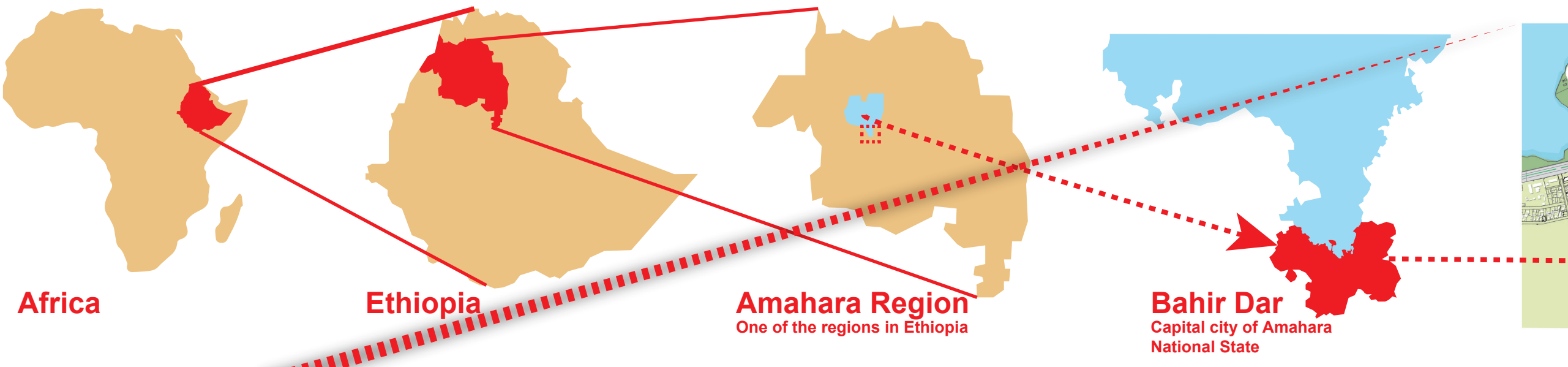




Location



Site Selection

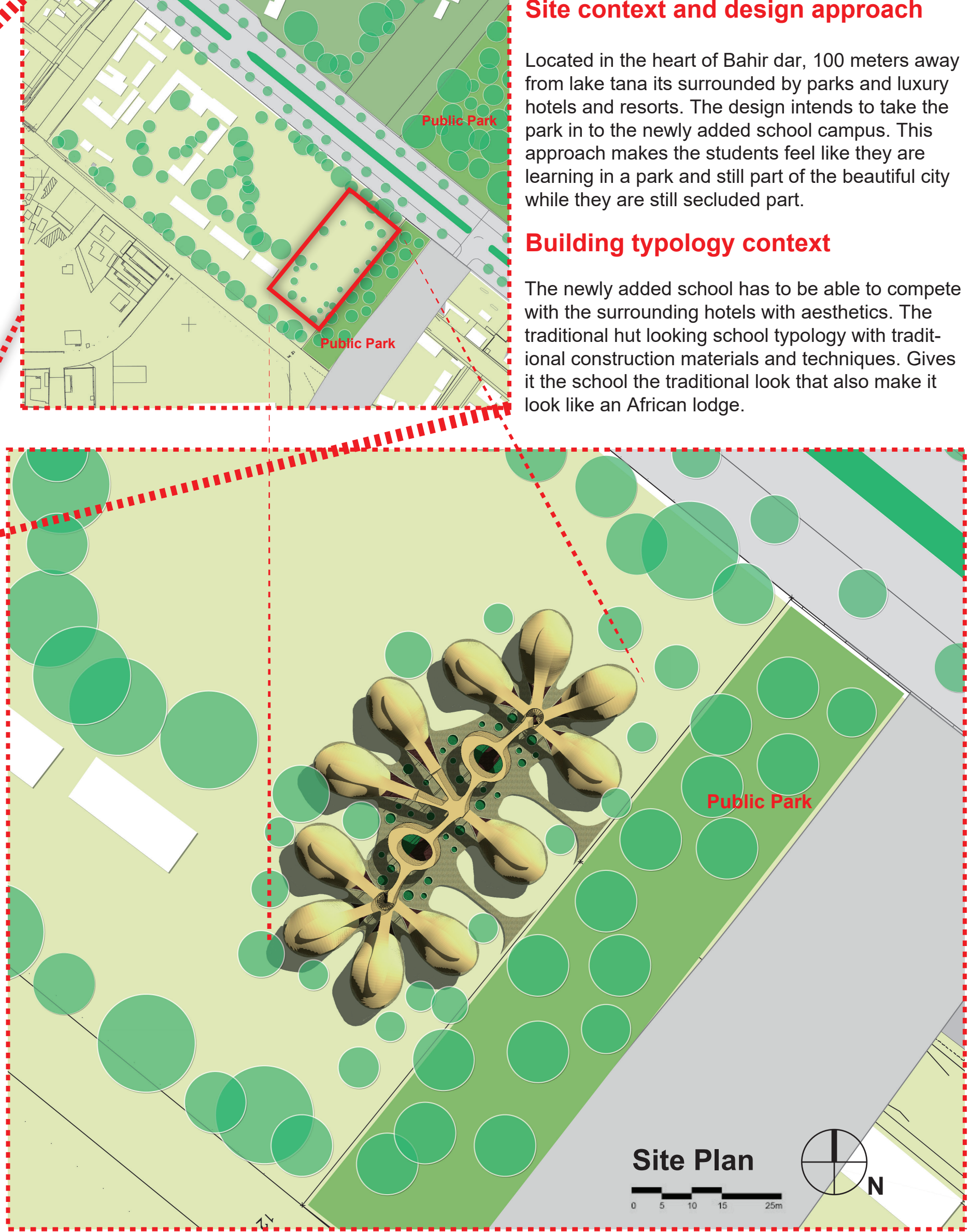
Atse sertse dengele melak seged is a primary school located at the center of the city of Bahir Dar, a palm city located on the shores of lake Tana (4th largest lake in Africa) and The Blue Nile river. The lake Tana is believed to be the source of Blue Nile river. The school is located very close to the lake surrounded by public recreational park and Luxury hotels. The school is the first school to be built in the city with rich history. Despite the history the school still has old infrastructures because of the lack of class Rooms and other infrastructures the school is forced to work in two shifts (the morning Shift 8:00 am-12:00 pm the afternoon shift from 12:30 pm- 5:30 pm). The school also Serves as the only school teaching visually impaired students. in order to be part of the Fastest growing part of the city the school has plans to end the shit based education and start the full day education that can also provide a better-quality learning environment to visually impaired students. it teaches students with and without visual Disabilities together in a same class. Because of the above reasons the school is Chosen to be rehabilitated.

