

# Proposal No.03

## Central Lowland Tanzania

Subject	Children's Houses
Design	Kevin Chacha
Geography	Central Lowland
Classes	2
Students	max. 80



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## DESIGN STATEMENT

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### **BUILDING INFORMATION**

Total built up area (Left wing and Gathering space) = 145 m<sup>2</sup>

Mezzanine area = 10 m<sup>2</sup>

Enclosed open area (outdoor) = 50 m<sup>2</sup>

Number of Learning spaces = 03

With a gross built up area of 145 m<sup>2</sup> plus 10 m<sup>2</sup> of mezzanine and an addition 50 m<sup>2</sup> of enclosed outdoor space, the school can provide for more than 80 students and between 3-4 teachers

### **COST ESTIMATES**

The cost estimates to build up everything excluding land is approximately USD 44,738. Refer to the attached cost estimate file.

### **LOCATION**

The project is suitable for the Eastern Zone of Tanzania where there is abundance of clay, sisal and stones for aggregate and hardcore. The highest temperature is 32 degrees Celsius and the lowest is 15 degrees Celsius.

### **DESIGN FEATURES**

Local building materials are highly available and could easily be processed within the project's region. Everything from the bricks to the wood is local and this would allow the project to be cost effective during its implementation. Internal furnishings would also be simple but durable and made from natural fibers and wood that undergoes minimum alteration to its natural look and feel.

Re-duce, Recycle, Re-use: With a superstructure that is composed almost entirely of clay bricks, lime mortar and wood, and the reduced, need to transport materials. The buildings carbon footprint is minimum. The bricks production is possible on site from excavation pits that can be used to septic tank construction and any leftover brick could be suitable to make functional structures such as the cooking stoves.

With more than 269 mm of precipitation during the wet season, the building captures and harvests the rainwater for use during the drier seasons. Harvested water is essential during shortages and irrigation to the gardens.

The kitchen use fuel-efficient cooking stoves that reduce the amount of firewood or charcoal used for food preparation while being almost smokeless. This would reduce the overall effort that goes into meal preparations and reduce the buildings CO<sup>2</sup> emissions.

Thermal comfort: The use of clay bricks blocks out the heat during hotter months and keeps the building warm during the colder months. Operable louvers, large ceiling heights and highly ventilated roof space allows for natural ventilation and controlled draughts.

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## DESIGN STATEMENT

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Natural Daylighting: skylights are located in the centers of the rooms to allow natural sunlight to penetrate deeper into the building.  
Inspires curiosity: from small random shaped openings that allow the children to see new perspectives to climbing and sliding, the building design has tried to capture what would make going to school a fun and educative experience for children.

### **PROPOSED CONSTRUCTION**

The help of local community members who would be direct beneficiaries of the project can construct the building. The involvement of the community would not only help with knowledge sharing but also the schools acceptance into the community.

### **DESIGN GUIDELINES**

The proposed design has obeyed the 28 architectural patterns guidelines [www.montessori-architecture.org](http://www.montessori-architecture.org) that make it suitable for Montessori school that will shape children of the future planet not only mentally but also physically.

However, municipal and national building regulations and guidelines for Tanzania in relation to building design and construction of schools is well considered.

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COST CALCULATION

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**COST ESTIMATES FOR CFIC 2022 PROJECT**

MEASURED WORKS  
SUMMARY

BILL	DESCRIPTION	TOTAL (TZS)
01.	BILL No.1 - PRELIMINARIES WORKS	-
02.	BILL No.2 - MEASURED WORKS	
02.1	SUBSTRUCTURE	17,058,800.00
02.2	STRUCTURAL FRAME	11,836,900.00
02.3	WALLS	18,080,000.00
02.4	ROOFING	9,408,500.00
02.5	WINDOWS	2,808,000.00
02.6	FINISHES	1,512,000.00
02.7	FITTINGS AND FIXTURES	5,562,500.00
02.8	PLUMBING AND ELECTRICAL INSTALLATION	15,623,000.00
	<b>MEASURED WORKS SUMMARY</b>	<b>81,889,700.00</b>

GENERAL SUMMARY  
SUMMARY

BILL	DESCRIPTION	TOTAL (TZS)
01	PRELIMINARY WORK	5,000,000.00
02	BILL No.2- LEFT WING	81,889,700.00
03	BILL No.4-GATHERING AREA	17,440,650.00
	<b>TOTAL ESTIMATED COSTS OF THE PROJECT</b>	<b>104,330,350.00</b>

