

ARC512: Seminar II

**SHANTO-MARIUM UNIVERSITY OF CREATIVE
TECHNOLOGY**

UTTARA, SECTOPR 17

Department of Architecture

BRAC University



Inspiring Excellence

By

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ARC512: Seminar II

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Abstract:

Creativity is the idea that comes from mind of a person according to his limitation where limitations are set by his experience, practice, knowledge, talent and wisdom. The boundary of creativity is only in a person's mind. With proper education the creative thinking power can be enhanced up to a level where the door of this imaginary boundary will fall and creativity will have its own freedom which may reflect on socio-development and civilization. With creativity influencing people are likely to be getting more interested in technology and designing media. However, in Bangladesh there are a few institutions or organizations with limited facilities those are interested on this sector. For that reason an institution with essential facilities and steps will help a person to explore, practice and develop own creative ability which is very much desired for the development of this country. The aim of this project is to build a university that will fulfill and provide all the facility and steps for the students who are interested in the creative and designing field. Shanto-Mariyam Academy has proposed for a university in 2.1 acres land area in the sector-17 of Uttora in Dhaka for this purpose. This project will provide all the services required by the institution to convene the requirements of the students that will also serve as a larger feature in the field of creativity, creative technology and cultural activities.

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Chapter 1: Introduction to the project

1.1 Introduction

Santo- Mariam University of creative technology is the result of creative minds of two individuals. Md. Imamul Kabir Shanto a well known businessman with lots of interest in education and his wife Tahmina Chawdhury Kabir (Mariam) with an aim to introduce techno-based cultural education to the people, are the founder of Shanto-Mariam Foundation.

At the beginning it was only a short course academy for both children and adult in other countries. Later it was introduced in Bangladesh. As the popularity and reputation increased, the demands increased as well. Therefore, the project was submitted. The project received a government approval which is now the first design oriented Private University. Shanto-Mariam Academy of Creative Technology (SMACT) has been established in order to spread up-to-date design, cultural and technical education throughout the Country under the guidance of Shanto-Mariam University of Creative Technology. The aim of the Shanto-Mariam University of Creative Technology (SMUCT) is to produce versatile and resourceful practitioners with Design, scientific, technological, cultural and social knowledge to equip them for the 21st Century, in an educational environment which fosters innovation, enterprise and commitment for excellence.

1.2 Project Brief

1.2.1 Name of the project: Shanto-Mariam University of Creative Technology

1.2.2 Client: Shanto-Mariam foundation

1.2.3 Location: The site is located in sector-17, Uttora, Dhaka.



Figure 1.1: site



Figure 1.2: site

1.2.4 Total land area: It is a land of 2.10 acre (91800 Square Feet)

1.3 Reason for choosing the project

First of all, personal interest is a huge factor. A student of architecture will always have the common interest of creating spaces even if there are limitations. Challenges like creating space within limited resources and area are always interesting. Then again having interest on cultural aspects and creativity is another issue. Secondly, the world of media and graphics technology is encouraging. These fields have a weak background in Bangladesh although whole world is now producing promising outcome from them. Film industries abroad are rich and popular due to their use of technology, knowledge and enhancement creative thinking. This project is the perfect for creating opportunities for interested people. Lastly, in the professional world experience is a big issue. The site is in an residential area and the site has limitation but has good site condition. This makes it the perfect opportunity to develop professional skill as in reality sites will always have many limitations. This project will help to gain experience and knowledge for future events.

1.4 Objective of this project

The University has the opportunity to enhance the level of creativity and ability to use technology. The objective of this project is to design a campus with the environment of

education, performance and exhibition. Using the site and its surrounding mainly the lake side to an advantage is one of the challenges for this project. The aim is to enhance a future generation with creative mind in the field of film-industry, Architecture, Art, Business, Animation and Graphics design. Creating a place where science, creativity and cultural elements blend in through architecture is also desired in this project. Taking the university to an international standard with the identity of " Center of Excellence" to prepare the young generation in developing their intelligence quotient to tackle the challenges in future life and making them productive, generating collective and tangible to benefit for self as well as for the community without any discrimination of race, ethnic group, region, cast or cultural background.

1.5 Programs and functions required for the project:

1.5.1 Departments:

- Department of Fashion design & technology
- Department of Graphic Design & Multimedia
- Department of Interior Architecture
- Department of Architecture
- Department of CSE/ CSIT
- Department of Business Administration
- Department of English
- Department of Law

1.5.2 Administration:

(a) Main Office

- Reception & Admission Office
- Foundation Office
- VC's office
- Registrar's Office
- Office Controller of Exam

(b) Proctor & Director

- Student Welfare

- Treasurer's Office
- Accounts Office

1.5.3 Common Facilities

- Library
- Auditorium/ Multipurpose Hall
- Fashion Show Gallery
- Exhibition Space
- Indoor Games
- Cafeteria

Source: Register's office, Shanto-Marium University of Creative Technology, Uttora, Dhaka

Chapter 2: Site Appraisal

2.1 Site and surroundings

2.1.1 Site: Plot-6, Avenue-6, Sector 17/H1, Uttora, Dhaka, Bangladesh

2.1.2 Latitude: 23°50'55.61"N

2.1.3 Longitude: 90°22'14.40"E

2.1.4 Environment: The site has multiple opportunities. At the west there is a lake. The current state of the location is, the site is a huge open space with no infrastructure and no development. RAJUK has future developing urban plan for it which includes a full functional residential area with temples, mosques, playground, academic institute, hospitals and many more. The site has roads on west and east side. Both roads will be of 110 ft wide.

