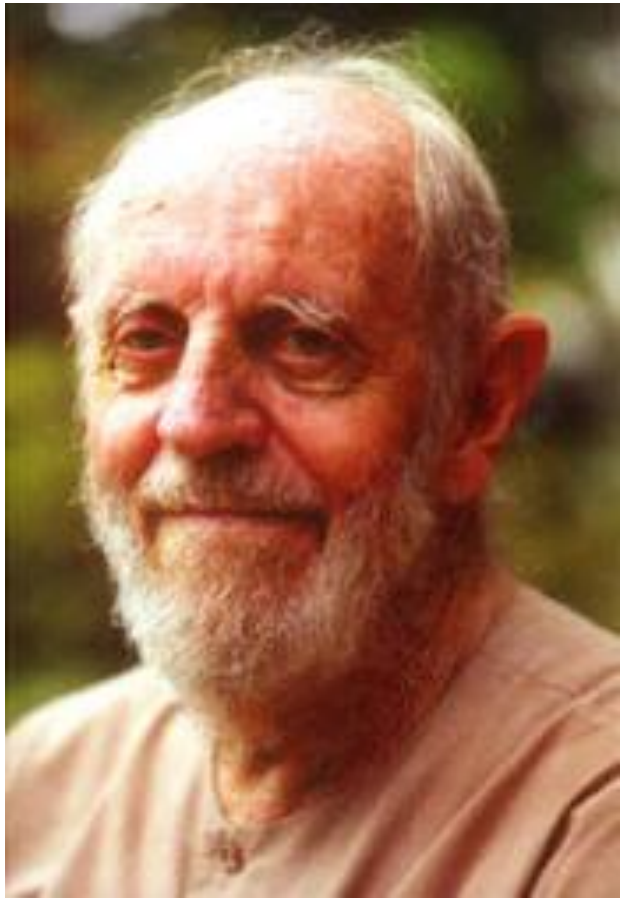
CONTEMPORARY ARCHITECTURE

Unit – 5:

Indian Architecture since Independence

- **Laurie Baker**
- Charles Correa
- Iconic Building in India



Laurie Baker (2 March 1917 – 1 April 2007)

‘Cost-effective houses are not just for the poor, they are for everyone’

Ar. Laurie Baker

“Low cost or cost reduction is not only concerning economy. Most modern building materials are manufactured articles (like burnt bricks or steel or glass or cement). Their respective costs are one important consideration but just as important is the question of how much energy (or fuel) was used in their manufacture. **“**

Ar. Laurie Baker

Laurie Baker

- Laurence Wilfred Baker was not just a well known architect.
- He was also a cartoonist, a man who loved nature and above all, a humanist.
- He was a Gandhian in his thought and deeds. Born in 1917 he became an associate of the Royal Institute of Architects in the United kingdom after studying at the Birmingham school of architecture.
- A chance meeting with Mahatma Gandhi inspired and introduced him into India in 1944.
- Following this he lived and worked in India helping his Kerala-born wife and medical doctor Elizabeth Baker and also practicing his architecture in meeting the housing and living requirements of the rural poor.
- It was in a remote village, Pithoragarh, in the Himalayan region where they built their home, hospital and school. In the mid sixties the Bakers moved to Kerala and made it their home.

Laurie Baker

- After moving to the city of Trivandrum in 1970, Baker built several buildings including numerous houses and institutions that were cost effective as well as environment-friendly.

- The late C. Achutha Menon, the visionary Chief minister of Kerala during 1969-77 was an admirer and ardent supporter of Baker's philosophy and approach to building construction.

- So was the late K.N. Raj, one of India's outstanding economist.

- Baker was closely associated with several governmental and other public institutions to advice on matters relating to cost effective building technology.

- He also mentored a large number of young architects who came to work and live in Trivandrum. He authored several books imparting knowledge on housing and building construction.

- He also drew cartoons and was also a painter. He and his wife led a life of simplicity and service. Laurie Baker passed away on 1st April 2007.

Laurie Baker

- There are two organizations that carry on his legacy.
- One is the Centre of Science and Technology for Rural Development known as COSTFORD headquartered in Thrissur with units in Trivandrum and other districts in Kerala.
- This was jointly founded by C. Achutha Menon, K.N. Raj and Laurie Baker himself in 1985.
- The other is the Laurie Baker Centre for Habitat Studies located in Trivandrum and founded in 2009 under the initiative of COSTFORD activists with financial support from the Government of Kerala to undertake training , research, publication and other activities relating to the building of a green habitat following the philosophy and approach of Laurie Baker.

Laurie Baker

- Baker became well known for designing and building low cost, high quality, beautiful homes, with a great portion of his work suited to or built for lower-middle to lower class clients.

- His buildings tend to emphasize masonry construction, instilling privacy and evoking history with brick jali walls, a perforated brick screen which invites a natural air flow to cool the buildings' interior, in addition to creating intricate patterns of light and shadow.