Site context and design approach

Located in the heart of Bahir dar, 100 meters away from lake tana its surrounded by parks and luxury hotels and resorts. The design intends to take the park in to the newly added school campus. This approach makes the students feel like they are learning in a park and still part of the beautiful city while they are still secluded part.

Building typology context

The newly added school has to be able to compete with the surrounding hotels with aesthetics. The traditional hut looking school typology with traditional construction materials and techniques. Gives it the school the traditional look that also make it look like an African lodge.



School History



Existing functions



School Access

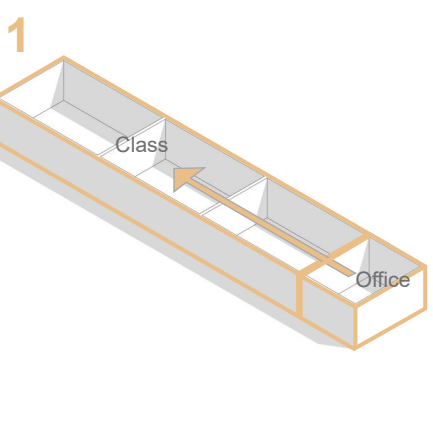


Decolonizing African school Architecture

African schools have lost the essence of their traditional schools. The standardized western education and learning environment which introduced by the colonial powers has taken away the interactive out door type of learning. Pre-colonial African civilizations educated their youngsters life skills in a way that knowledge transfers directly from the experienced one to the youngest directly through 1o1 teaching.

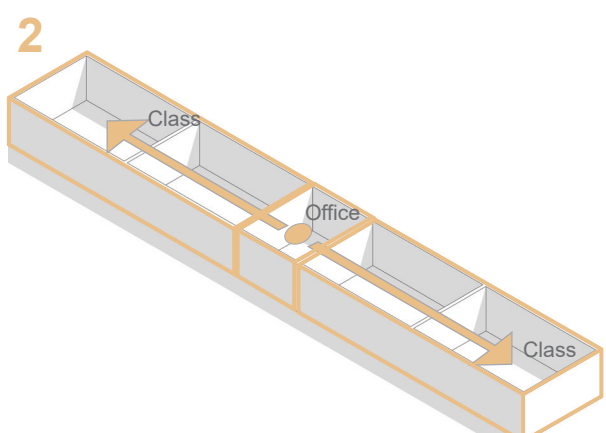
School History

The school has been built during the reign of Emperor Haileselassie I. it has had different additions during different parts of its history. the addition time line is visible from the oldest to the recent one. The newly proposed school pavilion continuous this history of addition



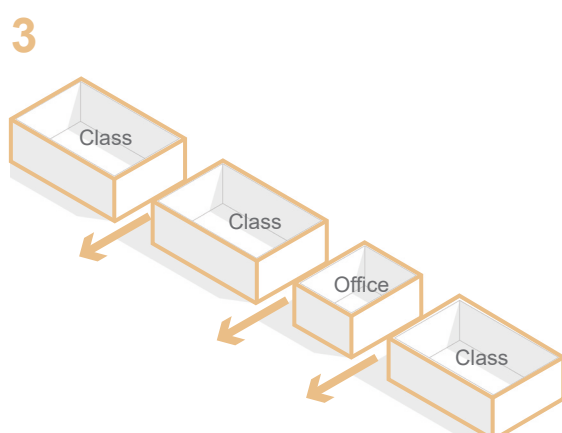
Normal trends in school designs

In most cases in Africa an office is placed in a Corner and the class rooms will extend from that Corner office. This often Brings luck of attention and follow up between the office and the students placed in rooms far away from the office.



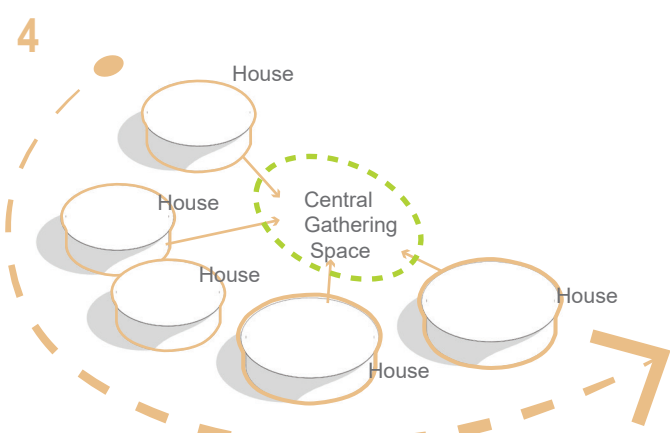
Central office controlling both ways

Reducing the block length from one side and adding it to the opposite side will create an effectively distributed and strong student teacher interaction. The office works both ways