2.1.5 Site plan, site images & surroundings:



Figure 2.1: Site image

(source: Google earth map)



Figure 2.2: 90° Panoramic view of the site



Figure 2.3: 90° Panoramic view of front side from north to east



Figure 2.4: 180° Panoramic view of back side (west side)



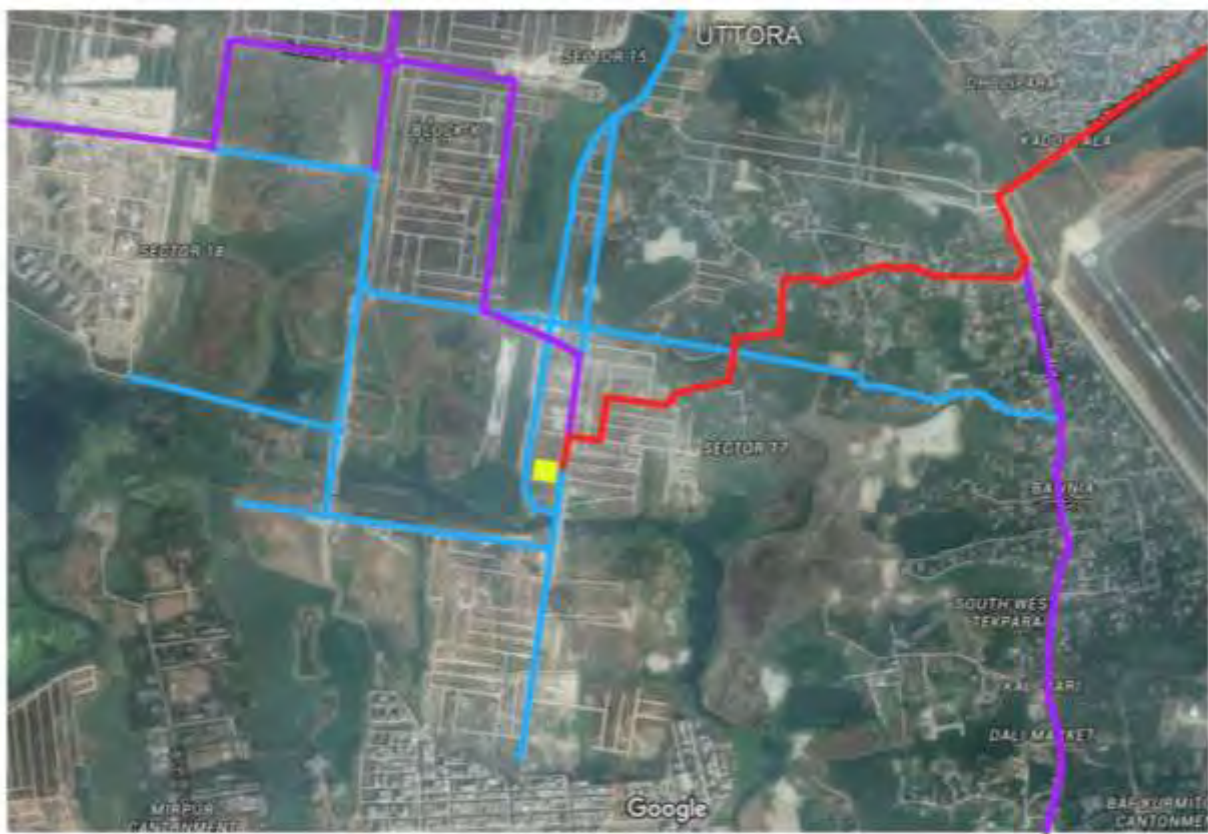
Figure 2.5: 180° Panoramic view of back side (towards south side)