- Another significant Baker feature is irregular, pyramid-like structures on roofs, with one side left open and tilting into the wind.

- Baker's designs invariably have traditional Indian sloping roofs and vents allowing rising hot air to escape.

- Curved walls enter Baker's architectural vocabulary as a means to enclose more volume at lower material cost than straight walls, and for Laurie, "building [became] more fun with the circle."

Laurie Baker

- Baker made many simple suggestions for cost reduction including the use of Rat trap bond for brick walls, having bends in walls that increased the strength and provided readymade shelves, thin concrete roofs and even simple precautions like shifting dug up soil into the built area rather that out of it.

- He advocated the use of low energy consuming mud walls, using holes in the wall to get light, using overlaid brick over doorways, incorporating places to sit into the structure, simpler windows and a variety of roof construction approaches.

- He liked bare brick surfaces and considered plastering and other embellishments as superfluous.

Laurie Baker

- Baker's architectural method is one of improvisation, in which initial drawings have only an idealistic link to the final construction, with most of the accommodations and design choices being made on-site by the architect himself.

- Baker created a cooling system by placing a high, latticed, brick wall near a pond that uses air pressure differences to draw cool air through the building. Various features of his work such as using recycled material, natural environment control and frugality of design may be seen as sustainable architecture or green building with its emphasis on sustainability.

Laurie Baker

- Baker's architectural method is one of improvisation, in which initial drawings have only an idealistic link to the final construction, with most of the accommodations and design choices being made on-site by the architect himself.

- Baker created a cooling system by placing a high, latticed, brick wall near a pond that uses air pressure differences to draw cool air through the building. Various features of his work such as using recycled material, natural environment control and frugality of design may be seen as sustainable architecture or green building with its emphasis on sustainability.

Laurie Baker

Baker usually emphasizes on:

- Cost efficiency
- Usage of locally available materials
- Consider the built environment not the building but also the pathways, fields, parks and the surroundings
- Sustainable materials
- Climate responsive designs
- Labour intensive techniques
- Design should be environmentally sustainable
- Rainwater harvesting can be incorporated
- Bio gas plants – energy sustainability
- Solar energy

Laurie Baker_ Architectural principles

1. **Take what you can deliver**
   Accept only a reasonable brief. It's best to take a job you can carry through.
2. **Keep it simple**
   Never encourage extravagance or snobbery. Don't take projects that smell of either of them.
3. **Know your site well**
   You must know your site well. Study site re soil, topography, climate, water and neighboring surroundings. Getting accurate details of the site is essential. In-situ facts like trees, rocks, well or water body, wind and rain directions etc are important.
4. **Services play an important role**
   It's important to enquire about potential services- water, drainage, access, availability of power, fuel, phone etc. It will help you determine what to do in case these are not available or possible.
5. **Create unique buildings**
   Every building should be unique. After all, no two persons or families or conditions are alike, so there buildings should also be unique.

Laurie Baker_ Architectural principles

6. Explore local materials and workmen

Local materials should be studied to know more about them- availability, performance, costs and techniques. Knowing about the workmen adept in using them is also important. It is also necessary to study about the energy used in manufacturing and transport of the materials. Where possible, use of energy intensive materials should be avoided.

7. Save natural resources

Don’t rob natural resources. Extravagant or unnecessary use of resources must be avoided

8. Cost efficiency for all

Cost efficiency should be your way of life. Make cost-efficient buildings not just for the poor, simplicity is for all. Practice what you preach.

9. Keep yourself updated

It’s essential to keep your information and knowledge up-to-date. However, you should ensure that the present trends are better than the established ways before employing them.

Laurie Baker_ Architectural principles

10. Use common sense and have fun

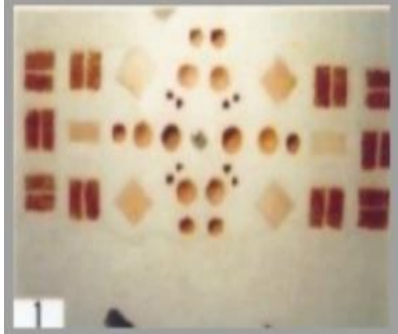
Using common sense in every walk of life is necessary, architecture is no exception. Have fun in designing.

11. Be a minimalist

Be a minimalist; trim your drawings, staff, equipment, travel and expenses.

Laurie Baker_ Cost effective Techniques

COST EFFECTIVE TECHNIQUES



Filler slab

Advantages

20-35% Less materials
Decorative, Economical &
Reduced self-load
Almost maintenance free
25-30% Cost Reduction

Filler slabs

Filler slabs employ replacing 'un-productive' concrete by a 'Filler' material which reduces the weight of the slab and also the cost by reducing t amount of concrete used. Also, since the weight the slab is thus reduced, lesser steel is required fo reinforcement, further reducing the cost.