VISUALS OUTSIDE



VISUALS OUTSIDE



VISUALS INSIDE / TRANSITIONAL



VISUALS INSIDE / TRANSITIONAL





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VISUALS INSIDE

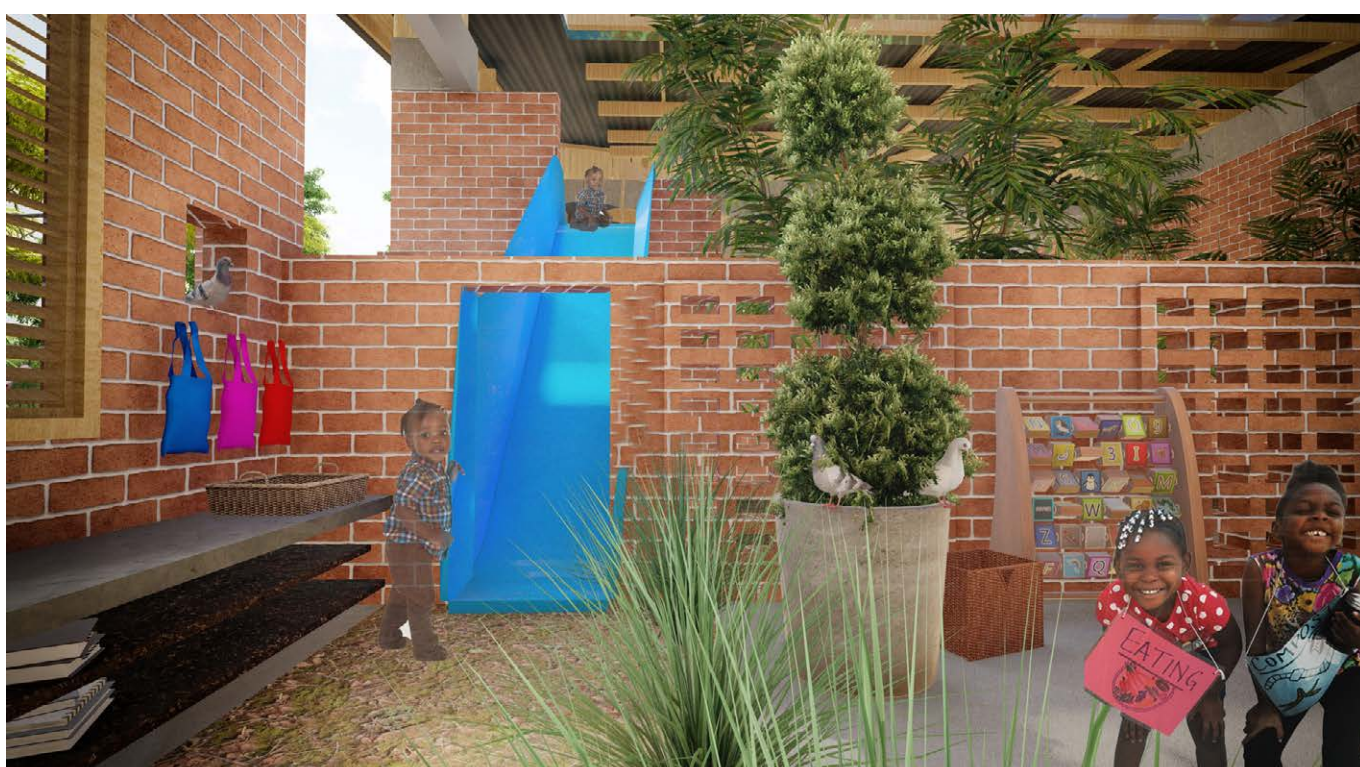
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VISUALS INSIDE