Figure 2.6: bridge at the south



Figure 2.7: road at the front side



SITE ACCESS

- CURRENT MAIN ACCESS
- CURRENT SECONDARY ACCESS
- POSSIBLE FUTURE ACCESS

Figure 2.8: Site Access

2.2 Predicted plans for future & Site Analysis

2.2.1 Predicted plans for future



Figure 2.9: Predicted land use



Figure 2.10: Predicted Path



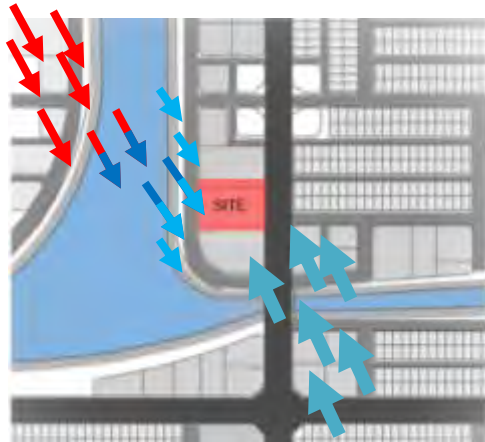
Figure 2.11: Predicted Height Analysis



Figure 2.12: Possibility

2.2.2 Site Analysis

2.2.2.1 Air flow Diagram



The hot air coming from the west is being neutralized due to the lake

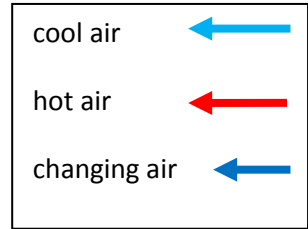


Figure 2.13: Air flow

2.2.2.2 Predicted Shadow Analysis

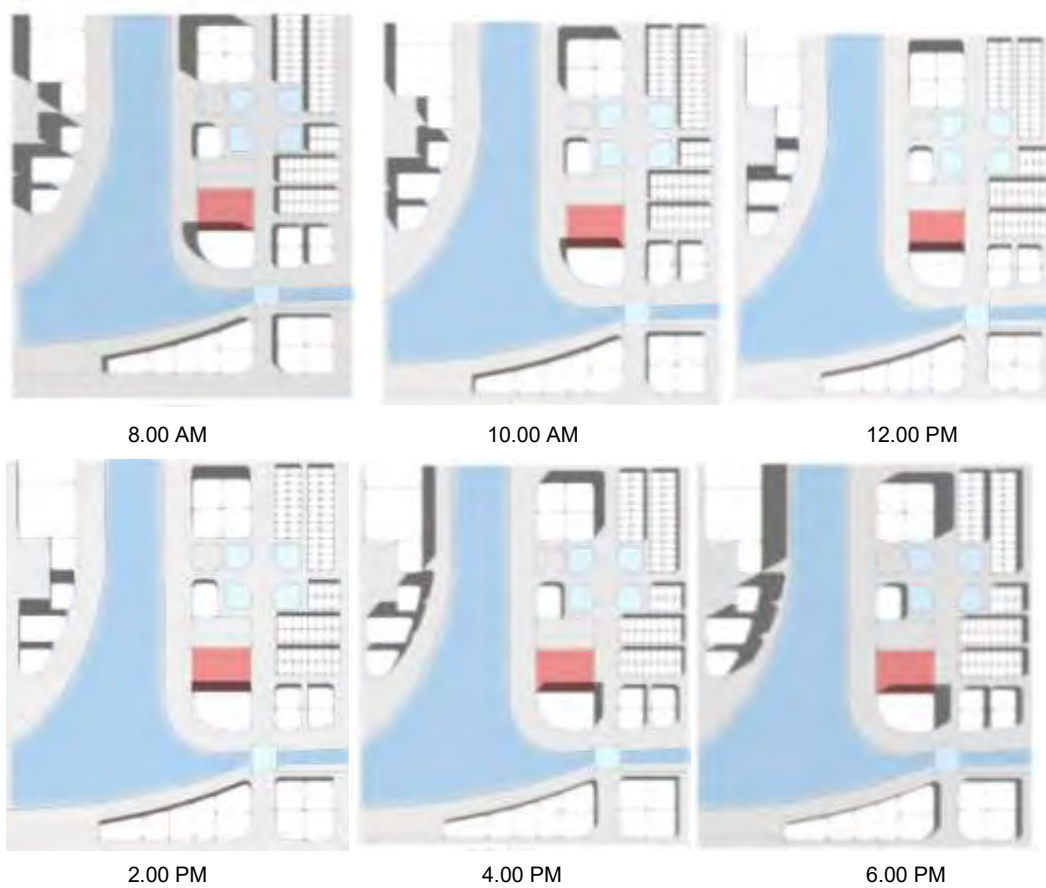


Figure 2.14: Predicted Shadow analysis at different time

2.3 Environmental conditions

2.3.1 Topography

The topography of the site has got no variations. It is a flat land with natural water body in it.

2.3.2 Climate

With the current state of the site as it does not have any big trees and just only flat land, when the Sun is up temperature is high and when the Sun is down the weather is cool. The site has a tropical wet and dry climate.

2.4 SWOT Analysis

2.4.1 Strength

- This sectors of Uttora still have not seen the face of development but it has future plans. For that it has a good potential of becoming a good urban zone with development.
- Wide roads around the site.
- A lake at the west side. It can nutilize the hot air flows through the west and make it cool.
- As the south-east side of the site has a very few structure and the lake also continues there as well, there is possibility of wind flow through the site allowing a cross ventilation of cool air and making a micro climatic effect.
- Students may have the opportunity to enjoy the lake view.
- Nearby the site at the south side there is a bridge which may turn into an important node and a place for recreation.
- There is a very less dominant high rise structure plan for the future. So daylight and view of the landscape at west and south can be used at its best.
- The overall area has the chance to connect Uttora and Mirpur. As a result, it is an opportunity for a huge amount of students to fullfill their dreams.

2.4.2 Weakness

- As the strength is a lake at the west the weakness is also the lake at west. Ensuring the view at the west will be difficult because of the Sun.
- Being west- east oriented the Sun heat will directly cause trouble for people.
- The north view will be blocked due to high rise plans of future.

2.4.3 Opportunity

- The front side (east side) with be full of residential buildings but of only 5-6 storied which may bring out a positive site force.
- Important nodes can be created in distance future surrounding the University.
- It has the ability to connect the people of Uttora and Mirpur.
- The lake side can be of good use for the students.

2.4.4 Threat

- Unplanned development of this urban area can put negetive impact on the University.
- Unplanned development of the project may have negetive impact on the residential part.
- May create sound polution.

Chapter 3: Literature Review

3.1 Education

Education is the process of facilitating learning, or the acquisition of knowledge, skills, values, beliefs, and habits. Educational methods include storytelling, discussion, teaching, training, and directed research. Education can take place in formal or informal settings and any experience that has a formative effect on the way one thinks, feels, or acts may be considered educational. Education in creative field is always encouraging as it enriches culture, technology and civilization. Etymologically, the word "education" is derived from the Latin *ēducātiō* ("A breeding, a bringing up, a rearing") from *ēducō* ("I educate, I train") which is related to the homonym *ēducō* ("I lead forth, I take out; I raise up, I erect") from *ē-* ("from, out of") and *dūcō* ("I lead, I conduct"). Education began in prehistory, as adults trained the young in the knowledge and skills deemed necessary in their society.

Individual purposes for pursuing education can be different. Understanding the goals and means of educational socialization processes may also differ according to the sociological paradigm used. At the beginning education generally was focused around developing basic interpersonal communication and literacy skills. This made the foundation for more complex skills and subjects. Later, education usually turned toward gaining the knowledge and skills needed to create value and establish a livelihood. Education is perceived as the place where children can develop according to their unique needs and potentials. Education is a space that enables children to open up their mind through a gradual development both morally and intellectually. Education is one of the means of overcoming handicaps, achieving greater equality, and acquiring wealth and status for all. It is a place where a child can develop and find out the needs, talents and potentials.

As an academic field, philosophy of education is "the philosophical study of education and its problems (...) its central subject matter is education, and its methods are those of philosophy".

(Noddings, Nel (1995). *Philosophy of Education*. Boulder, CO: Westview Press. p. 1.)

"The philosophy of education may be either the philosophy of the process of education or the philosophy of the discipline of education. That is, it may be part of the discipline in the sense of being concerned with the aims, forms, methods, or results of the process of educating or being educated; or it may be meta-disciplinary in the sense of being concerned with the concepts, aims, and methods of the discipline."

(Frankena, William K.; Raybeck, Nathan; Burbules, Nicholas (2002). "Philosophy of Education".)

3.2 Necessity of education

Education is needed in our life and for our very futures. Education is required to:

- Earn own living. With evolving lifestyles and luxuries transcending into needs, it has become difficult for a person to maintain his/her family. Better education ensures better job and from better job comes better earning.
- Happiness abound Stable, balanced, self-dependent life.
- The Will to keep trying until success strikes.
- A longer disease free life for the younger generation. An educated person knows what to do during a health related problem. On the other hand, an uneducated person suffers in physical outbreak more.
- Economic growth of the nation.
- Imparts ability to work across genres and cultures.
- Ethical values that help make the world more peaceful.
- Avoiding societal embarrassment
- Forgoing baseless superstitions
- Reasoning against the illogical. With proper education people try to understand things with proper logic with all his knowledge he gained from adaptation and what he learned though out his life.
- Keeping up with evolutions
- Increase the awareness
- Exposure to the World

- Make a person wiser and confident. An educated person would listen to all, and do what suits him best. It is highly impossible to fool an educated person for it would take reasoning and logic to get him in the trap.
- A Healthier Lifestyle and living
- Adapting to newer techniques for productivity
- Makes self independent
- To turn dreams into reality
- Makes the world more safer and peaceful place.
- Equality

3.3 Process of education system

Education commonly is divided formally into such stages as preschool or kindergarten, primary school, secondary school and then college, university, or apprenticeship. The educational system in Bangladesh is three-tiered and highly subsidized. The government of Bangladesh operates many schools in the primary, secondary, and higher secondary levels. It also subsidizes parts of the funding for many private schools. In the tertiary education sector, the government also funds more than 15 state universities through the University Grants Commission. Tertiary education in Bangladesh takes place at 37 government, 80 private and 3 international universities.