Jack Arch

Advantages

Energy saving & Eco-Friendly
compressive roofing.
Decorative & Highly Economical
Maintenance free

Arches

The arch is significant because it provides a structure which eliminates tensile stresses in spanning an open space. All the forces are resolved into compressive stresses. This is useful because several of the available building materials such as stone, cast iron and concrete can strongly resist compression but are very weak when tension, shear or torsional stress is applied to them.

COSTFORD

The idea of COSTFORD took root when Mr. Achutha Menon showed interest in the alternative design philosophy and building materials and techniques promoted by Mr. Laurie Baker. It is a voluntary organization, which provides technological assistance for rural development.

COSTFORD attempts to use some of the construction materials such as lime, bamboo, mud and exposed bricks and architectural elements such as the rat-trap bond, filler slab (void former) roofing used often by Laurie Baker in his work in Kerala.

COSTFORD attempts to use some of the construction materials such as lime, bamboo, mud and exposed bricks and architectural elements such as the rat-trap bond, filler slab (void former) roofing used often by Laurie Baker in his work in Kerala.

Baker has served as the Chairman of COSTFORD and played an active part in the early years of COSTFORD. However, Laurie Baker worked by himself, directly with his masons, carpenters and workmen and never started a conventional personal architectural firm (with architects, draftsmen, etc) of his own.

Laurie Baker Centre (LBC)

The Laurie Baker Centre for Habitat Studies (LBC) was created by his friends, students and admirers to propagate his philosophy of the concept of sustainable development through research, extension, training, documentation, dissemination and networking.

At its core, it is intended to include such areas as design and use of appropriate materials for buildings, creation of support facilities such as sanitation and drinking water, waste treatment, water harvesting and management, land development, promotion of non-conventional and eco-friendly sources of energy and creation of awareness of the need for sustainable development.

Laurie Baker_ Hamlet (Baker's Residence)

- An architect's personality is reflected in the way he design his own house. Baker's own residence is called 'The Hamlet'.

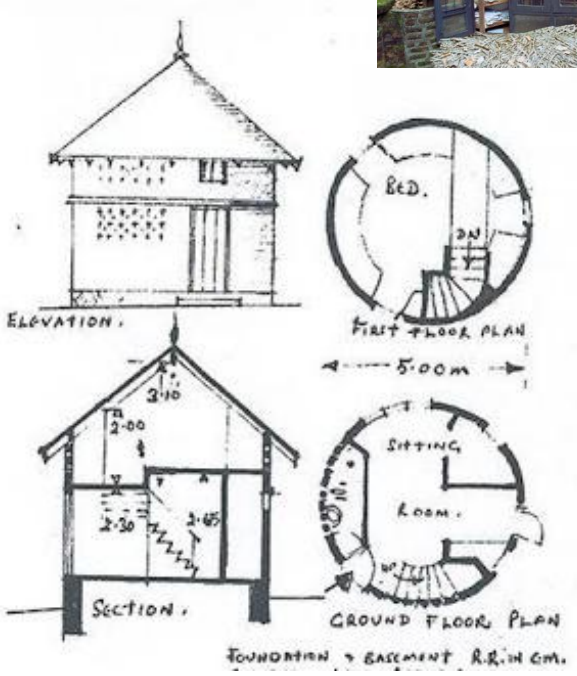
- It has been built in Thiruvananthapuram, built on a steeply sloping and rocky hillside that hardly had any vegetation when Baker started constructing.

- Baker has truly adopted his motto to "make low-costery a habit and a way of life" by reusing everything, from brick to glass bottles, as building materials.

Hamlet, Thiruvananthapuram

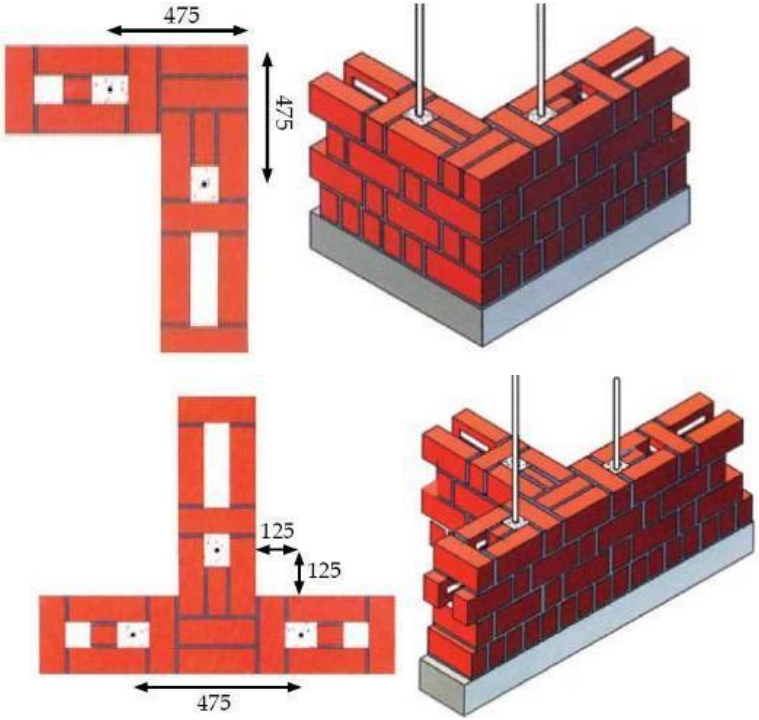
Laurie Baker_ Hamlet (Baker's Residence)

- First he built a single room hut of timber, which consists of the library of medical books & also as bed room, living room , drawing room & study.