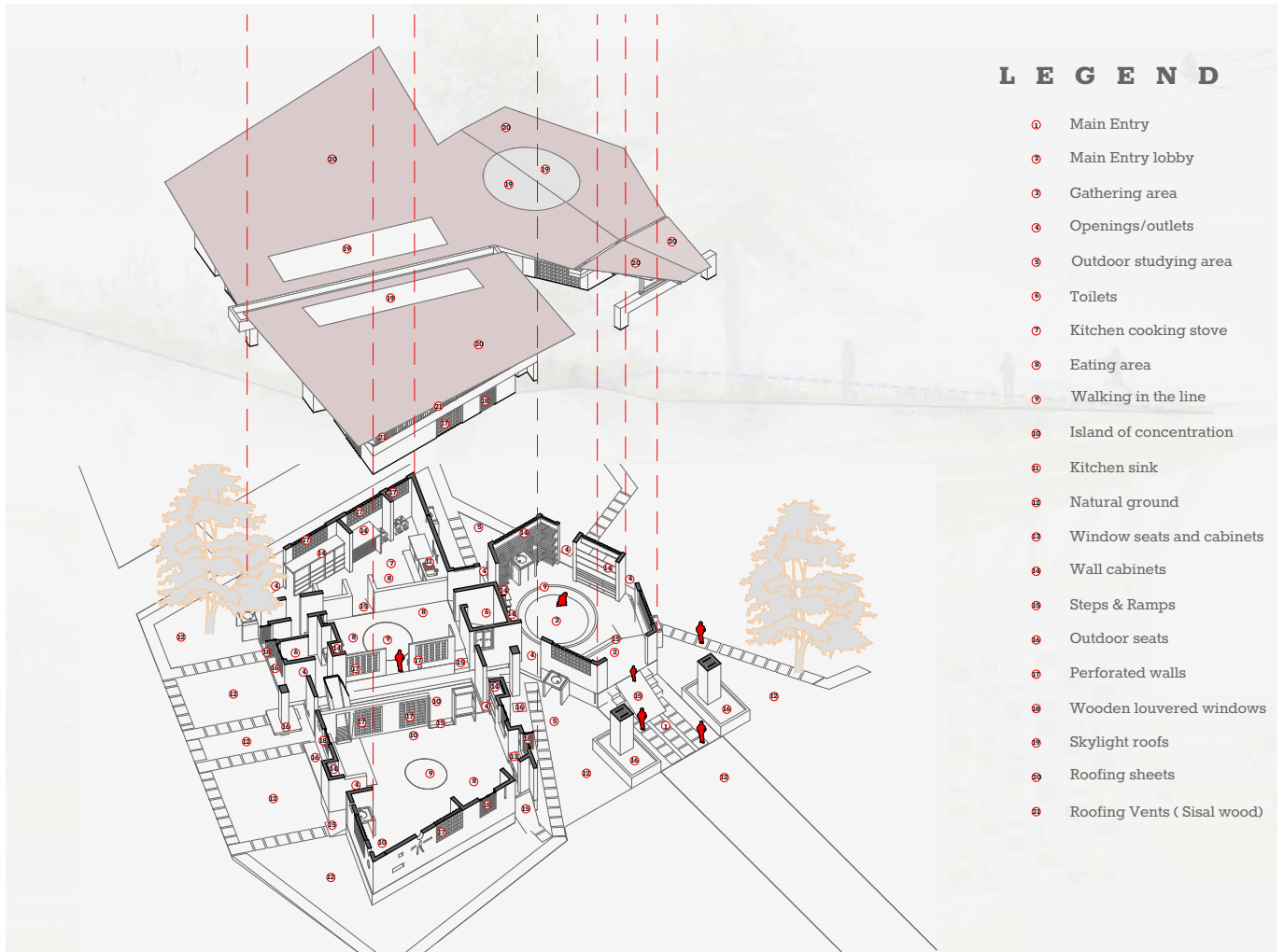


VISUALS INSIDE



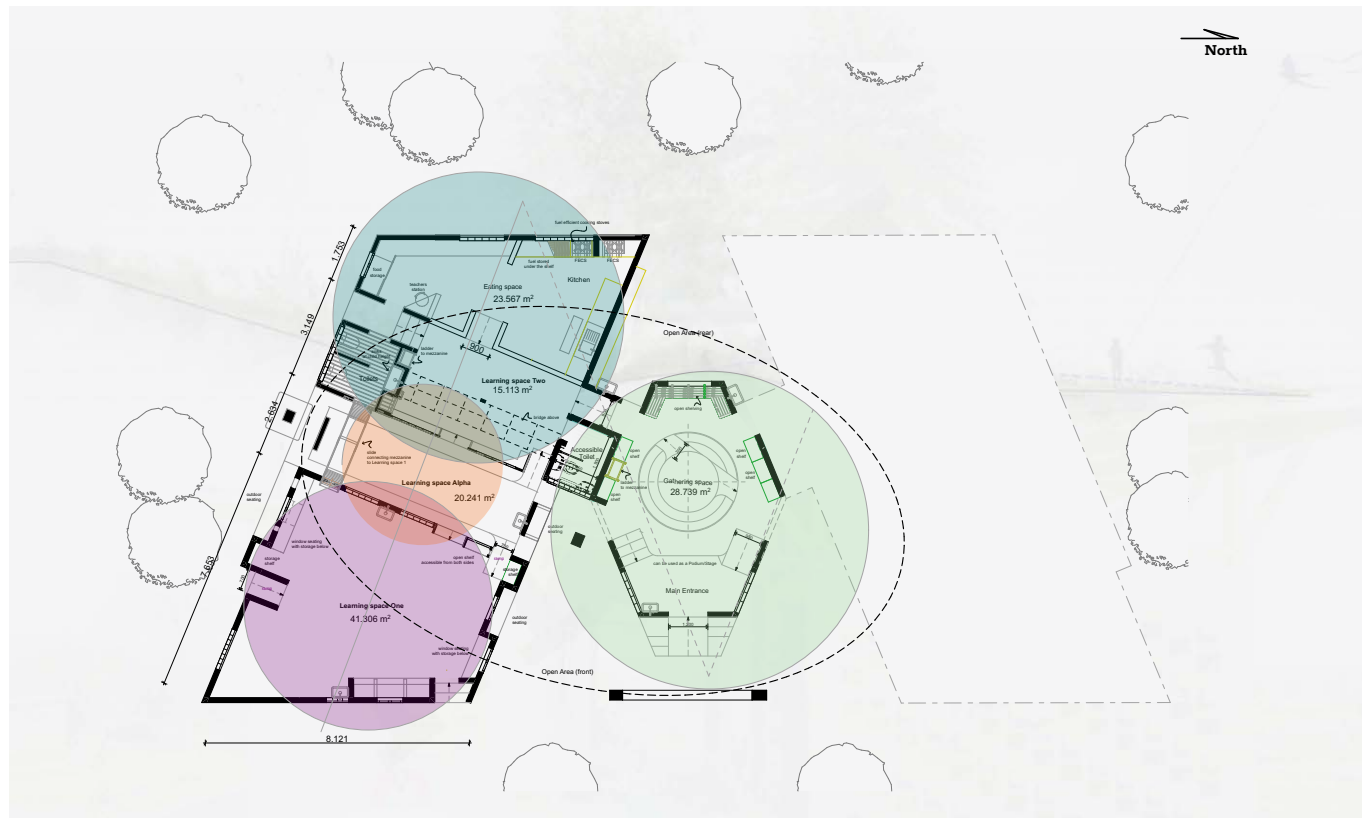
PLANS

GENERAL DESIGN PRINCIPLES / SPACES

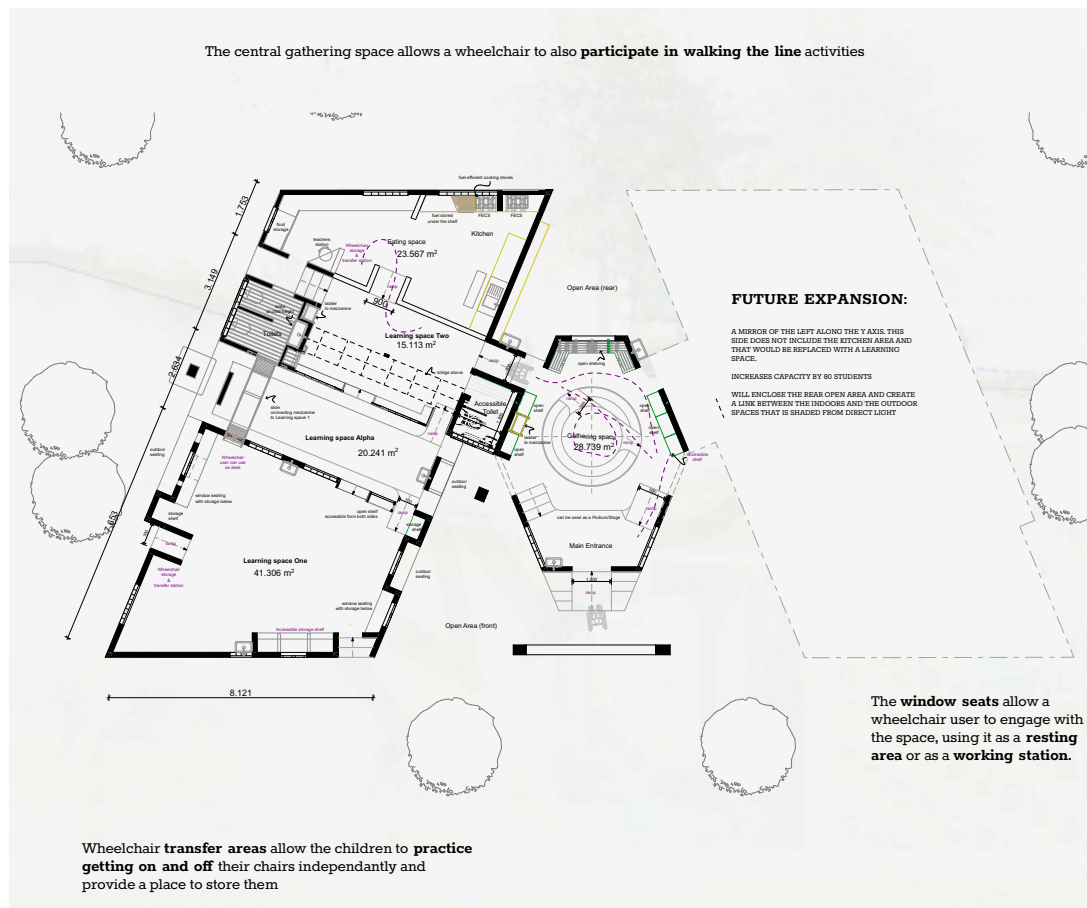


PLANS

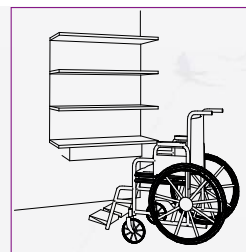
**GENERAL DESIGN PRINCIPLES / A hierarchy of interconnected spaces adapted to children's activities**



The central gathering space allows a wheelchair to also participate in walking the line activities



Wheelchair transfer areas allow the children to practice getting on and off their chairs independantly and provide a place to store them



Accessible shelf allows the user to easily store their items. There is one in the central gathering space as well as in each learning space.

**FUTURE EXPANSION:**

A MIRROR OF THE LEFT ALONG THE Y AXIS, THIS SIDE DOES NOT INCLUDE THE KITCHEN AREA AND THAT WOULD BE REPLACED WITH A LEARNING SPACE.