3.4 Education system in Bangladesh

The access to education is a basic right for every citizen. Education must be universal. The current condition of education in Bangladesh is not good and very inefficient. In a matter of fact, the quality of education is decreasing day by day. The quality education and development of any country are involved inseparably. Unfortunately, the initiative taken to reduce this problem is not up to the level. As our education system is more focused on theoretical based and memory based, the level of creativity and talents are reducing rapidly. It is more like students are passing exams for grades only rather than gaining knowledge. There is no opportunity for flourishing creative power of students. The current method of studying is going through only selected questions and answering them. As a result, student is not even bothering to understand the answer, instead they

are just memorizing it. Moreover, the syllabuses followed in the education institutions in Bangladesh are not up to the standard and not designed for practical purpose. As a result the moment after the exam they forget everything they studied. True education means gathering knowledge not passing exam.

This process of education must be change for the future of next generation. As a result, our expectation for development remained an illusion. As for that we cannot keep up with the modern technology and civilization. Our people only have a skin which represents luxury life as we try to enrich our self with the power of money but the real deal should be the education which is the true identity of a developing country. Very less number of institutes is emerging throughout the city recently in the name of proper educative institute. Although they do try to at least maintain a good environment of education but mostly they are money centered. As a result many poor and middle income group of people cannot afford the expense. Specially, in the rural areas a very few student can graduate. The education sector faces challenges due to the drop-outs from schools because of poverty and stay out from school, shortage of educational institutions than the demand, low quality education system, inefficient teachers, faulty exam procedures, a shortage of quality in education and inadequate budget allocation for education sector. Bangladesh cannot become the middle income country if these challenges cannot be overcome in 2021, says World Bank reports.

According to a journal published in 09 June, 2014 in eduicon.com, total of 26,41,067 general and 3,28,326 madrasa students registered to sit for the exams in that year while the number of female examinees is higher than males. In 2012, the number of examinees rose by around 3.17 lac. According to the statistics of Directorate of Primary Education (DPE), around 37.89 lac students of different types of schools registered for enrolling class-I back in 2008 and of them 26.41 lac registered for this year's exams. The statistics shows around 30% students were dropped out from their academic life in different grades from I-V during the period of 2008-2012. According to Bangladesh Bureau of Educational Information and Statistics (BANBEIS), 39.8% students were dropped from education in 2010 while the rate was 45.1% and 49.3% in 2009 and 2008 although non-government organizations estimate the number much higher with 60.2%

in government primary schools (GPS) and 60% in Registered Non-Government Primary Schools (RNGPS) in 2011.

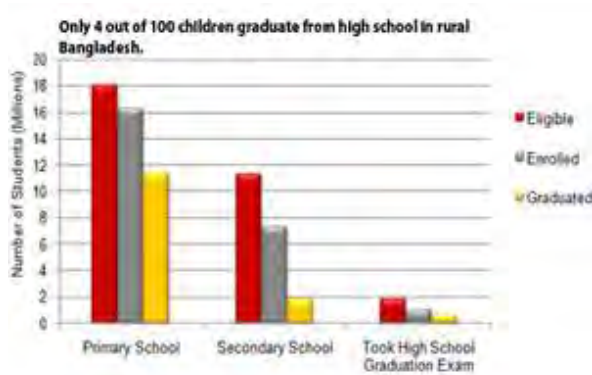


Figure 3.1: Education condition (BANBIES)

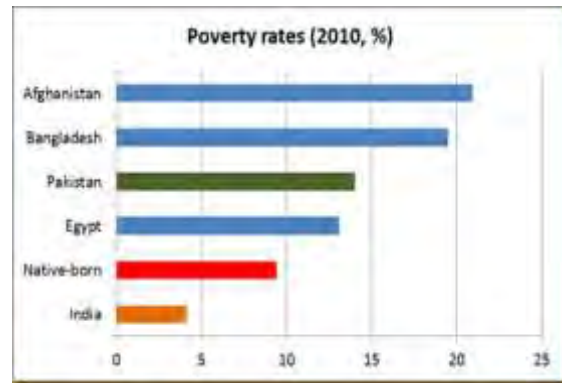


Figure 3.2: Poverty rate (BANBIES)

Lack of good teachers is also a big issue in recent time. In many areas, it is a common complaint that teachers come late and leave early, particularly in the remote ones. In many cases teachers get even angry when a student asks question or even advice to just memorize without explanation. So, teachers without an interest on creativity and ideology and the ability to bring or guide the best out of the student, getting a creative and talented student is very difficult.

3.5 Creative thinking in education

Creative thinking should be considered a higher priority in an educational curriculum. If children are to practice creative thinking from academic curriculum, they are to shine brighter in future in their life. In future life they are more efficient in work and is easy for them to lead to development. According to adobe US study "Creativity and education: why it matter", based on a study 85% percent of respondent agreed that creative thinking is critical for problem solving in their career and 68% believed that creativity is a skill that can be learned or enhanced through proper practice and nurture. Almost 9 out of 10 professionals agreed that creativity is required for economic growth and is valuable to society. The research included that majority of 78% wished that they were in

need of more creativity for their career building. Almost 91% creativity can be inherited in academic life.

3.6 Creativity

Creativity is a phenomenon whereby something new and somehow valuable is formed. The created item may be intangible (such as an idea, a scientific theory, a musical composition or a joke) or a physical object (such as an invention, a literary work or a painting). In a research done by adobe, US study people were asked to define creativity. Almost 68% of people replied —"thinking out of the box" or" ability to come up with innovative ideas".

