reserve, Jhalana Leopard Reserve, Kishan Bagh, etc.

Movement of wildlife into the settlement, human – animal conflicts and animal road kills led to the observation that the hilly range is defragmented into 3 parts via 2 major road networks- Lal Dungri road and Alwar-Jaipur road as shown in the figure. When the available forest area has limited food resources, sharing among the species gets tight, forcing the wildlife to move into the settlement areas or go to other forest islands by crossing the road network that is unsafe for them. For example, the monkeys have evidently penetrated into the old city areas in search for food. Leopard have been found quite a few times in the Jhalana dungri region of Jaipur. This might lead to genetic diversity and population decline due to limited choice of mates, threat from predators. This leads to species populations running the risk of genetic decay, and being endangered. Since wildlife is a critical part of the food chain and biodiversity, might result in severe imbalance throughout the ecosystem, ultimately leading to Climate Change in longer run.



Observations from study done for academic research

These hills are a home to several other endemic species such as Sambar, Chital, Blue Bull, Mongoose, Porcupine, Chinkara, Jungle Cat, Jackal, Striped Hyena, Indian Pitta, Indian Roller Bird, etc.

One thing that this pandemic has taught some of us is the importance of pause, and taking time to realise what we have done around us. One way or the other, we will need to understand our role and the consequences on and of biodiversity. We do not own any space on earth, we have borrowed it from fellow users, we need to function keeping that in mind. We have some responsibility in maintaining the balance and not just extracting for benefit in the name of most advanced species

Artificial Lakes and Storm Tanks for Indian Cities

Need of the hour to survive climate change induced urban floods.

Dr. Ratish Menon

Chennai residents had to be confined to their offices and houses in the new year's eve of 2022 due to an unprecedented flooding caused by over 100mm rainfall in a very short time period. Such an event was fifth in a year for Chennai and according to recent studies, likelihood of such events happening in the near future is pretty high. Intense rainfall over short duration is becoming a new norm not only for Chennai but for many other urban centres in India and this is anticipated to be a major environmental challenge for cities in India. Though unscientific alterations of urban watershed, inadequate and improperly designed drainage and clogging in the existing drainage system are some other reasons for urban flood, short duration-high intensity rainfall and increased area of impervious surface within an urban area are the major deciding factors for urban floods. Recent studies have shown that impervious surfaces within Indian cities have increased by more than 20 % in the last decade due to urbanization thereby reducing infiltration and increasing surface runoff. It is not possible to design adequate drainage system under this scenario and the cities will have to take the brunt of changing rainfall pattern. Hence in order to prevent urban flooding, it's essential to have a proper rainwater management plan for the cities. Excess urban runoff has to be diverted and stored so as to reduce its flooding potential. It is ironic that Chennai city which has hit zero day (the day when it's all reservoirs ran dry) in 2019 faced extreme urban floods very next year. Rainwater, if properly collected, provide a potential alternate source of water and can also contribute towards the urban water security. Artificial lakes and storm tanks that can be used to store or infiltrate excess urban runoff are therefore going to be major landscape elements for any urban areas in not too distant future. If properly designed, they can not only manage urban floods but also improve the water availability for the city. An example for this would be Mumbai BMC's proposal to construct two storm tanks for the first time in the city to store rainfall runoff water. Other cities, along the line, will definitely have to plan for similar projects to mitigate or manage increased urban floods and water scarcity issues.severe imbalance throughout the ecosystem, ultimately leading to Climate Change in longer run.

A Dialogue between Green and Grey to Inquire into Open Space Strategy

Case - Indian Smart City, Bhubaneswar

Karishma Rai
Amit Bhattacharya

As cities grow, they demand more land to accommodate its people, facilities, infrastructure, etc. and mostly the trend has been to steal additional space from the available open spaces within the city or from the farm lands, green belts, forests on the city fringes.

Parks and Open spaces are the vital asset of the city's character, culture, and vibrancy. They are an important contributor to quality of life, support system of physical, social, ecological and economic health of the city. The residents of the city recognize the wide range of benefits they provide.

Acting as carbon sink, natural recharge surface, parks build an interspersed green infrastructure with grey areas. In the days of daunting climate change, there is a growing recognition for parks and open spaces as climate solution and primary public health challenges. Abating Air Quality depletion, Urban Floods, Urban Heat Island effect; Parks strengthen city's resiliency towards higher liveability index combining engineering and landscape solutions.

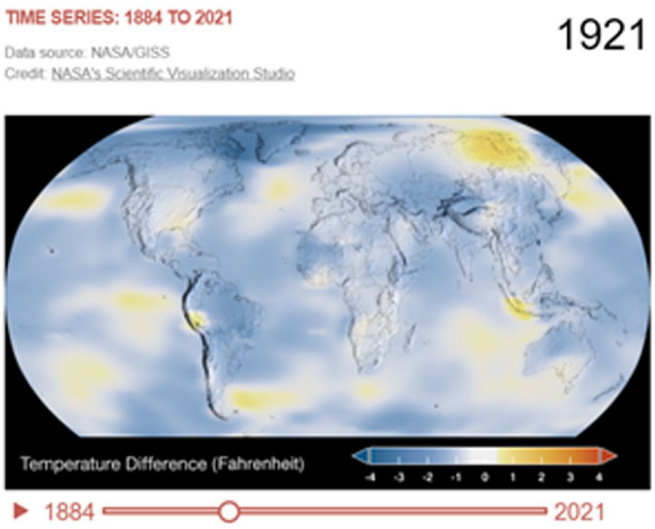
Bhubaneswar, one of the first planned cities of independent India has been exceptionally successful in preserving its open space asset from the land demand for accommodating ever growing population. Although the city has decent number of parks and open spaces within city limits, the distribution of these facilities is not even. As on date 27of total 67 wards in the city lack any formal park rendering nearly 4 lakh citizens without any recreational open space within walkable distance.