INCREASES CAPACITY BY 80 STUDENTS

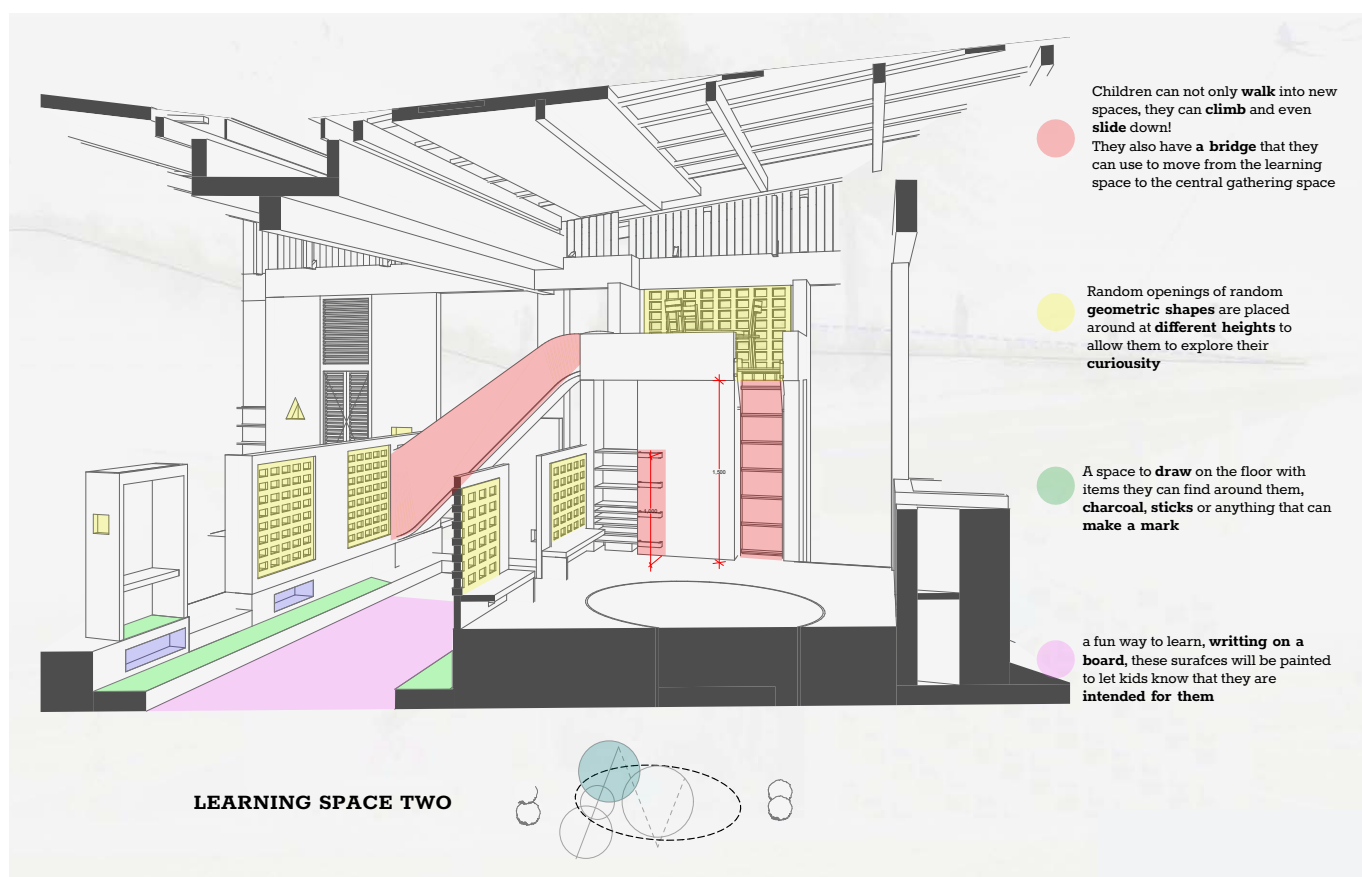
WILL ENCLOSE THE REAR OPEN AREA AND CREATE A LINK BETWEEN THE INDOORS AND THE OUTDOOR SPACES THAT IS SHARED FROM DIRECT LIGHT

The window seats allow a wheelchair user to engage with the space, using it as a resting area or as a working station.