"Creativity means bringing into being. It involves the generation of new things or ideas or the transformation of those previously existing. During the past decade, I developed the association integration-elaboration-communication phenomenological model of creativity" (Chávez, 1999, Chávez, 2004). In a summary of scientific research into creativity, Michael Mumford suggested: "Over the course of the last decade, however, we seem to have reached a general agreement that creativity involves the production of novel, useful products" (Mumford, 2003, p. 110).

—Creativity is the process of bringing something new into being. Creativity requires passion and commitment. It brings to our awareness what was previously hidden and points to new life. The experience is one of heightened consciousness: ecstasy."

– Rollo May, *The Courage to Create*

A product is creative when it is (a) novel and (b) appropriate. A novel product is original not predictable. The bigger the concept, and the more the product stimulates further work and ideas, the more the product is creative."

—Sternberg & Lubart, *Defying the Crowd*

The ways in which societies have perceived the concept of creativity have changed throughout history, as has the term itself. Under medieval Christianity, the Latin "creatio" came to designate God's act of "creatio ex nihilo" ("creation from nothing"); thus

"creatio" ceased to apply to human activities. The Middle Ages, however, went even further than antiquity, when they revoked poetry's exceptional status: it, too, was an art and therefore craft and not creativity.

The insights of Poincaré and von Helmholtz were built on in early accounts of the creative process by pioneering theorists such as Graham Wallas[20] and Max Wertheimer. In his work *Art of Thought*, published in 1926, Wallas presented one of the first models of the creative process. In the Wallas stage model, creative insights and illuminations may be explained by a process consisting of 5 stages:

- Preparation (preparatory work on a problem that focuses the individual's mind on the problem and explores the problem's dimensions),
- Incubation (where the problem is internalized into the unconscious mind and nothing appears externally to be happening),
- Intimation (the creative person gets a "feeling" that a solution is on its way),
- Illumination or insight (where the creative idea bursts forth from its preconscious processing into conscious awareness);
- Verification (where the idea is consciously verified, elaborated, and then applied).

3.7 Creativity in real life

Creativity is not only for artists. People use creativity every day in all kinds of ways. Creativity is the subset of intelligence. The creative process often starts with a spark of inspiration which is known as an idea. But inspiration alone is not enough for creating. Creativity requires hard work and patience to turn ideas into viable output. Workers increase their chances of success through planning, assessing, revising, and reflecting on their work. To focus and do effective use of time planning is important. It has been proved many ways by scientists that in a working or business field creative people are always the better than others. Creativity is viewed differently in different countries. For example, cross-cultural research centered on Hong Kong found that Westerners view creativity more in terms of the individual attributes of a creative person, such as their

aesthetic taste, while Chinese people view creativity more in terms of the social influence of creative people like what they can contribute to society. Then again a country like Africa has a rich heritage of creative pursuits such as music, art, and storytelling. Each of the country have their own unique type of sense of creativity which defines that nation and their culture. But creativity requires practice, risk taking, and trial and error. For this purpose, creating this sense of creativity with proper education has become more essential for the people of Bangladesh as there are a very few institutions which are providing these service.

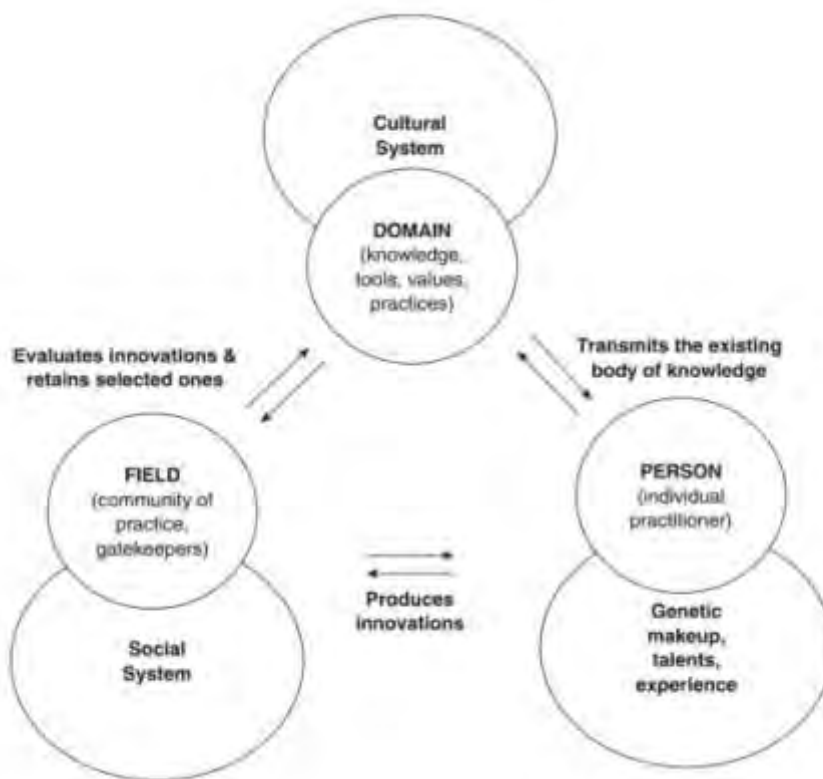


Figure 3.3: A systems model of creativity

(July 12, 2006, Mihaly Csikszentmihalyi, A systems perspective on Creativity)

In "Creativity at work" by Alan Barker stated that creativity starts with the foundation of knowledge, learning a discipline and mastering a way of thinking. A person can only learn to be creative by experimenting, exploring, questioning assumptions, using imagination and synthesizing information.

Studies by Clayton M. Christensen and his researchers uncovered in "**The Innovators DNA**" that a person's ability to generate innovative ideas is not merely a function of the mind, but also a function of five key behaviours that optimize his/her brain for discovery:

- **Associating:** drawing connections between questions, problems, or ideas from unrelated fields.
- **Questioning:** posing queries that challenge common wisdom.
- **Observing:** scrutinizing the behavior of customers, suppliers, and competitors to identify new ways of doing things.
- **Networking:** meeting people with different ideas and perspectives.
- **Experimenting:** constructing interactive experiences and provoking unorthodox responses to see what insights emerge.