- The site was highly contoured and rocky, but baker did not disturb even a single rock or a tree, so it is popularly named as "RIGHT IN THE ROCKS".
- The hamlet' has been built on a steeply contoured site, but the incursion of structures on the site is not felt.

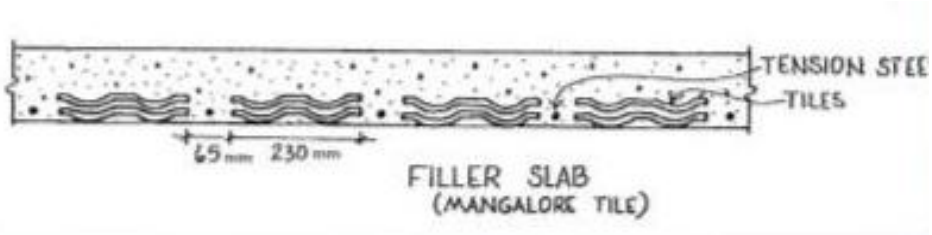
Laurie Baker_ Hamlet (Baker's Residence)_Construction Technique

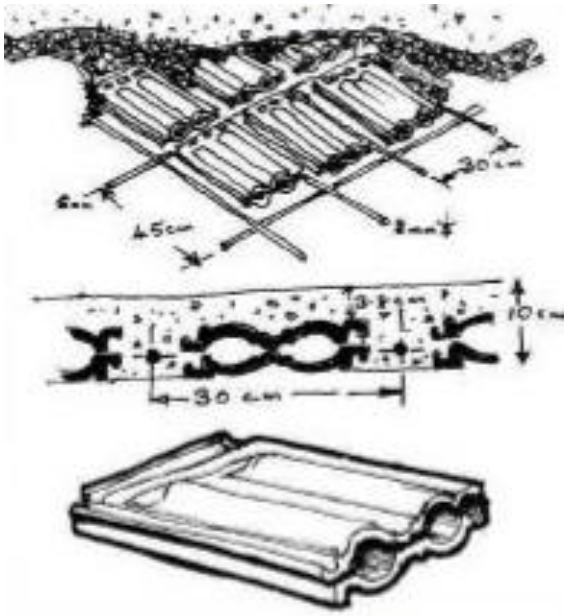


Reinforced Rat Trap bond

Bamboo Reinforced Slab

Laurie Baker_ Hamlet (Baker's Residence)_Construction Technique

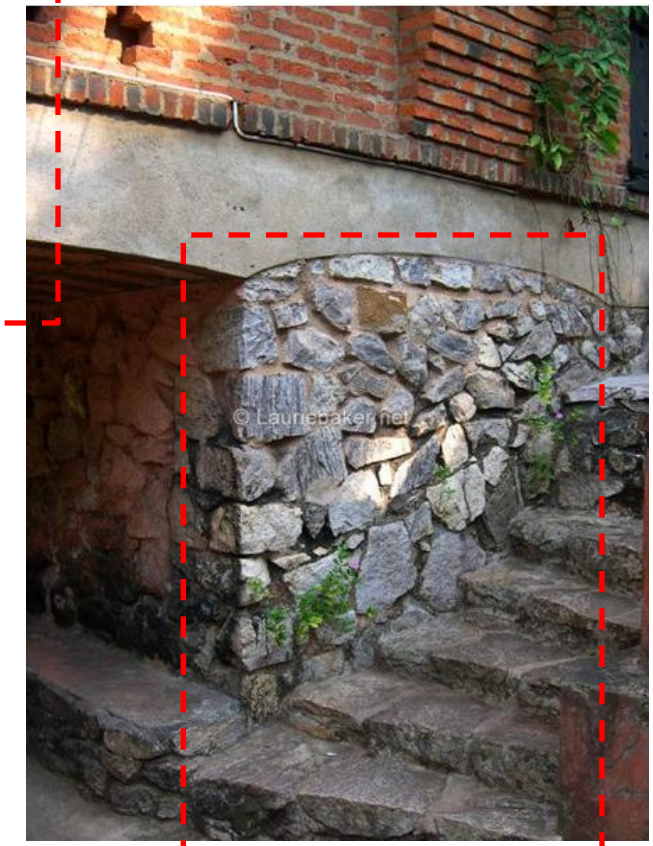




Filler Slab

Laurie Baker_ Hamlet (Baker's Residence)