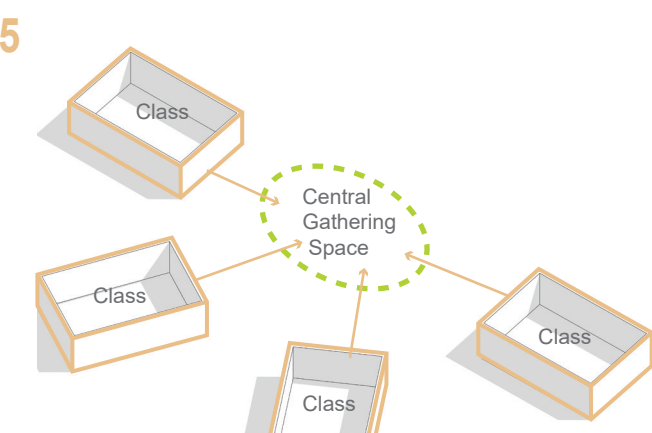
Creating Gaps between Class Rooms

Creating gaps between class rooms creates a porous fluid environment for students to increase their playing options movement and give them more freedom of movement which intern gives them more playing area a



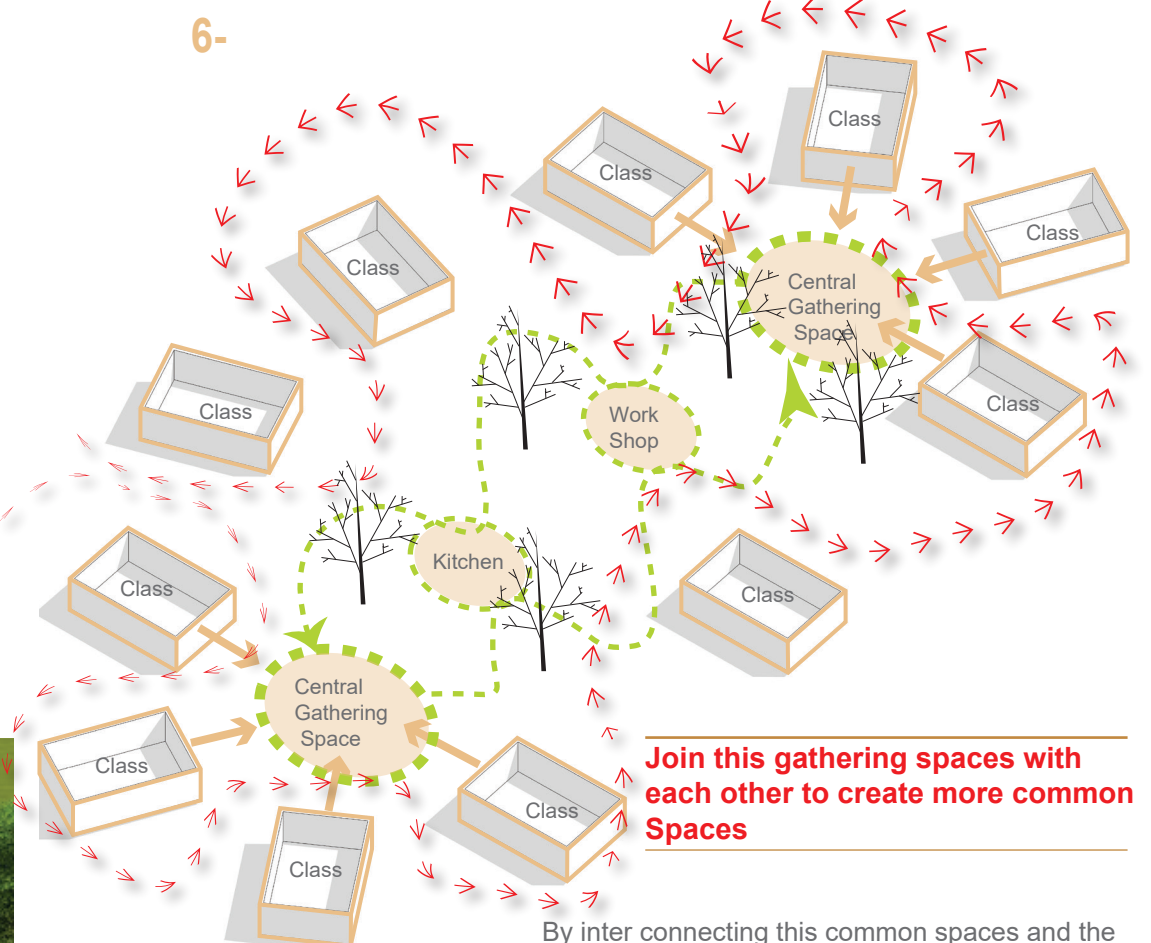
Take inspirations from African Villages

Traditional African villages are built around a central gathering platform or courtyard. This gathering area was used as an assembly hall, a kitchen, a work shop. It was also used to transfer knowledge from the elderly to the Youngsters. Our modern school class rooms should be Built around this kind of common spaces to enhance the Quality of education.



Introducing the Circular teaching Form

The circular form is proposed because it creates an inward Looking self protecting living area. In addition it also creates a central court yard which is an essential element to develop a shared learning platform and to develop a strong friendship between the Students.