3.8 Opportunities in creative fields:

- Art directors
- Craft artists
- Fine artists, including painters, sculptors, and illustrators
- Multimedia artists and animators
- Designers
- Commercial and industrial designers
- Fashion designers
- Floral designers
- Graphic designers
- Interior designers
- Set and exhibit designers
- Media and communication workers
- Editors
- Photographers
- Technical writers

- Writers and authors
- Architecture, and many more....

One of the influential jobs in creative field is Fashion design & technology. Fashion design is the art of application of design and aesthetics or natural beauty to clothing and accessories. Fashion design is influenced by cultural and social attitudes, and has varied over time and place. Fashion designers work in a number of ways in designing clothing and accessories such as bracelets and necklace. Because of the time required to bring a garment onto the market, designers must at times anticipate changes to consumer tastes. Fashion design is generally considered to have started in the 19th century with Charles Frederick Worth who was the first designer to have his label sewn into the garments that he created. Before the former draper set up his maison couture (fashion house) in Paris, clothing design and creation was handled by largely anonymous seamstresses, and high fashion descended from that worn at royal courts. Worth's success was such that he was able to dictate to his customers what they should wear, instead of following their lead as earlier dressmakers had done. The term couturier was in fact first created in order to describe him. While all articles of clothing from any time period are studied by academics as costume design, only clothing created after 1858 is considered as fashion design. It was during this period that many design houses began to hire artists to sketch or paint designs for garments. The images were shown to clients, which was much cheaper than producing an actual sample garment in the workroom. If the client liked their design, they ordered it and the resulting garment made money for the house. Thus, the tradition of designers sketching out garment designs instead of presenting completed garments on models to customers began as an economy.

Graphic design is the process of visual communication and problem-solving through the correct use of typography, space, image and color. The field is considered a subset of visual communication and communication design, but sometimes the term "graphic design" is used interchangeably with these due to overlapping skills involved. Graphic designers use various methods to create and combine words, symbols, and images to

create a visual representation of ideas and messages. A graphic designer is able to use a combination of typography, visual arts, and page layout techniques to produce a final result. Graphic design often refers to both the process (designing) by which the communication is created and the products (designs) which are generated. Common uses of graphic design include identity (logos and branding), publications (magazines, newspapers and books), print advertisements, posters, billboards, website graphics and elements, signs and product packaging.

Computer science is the scientific and practical approach to computation and its applications. It is the systematic study of the feasibility, structure, expression, and mechanization of the methodical procedures (or algorithms) that underlie the acquisition, representation, processing, storage, communication of, and access to information. An alternate, more succinct definition of computer science is the study of automating algorithmic processes that scale. A computer scientist specializes in the theory of computation and the design of computational systems.

Interior design is the art and science of enhancing the interiors, sometimes including the exterior, of a space or building, to achieve a healthier and more aesthetically pleasing environment for the end user. An interior designer is someone who plans, researches, coordinates and manage such projects. Interior design is a multifaceted profession that includes conceptual development, space planning, site inspections, programming, research, communicating with the stakeholders of a project, construction management, and execution of the design. Interior design is the process of shaping the experience of interior space, through the manipulation of spatial volume as well as surface treatment for the betterment of human functionality.

Architecture (Latin *architectura*, from the Greek ἀρχιτέκτων *arkhitekton* "architect", from ἀρχι- "chief" and τέκτων "builder") is both the process and the product of planning, designing, and constructing buildings and other physical structures. Architectural works, in the material form of buildings, are often perceived as cultural symbols and as works of art. Historical civilizations are often identified with their surviving architectural achievements. "Architecture" can mean:

- A general term to describe buildings and other physical structures.
- The art and science of designing buildings and (some) nonbuilding structures.
- The style of design and method of construction of buildings and other physical structures.
- The knowledge of art, science & technology and humanity.
- The practice of the architect, where architecture means offering or rendering professional services in connection with the design and construction of buildings, or built environments.
- The design activity of the architect, from the macro-level (urban design, landscape architecture) to the micro-level (construction details and furniture).

3.9 Environment for creativity:

Kathleen D. Vohs, a professor at the University of Minnesota Carlson School of Management and the lead researcher of the study, writes, —Big creative is aided by breaking away from tradition, order, and convention and a disorderly environment seems to help people do just that.”

John Cleese made a tortoise theory which is human creativity is like a tortoise. At first tortoise always poke his head out to see if the environment around him his suitable or not. If it is then it will spread out its head and leg and run wild. Human creativity has a similar condition. A person seeks for a suitable environment where he/she can go all out with his talent and creative mind. If the environment is full of enclosures then creative thinking gets difficult. Even Archimedes did not find the answers to his questions until he went to the tub and discovered the famous Law's of Archimedes.

Environment can effect a brain very much. In an experiment it is found that the people who are bound in an enclosed office with deskwork who has less opportunity to work outside are less creative and have more black and white thinking. On the other hand people with fieldwork and outside of desk are more creative. Environment with heat

conditions be tiring for a person and again environment with green trees can create mental calmness.

Creativity can function better when the environment is favorable to the person also can be described as creative environment. A creative environment is one where people feel comfortable in expressing their ideas and where constructive support is given in the development and analysis of those ideas.

People are in a creative environment when:

- Their ideas are listened to and investigated before being judged.
- They feel appreciated when they suggest new ideas.
- They can suggest solutions to other groups without feeling like they are intruding.
- Their manager spends time with them and explains the reasons and politics behind projects.
- They are given the freedom to do their work in their own way.
- They are not observed or judged all the time.
- They do not have to pass all of their messages through their manager.
- Experimental methods are encouraged.
- They feel comfortable talking with anyone in their organization (top managers included).
- They feel comfortable talking to their subordinates without having to order them about.
- There is someone that will listen to their ideas.
- The generation of good ideas is rewarded, verbally or otherwise.
- They are treated with respect and as someone who can contribute to the organization.
- They are appreciated for what they do.
- They are appreciated for who they are.

If an Institute can provide a healthy environment which favors the mental and physical condition of a person creative thinking is sure to be flourished.

3.10 University

A university (Latin: universitas, "a whole", "a corporation") is an institution of higher (or tertiary) education and research which grants academic degrees in various subjects. Universities typically provide undergraduate education and postgraduate education. The word "university" is derived from the Latin universitas magistrorum et scholarium, which roughly means "community of teachers and scholars." The original Latin word "universitas" refers in general to "a number of persons associated into one body, a society, company, community, guild, corporation, etc. For a student university is an vital stage of life. So an University can be the perfect field of where a person can enrich his or her ability and sense of creativity. In university a student can practice hard and soul and continue on risk taking, and trial and error process which will ensure to judge properly in any situation or creative job field in future life.