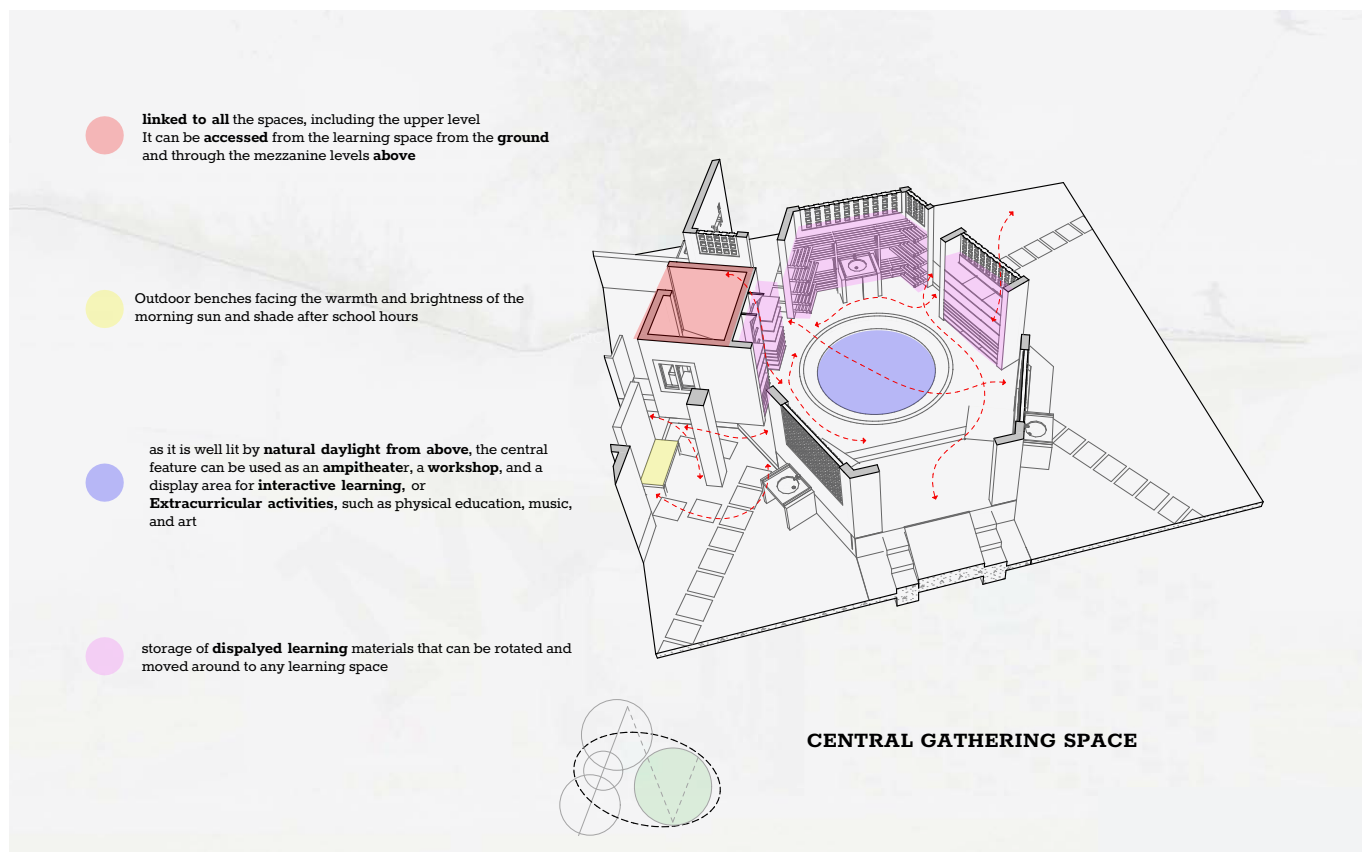