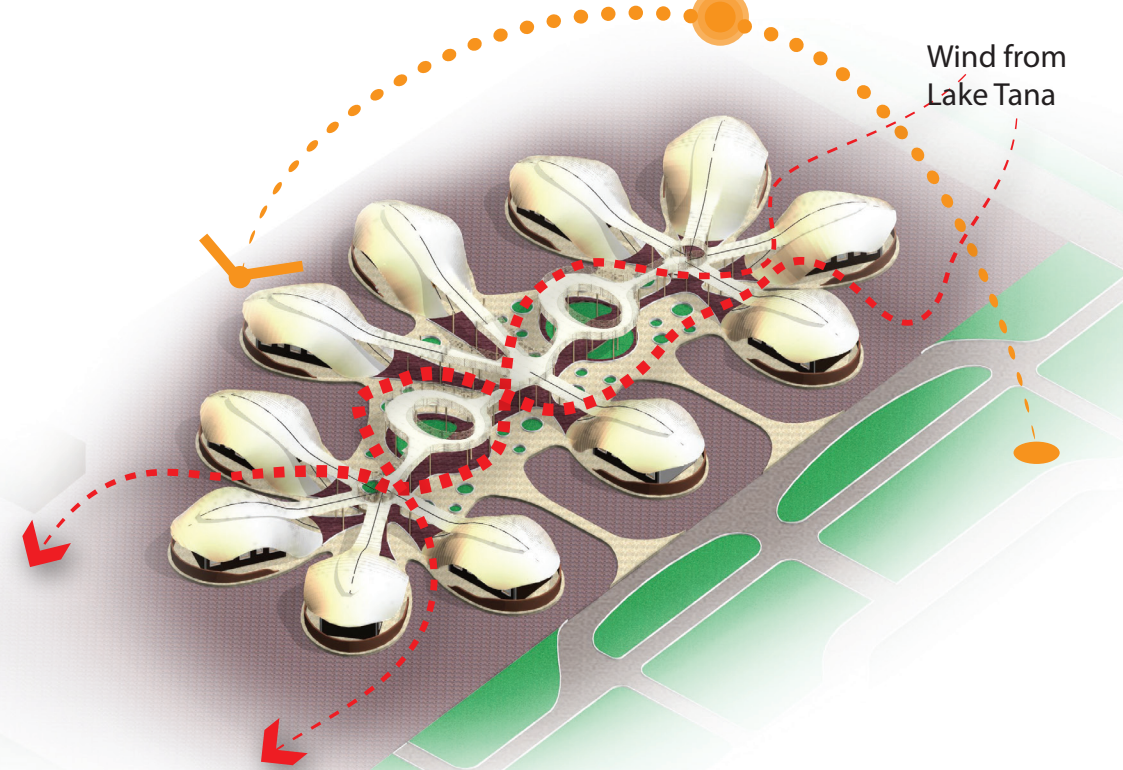


Join this gathering spaces with each other to create more common Spaces

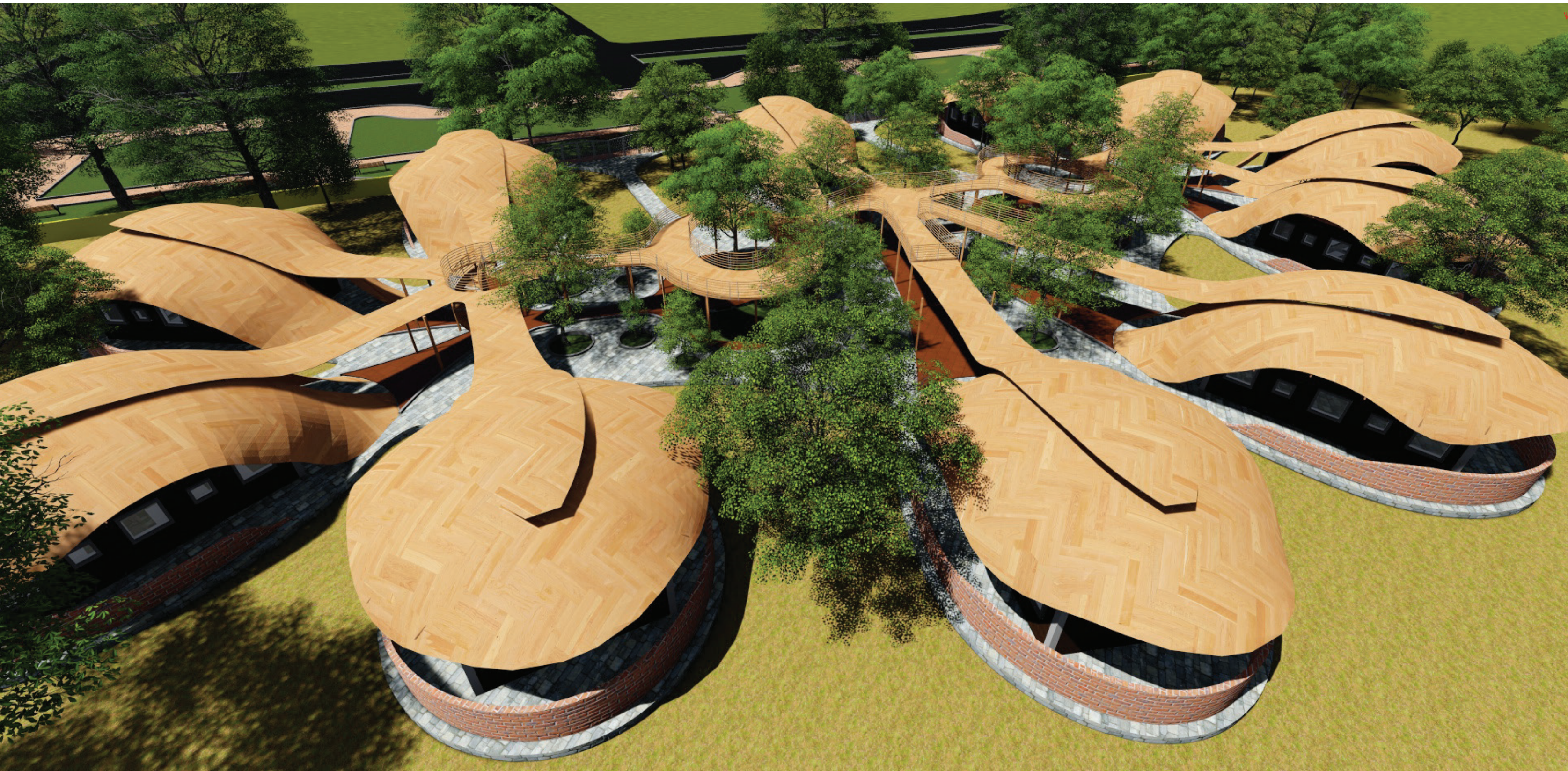
By inter connecting this common spaces and the class rooms around them. We can create more Common gathering spaces to be assigned new functions, like outdoor kitchen and workshop.-