Entrance to House

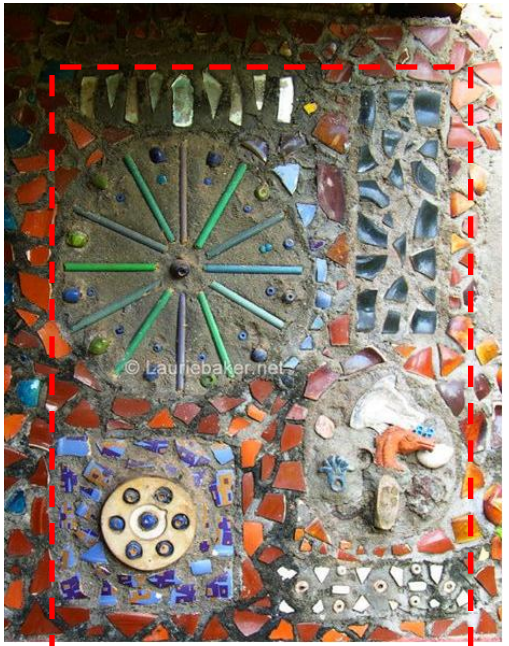


Filler slab

Site Stones used for steps and wall

Laurie Baker_ Hamlet (Baker's Residence)

Entrance Porch



Wall mural with waste material

Laurie Baker_ Hamlet (Baker's Residence)

Natural light in living area

Natural light in Bed room

Laurie Baker_ Hamlet (Baker's Residence)

Courtyard and Garden

Laurie Baker_ Hamlet (Baker's Residence)

Light and Ventilation from Courtyard side

Laurie Baker_ Hamlet (Baker's Residence)

Waste of Motor bikes for grill

Bottles to filler light

Laurie Baker_ Hamlet (Baker's Residence)

Local roofing Material has been used

Laurie Baker_ Laurie Baker center

LBC is located in a campus spread over four acres of land on a hill top with a picturesque surrounding, abundant with greenery. The first group of seven buildings in the campus was designed by Laurie Baker.

The campus has a few brick structures, built along the contours of the terrain, a network of creative walkways, and rain water collection tanks, constructed at different strata of the land according to the flow of rain water.

Laurie Baker_ Laurie Baker center

- The brick structures include a two-storey administrative building that runs on solar power.
- A mess hall that can accommodate around 80 people.
- A classroom that can seat 25 to 30 participants.
- A dormitory and guest rooms that can accommodate 24 people at a time.
- An extension of the office block that has been partly built by students as a part of the summer school programme.
- A security guard room, a pavilion with bamboo reinforced concrete roof and a watch tower that is a rainwater harvesting tank.

Laurie Baker_ Laurie Baker center

Entrance Porch with Filler slab

Laurie Baker_ Laurie Baker center

Dining Hall

Dining hall Roof

Laurie Baker_ Laurie Baker center

Office building

Laurie Baker_ Laurie Baker center

Research centre

Security Room

Laurie Baker_ Laurie Baker center

Watch Tower

Guest House

Laurie Baker_ Laurie Baker center

Construction Yard

Laurie Baker_ Key works

- Leprosy homes across India, various dates Children's Village, Kulashekaram, 1965
- Loyola Women's Hostel, Sreekaryam, 1971
- Centre for Development Studies, Ulloor, 1971
- St John's Cathedral, Thiruvella, 1973
- Fisherman's village, Poonthura, 1974
- Chitralekha Film Studio, Thiruvananthapuram, 1976
- Tourist Centre, Ponmudi, 1980
- Experimental Houses, New Delhi, 1980
- Indian Coffee House, Thiruvananthapuram, 1989

Laurie Baker_ Awards

- Padma Sri, 1990
- UN Roll of Honour, 1992
- Sir Robert Matthew Prize for Improvement of Human Settlements, 1993