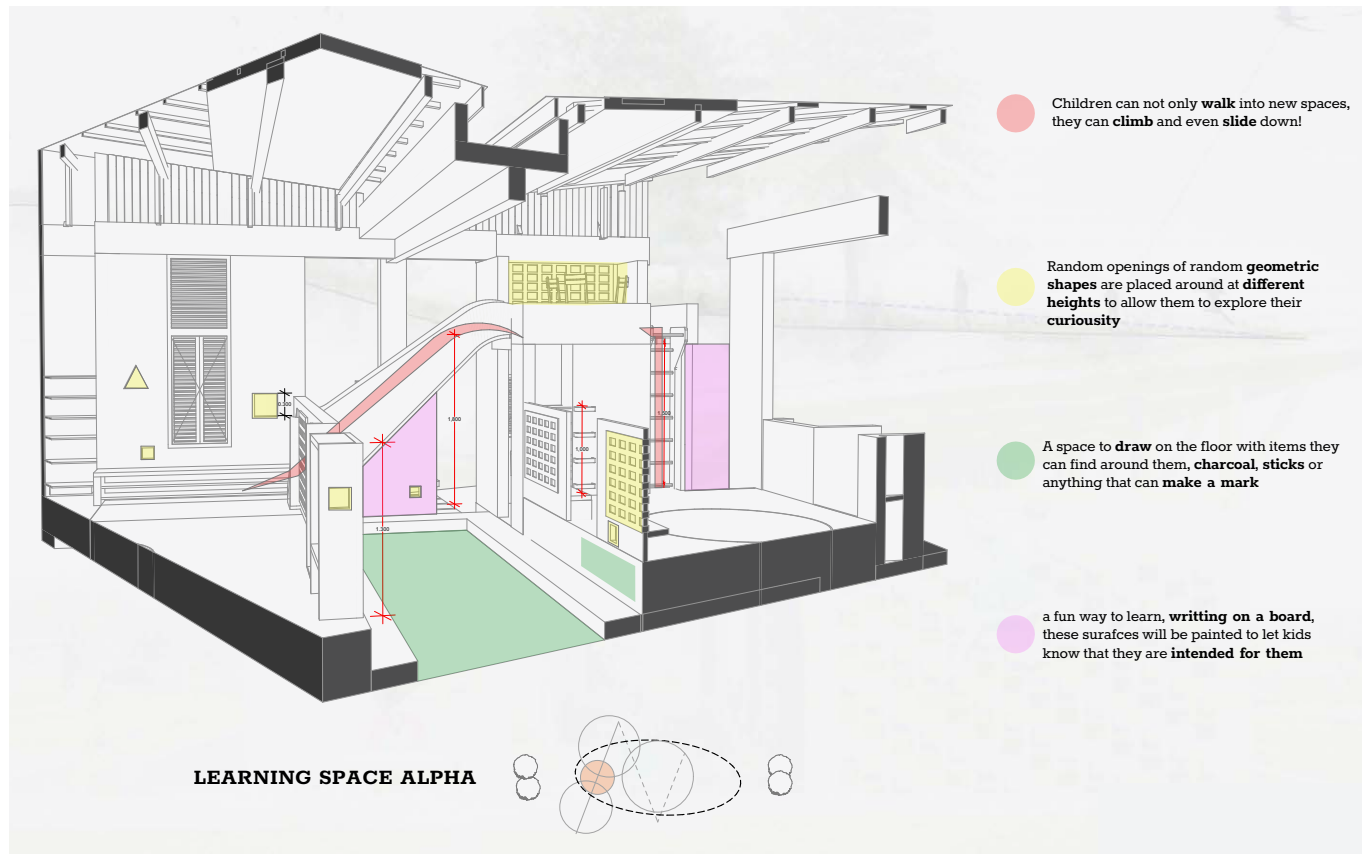
PLANS