By arranging the classrooms in a circular manner the proposal tries to create a fenced kind of environment for the students. This helps the students to develop a scene of security in the compound. The class rooms are separated apart to create pathways and allow the students to move and experience maximum playing freedom. This porous nature allows the students to be able to move around and at the same time feel secured.

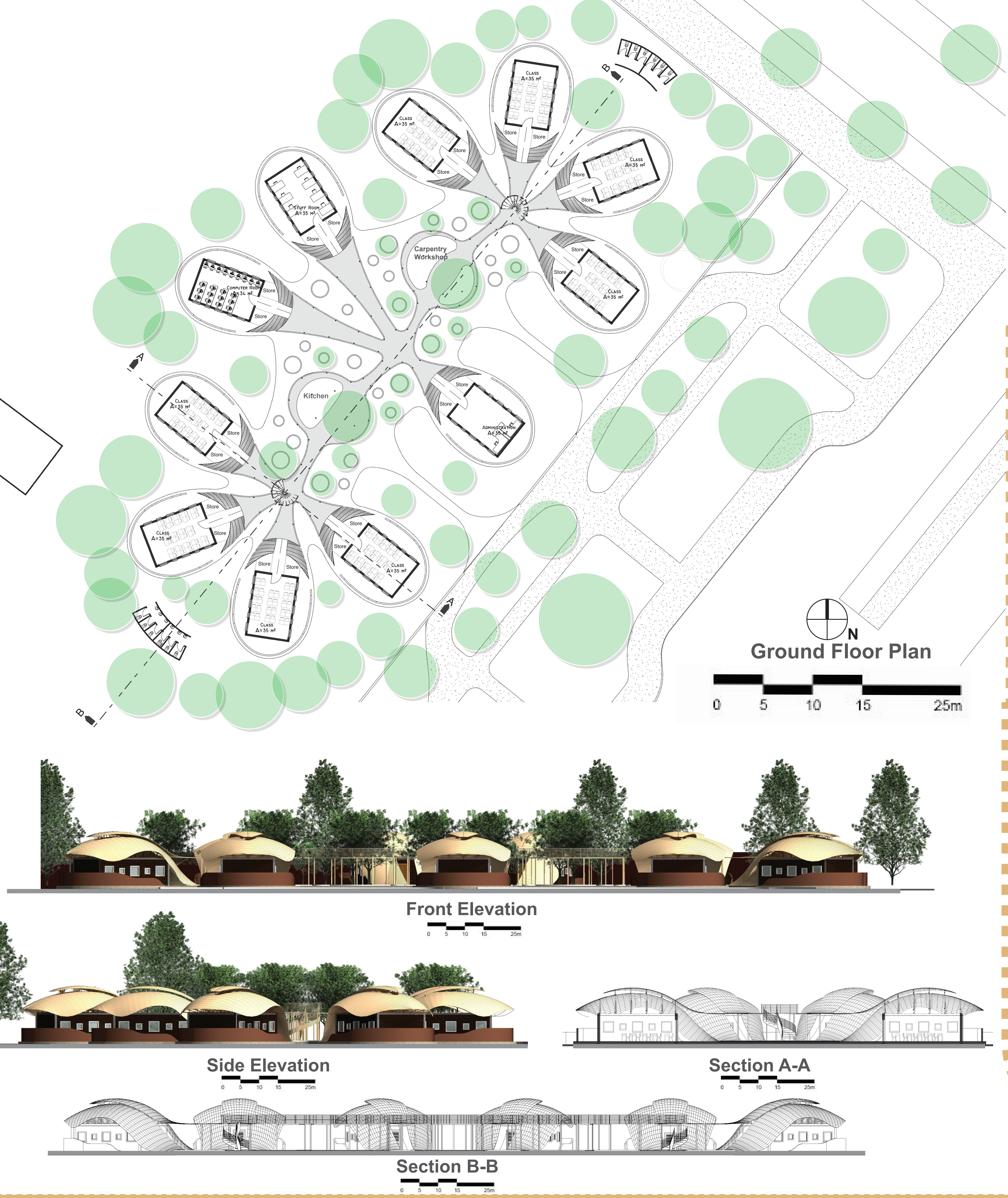
The entrance for the class rooms faces a common gathering space, This makes sure one class room students keeps an eye on other class room students in case of danger or student Harassment. This approach could help the students protect each other during bad times.