Laurie Baker

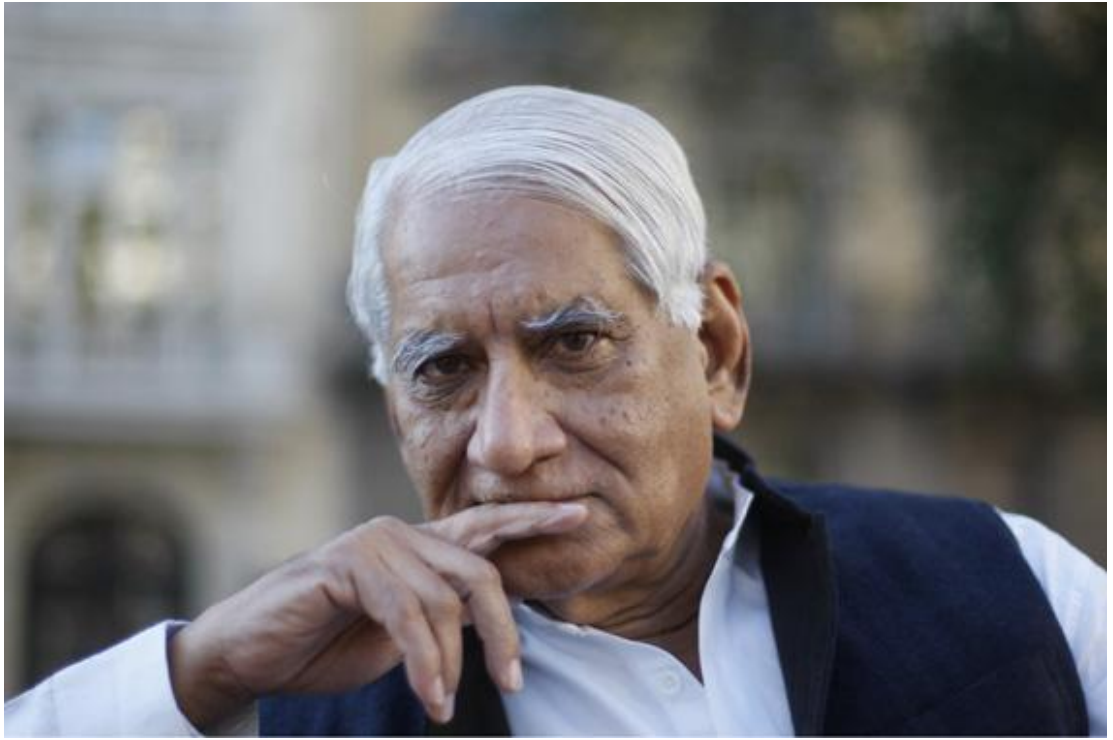
Follow https://www.lauriebaker.net/ for more information

CONTEMPORARY ARCHITECTURE

Unit – 5:

Indian Architecture since Independence

- Laurie Baker
- **Charles Correa**
- Iconic Building in India



Charles Correa (1 September 1930 – 16 June 2015)

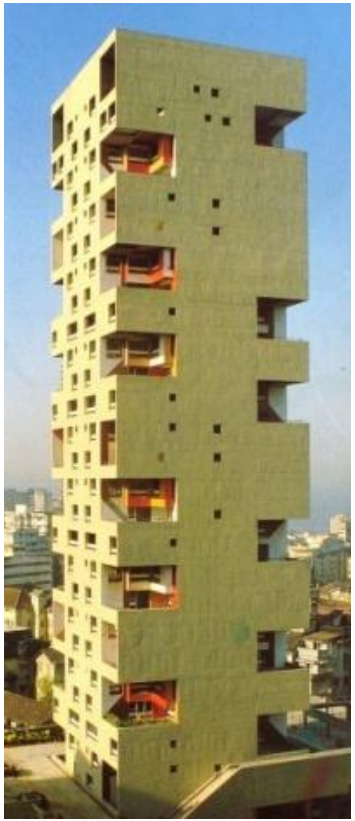
Charles Correa

- Charles Mark Correa was an Indian master architect, urban planner and activist.

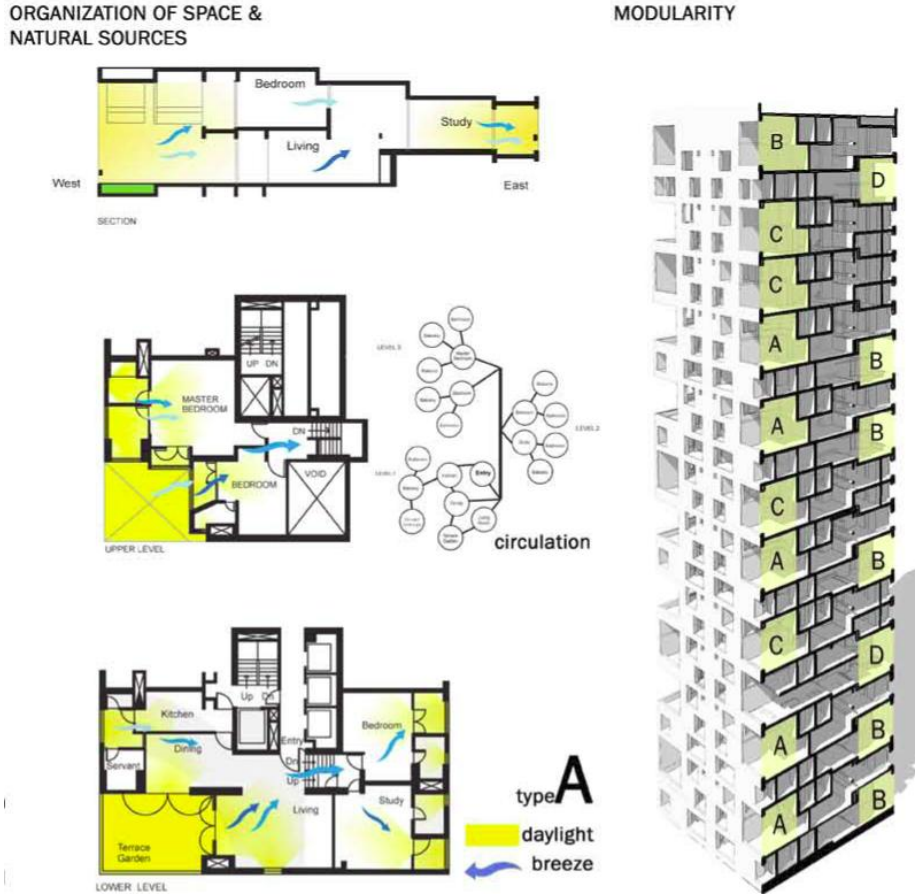
- Padma Shri, Padma Vibhushan, RIBA Royal Gold Medal,