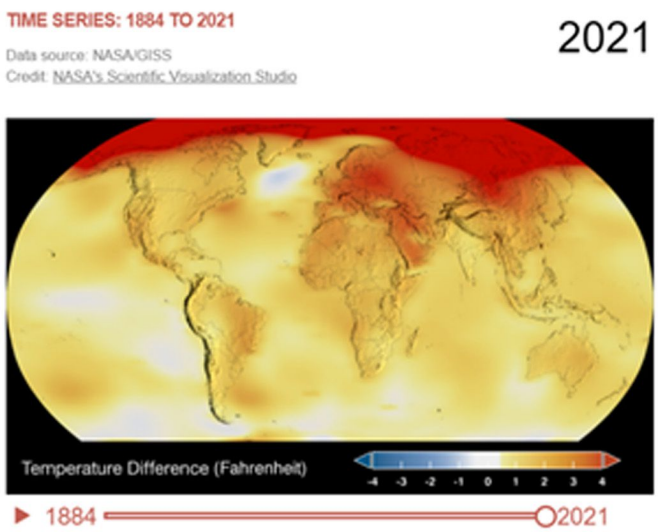
To overcome this challenge and provide equally distributed recreational facilities in form of active parks, open spaces, plazas & playgrounds, it is imperative that the development and management of park spaces and amenities align with values of community, ecology and history of the area. This strategic masterplan envisions a dynamic, sustainable, inclusive and resilient system to protect and preserve natural asset of the city.

Changing Patterns of Climate – Tropical Cyclones and Mangroves

Roshni Agarwal

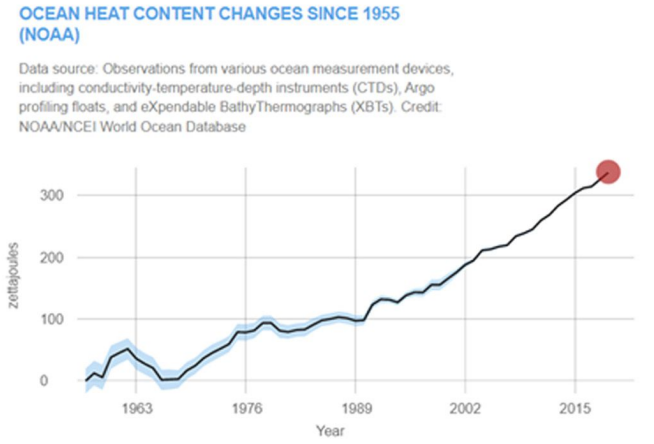
On Earth, scientist agree that human activities are responsible for the rapidly changing pattern of climate. The burning of fossil fuels, deforestation and farming practices release huge amount of greenhouses gases into the atmosphere every year, leading to a rise in temperatures, causing global The recent Sixth Assessment Report by the Intergovernmental Panel on Climate Change (IPCC) has indicated that compounding effects of global warming are more likely to impact India in recent years. They have indicated that the Indian Ocean is experiencing the world's fastest rate of ocean surface warming. According to NASA, ninety percent of global warming is occurring in the ocean, causing the water's internal heat to increase, resulting to an increased number of marine heatwaves, ocean acidification, reduced oxygen levels and tropical cyclones. 2 The Arabian Sea and Bay of Bengal has a general sea surface temperature of 28C (82F) and recorded 443 cyclones between 1891 and 2000. Whereas between 2001 and 2021, 48 cyclones (on an average 24 cyclones per decade) formed along with an increase in storm intensity with temperatures rising to 31C (88F). If we study the years 2019-2021, we can list down 14 cyclones of severe to very severe intensity: Fani, Vayu, Hikaa, Kyarr, Maha, Bulbul, Amphan, Nisarga, Nirvar, Burevi, Tauktae, Yass, Gulab, and Jawad. These figures clearly state that the intensity and frequency both has increased as the world temperatures are rising.





Based on past data and future calculations, the coastline of Indian states and territories are vulnerable. The threat imposed by cyclonic activities demand natural climate infrastructure and development plans. Mangrove Forest, coastal wetlands/forests, green belt, coral reefs, river deltas and seawalls are some ways to lessen the effect of the storms. 3 Mangrove forests can significantly lower the vulnerability to the coastlines by reducing waves and storm surges through their roots, trunk and canopy.

The aerial roots of mangrove forests retain sediments and stabilize the soil in the areas between high tide and low tide (intertidal areas) by reducing erosion during storms and floods. With climate change, the intensity and frequency of the events like cyclones, floods are predicted to increase thus highlighting the important role of mangroves in averting damage to lives and livelihoods in the future



The graph shows the increase of ocean heat content since 1955. The current heat stands at 337 (± 2) zettajoules since 1955.

Source: NASA/GISS

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