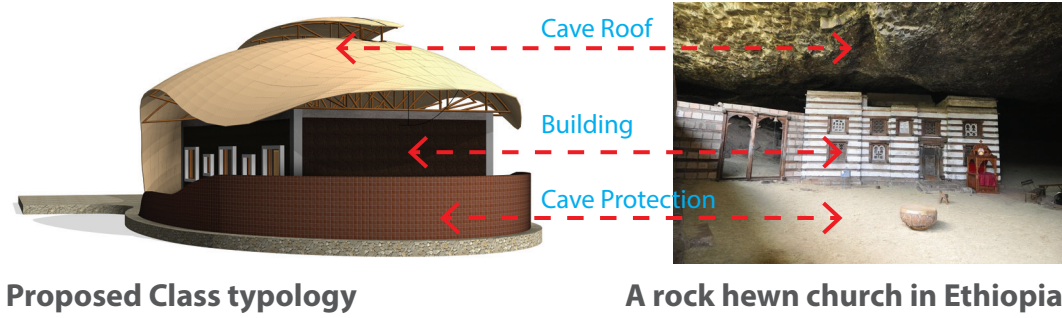
The school is place 45 degree South east to Avoid Harsh sun. It also celebrate the wind from the lake with open transparent windows and elevated room. The Vibrant court yard spaces the student to host lost of activities.