GENERAL DESIGN PRINCIPLES / CONCEPTS



PLANS

GENERAL DESIGN PRINCIPLES / CONCEPTS



PLANS

**GENERAL DESIGN PRINCIPLES / Different heights for floors and ceilings**





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## ABOUT

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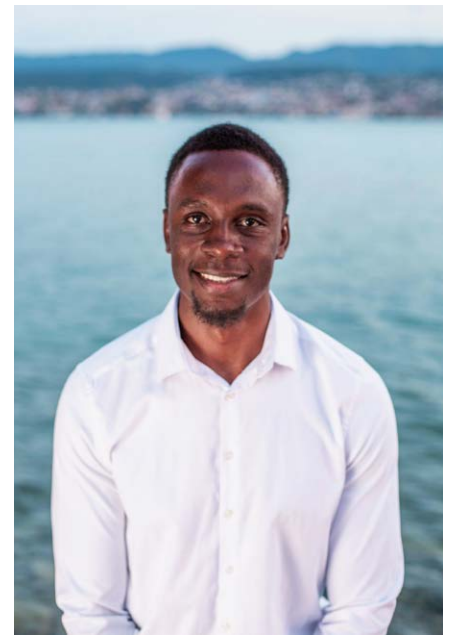
### BIOGRAPHY

Kevin Chacha is Managing Director and founder of Kevin Chacha associates (KCA), an Architectural firm based in Dar es Salaam. He is a holder of a professional degree in Architecture (B. Arch) from Ardhi University. He is registered Architect with the Architects and Quantity Surveyors Registration Board (AQRB) in Tanzania.

He has more than 7 years of professional experience in the construction industry since graduating. Prior founding his own firm, he was employed by PSM Architects Co Ltd for 4 years as an assistant architect. Apart from his employment career he has also worked with a number various consultants and institutions across Tanzania including, BJ Amul Architects, Habconsult Ltd. Architects, Mekon, Norplan, National Housing Corporation (NHC), National Social Security Fund (NSSF), Watumishi housing Company (WHC) Ltd, German Armed Forces Technical Advisory Group (GAFTAG) Tanzania, and Jeshi la Kujenga Taifa (JKT) with a broad knowledge in the design, construction supervision and 3D animation/ visual effects presentations.

He is expert in CAD and BIM Softwares including ArchiCAD, Adobe creative Suites, Cinema 4D and Climate Consultant. The extensive experience include responsibility for major buildings projects in civil, Health, education, historical heritages, abattoirs, institutions, residential buildings, commercial, office complexes, bridges, squares, industries and masterplans.

He is Passionate with a focus on creating inspiring and comfortable spaces for better living and working in balance with nature by making the wants and wishes of demanding clients of timeless living space of lasting value come true by uncompromisingly ensuring the coherent and consistent fusion of form, function and natural matter to create inspiring spaces and properties of lasting value.



### CONTACT

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