University education is more than the next level in the learning process. It is a critical component of human development worldwide. It provides not only the high-level skills necessary for every labor market but also the training essential for teachers, doctors, nurses, civil servants, engineers, humanists, entrepreneurs, scientists, social scientists, and a myriad of other personnel. It is these trained individuals who develop the capacity and analytical skills that drive local economies, support civil society, teach children, lead effective governments, and make important decisions which affect entire societies. University is important because-

- Education invests in the future of a person
- Makes a person more noticeable to today's job market
- It helps to gain professional skill more than qualification
- Creates more opportunity to pursue one's interest in more depth
- Contributes to the knowledge of the world
- It makes connections.
- It helps to increase a person's financial prospects
- Help a person to get academic recognition
- Creates the competitive field and give the sense of future competition

- Gaining an international recognizable qualification

Shanto-Marium Academy acknowledge the idea of combination of education and creativity through an University. The aim is to simply enrich our culture, technology and civilization with creative minds of Bangladesh.

Chapter 4: Case study

4.1 Case Study 01: North South University

The zoning of the university is main reason to pick this project.

4.1.1 Background of the project

Location : Bashundhara, Dhaka

Site Area : 5.5 Acre site

Floor Area : 898,000 sq ft

Client : North South University

Construction : January 30, 2003

Completed : 2009

Opened : June 9, 2009



figure 4.1.1: North South University



figure 4.1.2: North South University Location

4.1.2 Location

Plot 15, Block B, 1229, Dhaka

it is located in Bashundhara, Dhaka, Bangladesh

4.1.3 History

The government of Bangladesh approved the establishment of North South University in 1992 under the Private University Act (PUA) 1992. The university was formally inaugurated on February 10, 1993 by the Prime Minister of Bangladesh. At first intake 137 students enrolled to the university. At the beginning there was only three department which are Business administration, Computer science and Economics. Later other subjects were introduced. The university, where the language of instruction is English, offers a number of Undergraduate and Masters degrees in the fields of Business Administration, Computer Science, Environmental Studies (DES), General and Continuing Education (GCE), Electrical and Telecommunications Engineering, Electrical and Electronic Engineering , Life Sciences, Pharmacy, Environmental Management, Economics, English, Architecture, etc. The campus is designed to serve at least 15,000 students.

4.1.4 Objectives

- The largest university of Dhaka in private sector.
- How it works in urban context and its function.
- Providing appropriate physical facilities including classroom, labs and library with state of the art educational technology
- Supporting co-curricular and extra-curricular activities

4.1.5 Design Consideration

- Required total built up area of 8, 98,000 sft on 5.5 acre site which leads to vertical development.
- There is a flight plan limitation which leads to a height limitation of 110 ft.
- The campus is designed to serve at least 15,000 students.
- The is in between high-rise buildings.

4.1.6 Concept

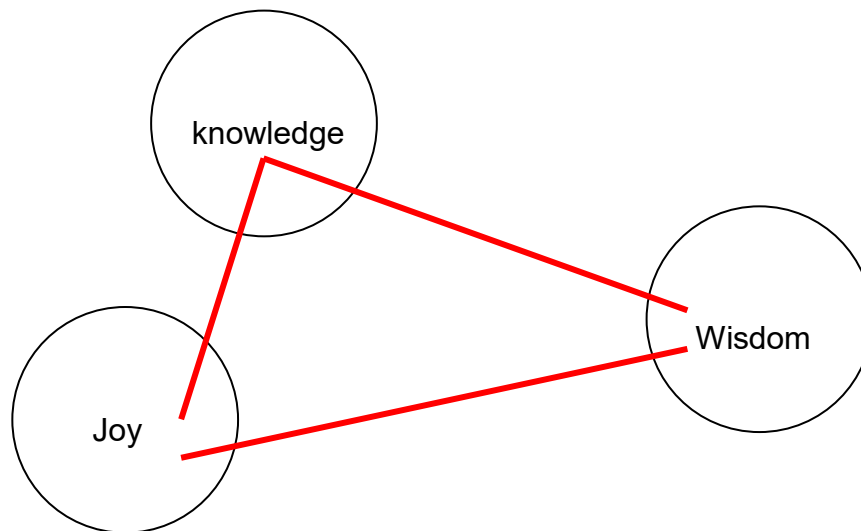


Figure 4.1.3: concept diagram of north south university

- The design is evolved around one guiding theme of having a vast open space at the contracting as the main hub of campus and come alive with a life of its own with the most important occupants, the students.
- Administration and prayer hall at the two ends of east-west axis respectively having the academic blocks named North and South block.
- Administration and admission at east having direct access for all and also acts as the head campus accommodating governing body and faculty- the beginning of learning, the true essence of wisdom.
- For universal access one level site platform sloped up from road.
- A raised plaza approached by grand steps and landscaped features around with the welcoming gesture of the auditorium gives a person the warm feeling of arrival.
- This plaza opens a view to the central open space of the university and into the heart of student activity.
- Various entrances for outside visitors considering direct access for students to their academic blocks.



Figure 4.1.4: Conceptual sketch



Figure 4.1.5: Conceptual sketch

(collected from a report by K.M. Alam Kaiser student of NSU)

4.1.7 Zoning

Vertical Zoning

- Basement and services
- Administration building
- Academic block (north)
- Academic block (south)
- Library
- Auditorium building