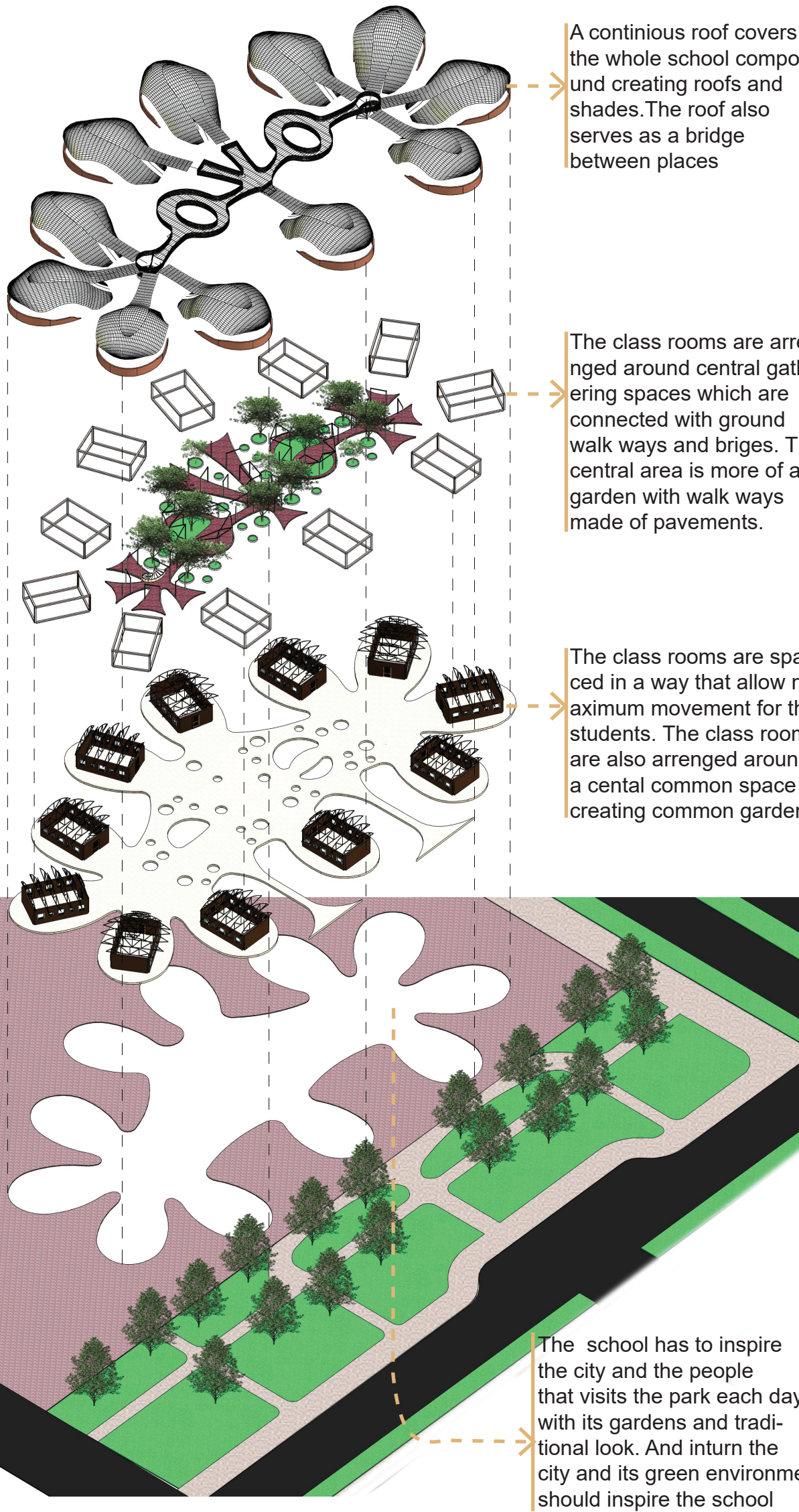


Building typology inspiration

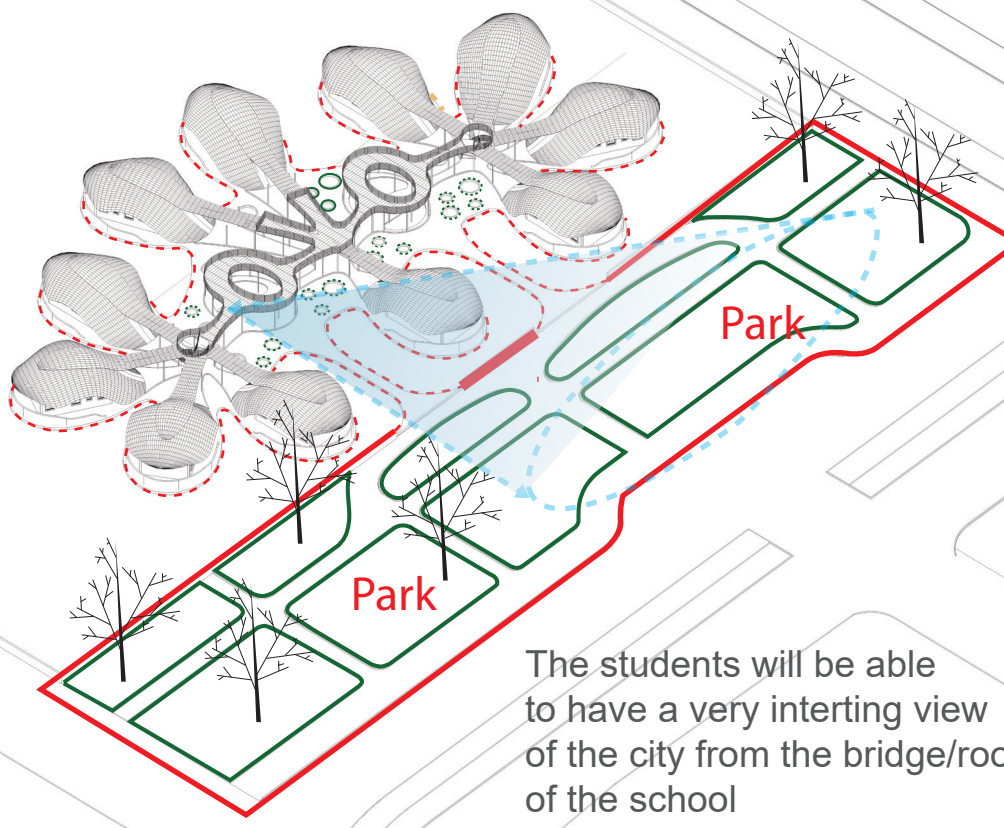


The separate class room typology is inspired from the ancient rock cut and rock hewn churches in Ethiopia and ancient temples on ancient Egypt. The class room is sandwiched between the overhanging roof and the short space defining wall. This approach creates the hidden rock cut African architecture. Inspires the students to look back through history and search for inspirational knowledge

The roof emerges from the ground and then covers the whole class room which functions as a wall at one side creating a defined space and creating a shade on the opposite side.

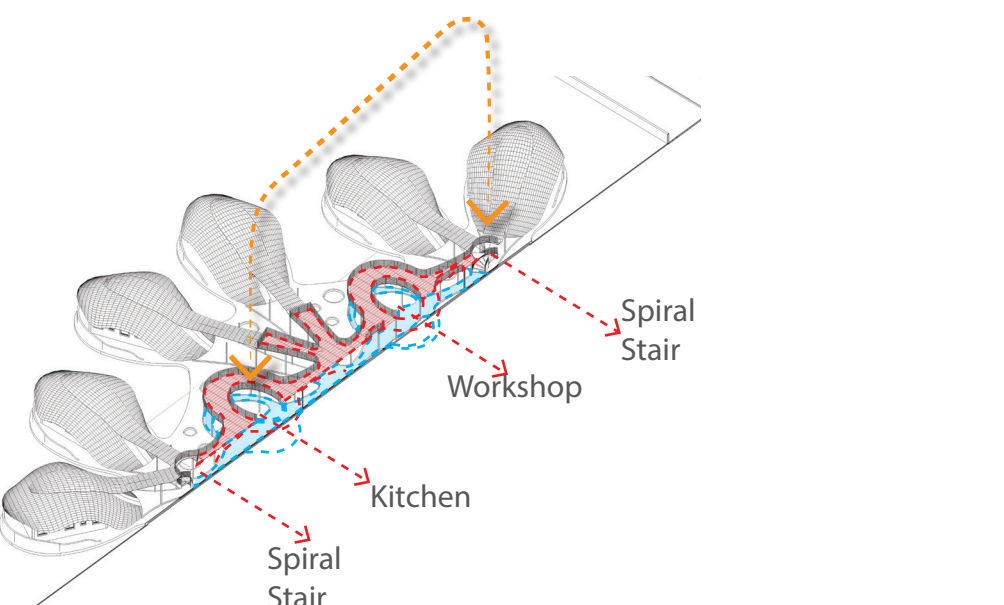


Integration with the surrounding



The rehabilitated school is located next to and existing urban public park. The idea is to extend the characteristics of the park in to the school. this approach makes the students feel as if they are still part of the park and the city while they are still learning in a confined and protected area. it creates a green inspiring environment.

Integration with the surrounding



Two spiral stairs located at each gathering place leads to a bridge that connects the gathering spaces vertically. The students can move around the school by using both the ground walk way and the bridge. This allows them to have additional movement options. The students can have a better view of the city and its parks from the bridge.