- His major works includes Mahatma Gandhi Sangrahalaya, Madhya Pradesh Legislative Assembly, National Crafts Museum, New Delhi (1975–1990), Bharat Bhavan, Bhopal (1982), Jawahar Kala Kendra (Jawahar Arts Centre), in Jaipur, Rajasthan (1986–1992), British Council, Delhi, (1987–92) the McGovern Institute for Brain Research at MIT, Boston (2000–2005), City Centre (Salt Lake City, Kolkata) in Kolkata (2004), Kanchanjunga Apartments.

Charles Correa_ Kanchanjunga Apartments

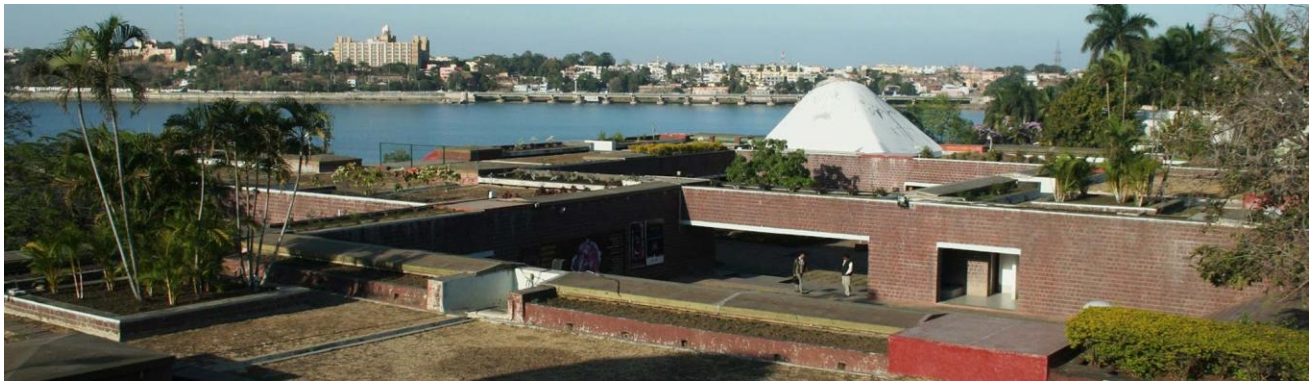


Kanchanjunga Apartments.



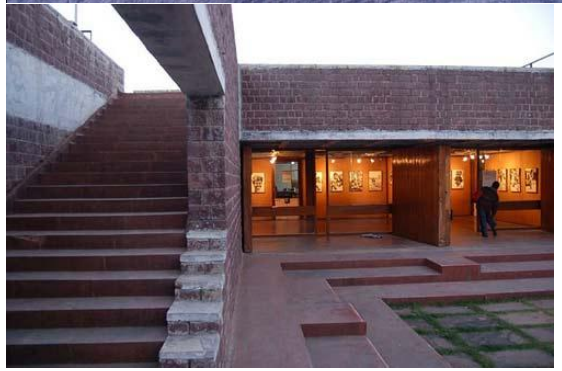
Charles Correa_ Bharat Bhavan, Bhopal

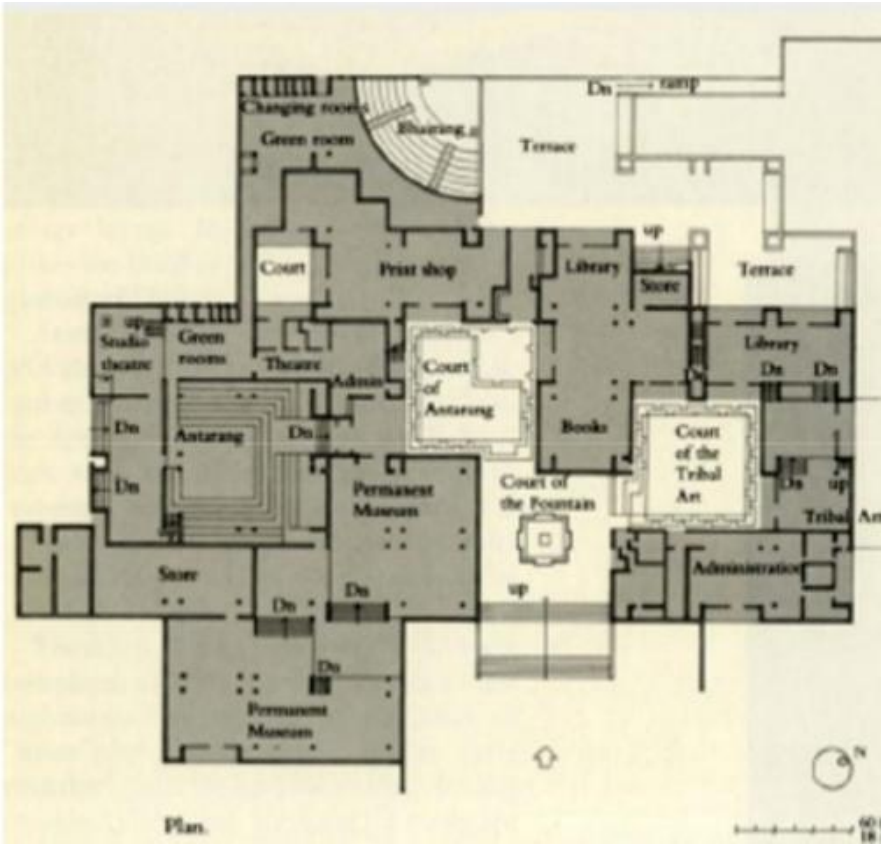
- Bharat Bhavan, Bhopal (1982)- multi-arts complex and museum
- It houses an art gallery, a fine art workshop, an open-air amphitheatre, a studio theatre, an auditorium, a museum tribal and folk art, libraries of Indian poetry, classical music as well as folk music.



Charles Correa_ Bharat Bhavan, Bhopal

Bharat Bhavan, Bhopal (1982)

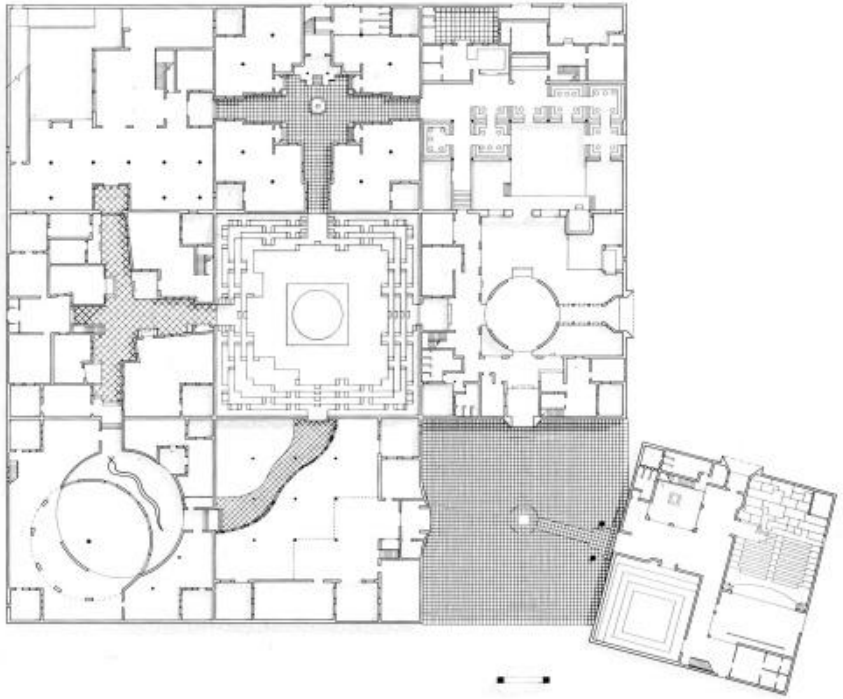




Charles Correa_ Jawahar Kala Kendra , Jaipur, Rajasthan

- Jawahar Kala Kendra , Jaipur, Rajasthan (1986–1992)

- The centre has been made in eight blocks housing museums, one amphi theatre and the other closed auditorium, library, arts display rooms, cafeteria, small hostel and art-studio. It also houses two permanent art galleries and three other galleries. and host its own theatre festival each year.



Charles Correa

Reference Videos: https://www.youtube.com/watch?v=EpkixBvOrgU&t=627s
https://www.youtube.com/watch?v=7Gg4VASU_GI&t=505s
https://www.youtube.com/watch?v=8RVskFuMSvg&t=5s

https://www.youtube.com/watch?v=oB8TNT0DHSk