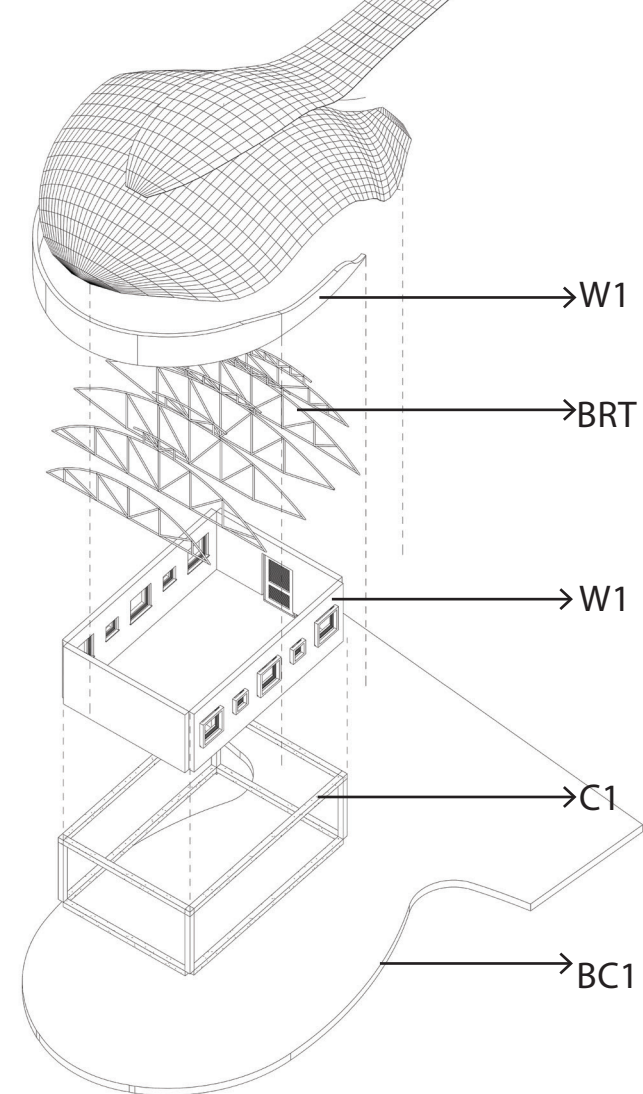
Construction Manual

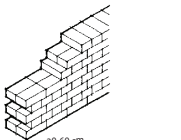
The Building Typology is designed to be produced locally, with locally available construction materials and techniques. It can be prefabricated in a different place and be assembled in the construction site.

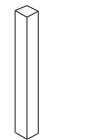
To make the prefabrication process and the quality of the product. All the Building elements in the building are parametrized. A person who wants to build this Typology may read this manual and can easily construct it. refer to the table.

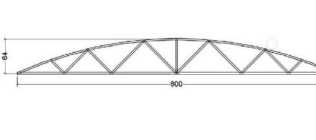
The abundance of a material is rated between the scale of 1 - 5 in which 5 is the most abundant one

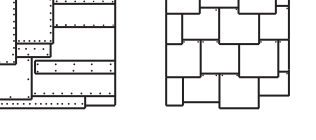
Refer the codes on the table

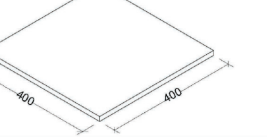


Name	Adobe Earth Block
Code	W1
Symbol	
Function	Wall of Building
Description	The construction of earth block bonded together with mortar, where the blocks are cut and designed to the proper shape.
Dimension	It Depends on the thickness w: 30-40 cm, each block h: 15, w: 30 L: Unlimited
Cost per m. sq	
Link Other Objects	Must be linked with walls, foundations, slab or roof.
Maintenance	Usual
Materials	Earth and gravel used for main structure.
Attachment	Bonded by cement mortar
Availability	5

Name	Solid Concrete column
Code	C1
Symbol	
Function	Column of a building
Description	A solid concrete column is a vertical structure support which is made of concrete and reinforcement steel, which transfers point load from beams to the foundation.
Dimension	w: 20-30 cm h: 588 cm L: 20-30 cm
Cost per m. sq	
Link Other Objects	Must be linked with beam, slab, foundation, and wall
Maintenance	Usual
Materials	concrete and reinforcement steel also timber
Attachment	mortar for concrete, steel plate for timber
Availability	4

Name	Barrel roof Truss
Code	BRT 1
Symbol	
Function	Roof (top cover) of a Building
Description	A barrel roof is a curved roof that. A roof having a semi-circular or a curved cross section cross section, used to span larger buildings
Dimension	L= 600 cm 15 DEGREE w= 400 cm Slope Indication
Cost per m. sq	
Link Other Objects	Must be linked with wall, beam or another roof support member
Maintenance	Specific skill
Materials	Europlus, Timber and steel
Attachment	Nailing, Bolting
Availability	Abundant

Name	Hard Claddings/Shingles and Metal shif
Code	VC1
Symbol	
Function	vertical Cladding
Description	A wall finishing which is nailed or attached with adhesive to protect the wall from water and insect action. Is used to span larger buildings
Dimension	Individual Shingle elements w= 10-15 cm h= 10-15 cm L= 0.2-0.3 cm 5cm overlap on the top of each shingle
Cost per m. sq	
Link Other Objects	Must be linked with the wall of a building
Maintenance	Usual
Materials	wood vine(rhingle), metal sheet, rubber
Attachment	Nailing
Availability	4

Name	Solid Flat Slab
Code	BC1
Symbol	
Function	cover of a Building
Description	A flat slab is a two-way reinforced concrete slab that usually does not have beams and girders, and the loads are transferred directly to the supporting concrete columns or foundation.
Dimension	L= 400 cm w= 400 cm d= 15 cm
Cost per m. sq	
Link Other Objects	Must be linked with walls columns and Beam
Maintenance	None
Materials	Concrete and Reinforcement Bars.
Attachment	Casting, Bonding
Availability	Abundant