Figure 4.1.6: Vertical Zoning

Horizontal Zoning

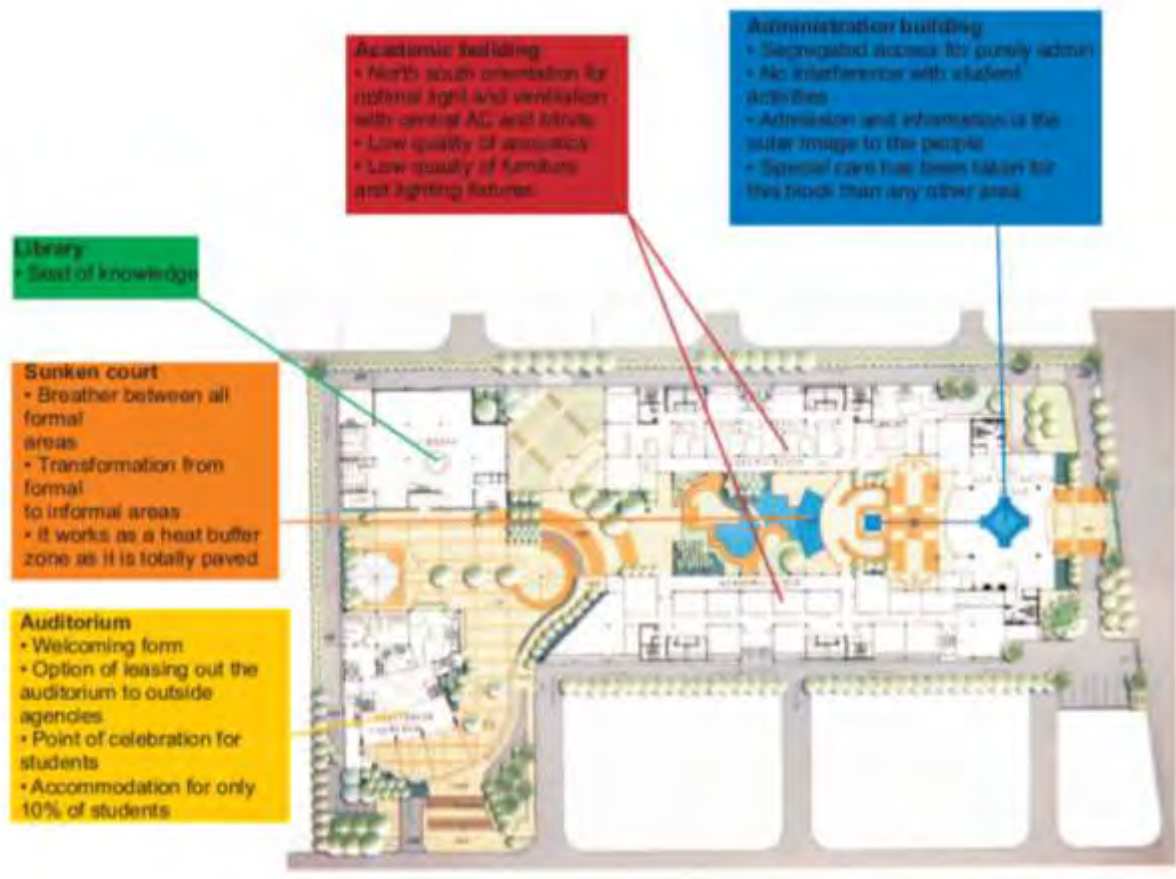


Figure 4.1.7: Horizontal Zoning

(collected from a report by K.M. Alam Kaiser student of NSU)

Admin building:

- Ground floor – entrance lobby, information desk
- First floor – registrar/faculty/lounge and cafeteria
- Second floor – registrar / accounts / administration and engineering department
- Third floor – VC's office/service and alumni offices
- Fifth floor – guest rooms
- Conceived as a square block with diagonally placed service cores
- The dome of this block marks the beginning of axis and gives a grand entry for officials and external visitors

- Administration block is self-sufficient and introvert planned
- A link is kept between academic block to administration

Vertical zoning (Academic building)

- Ground and first floor – class room and examination hall
- Second floor – class room and laboratory
- Third floor – laboratories and student activity center
- Fourth, Fifth, sixth, seventh and eighth floor – individual departments

Vertical zoning (Library building)

- Lower plaza level – swimming pool
- Upper plaza level and mezzanine floor –students center
- Second and third floor – main library
- Fourth and fifth floor – information system center
- Sixth and seventh floor – information system center
- Eighth and ninth floor – Architecture department
- Library is at the end of east-west axis with separate entrance to cafeteria and health facility
- Maximum glazing to have maximum light at the interior
- The ground floor and the mezzanine floor has been dedicated students center
- Department of architecture is on the top of library building

Vertical zoning (Auditorium)

- Lower plaza level – swimming pool
- Upper plaza level– students center
- Second and third floor – main library
- Fourth and fifth floor – information center
- Sixth and seventh floor – information center
- Eighth and ninth floor – Architecture department
- Auditorium will serve both the internal and external affair

- Grand entry and structural elements creates an image of welcoming environment
- Accommodation is not sufficient for students

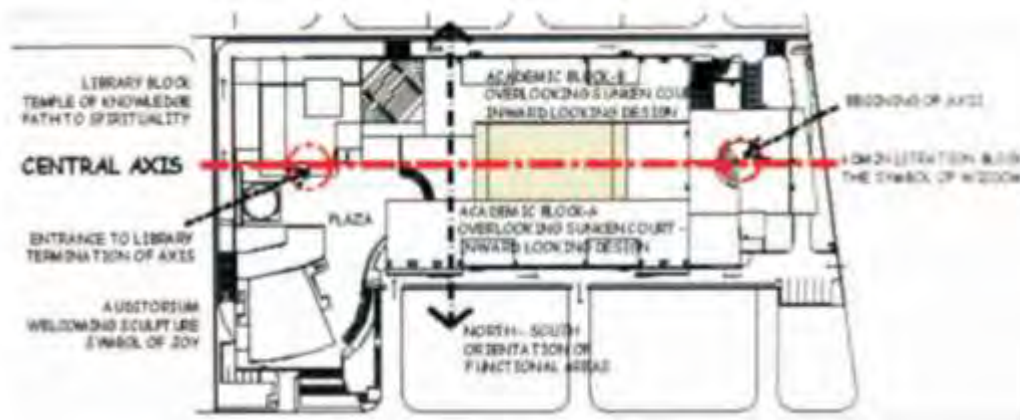


Figure 4.1.8: central axis

4.2 Case study 02: Bosco verticale

4.2.1 Background of the project

Location : Milan Italy

Total Area : 30,501 square meters

Floor Area : 360,000 square meters (3,900,000 sq ft)

Client : Hines Italia SGR SpA per conto del Fondo Porta Nuova Isola

Architect : Boeri Studio: Stefano Boeri, Gianandrea Barreca, Giovanni La Varra

Height : 110 metres (360 ft) and 76 metres (249 ft)

Awards : International High-rise Award 2014

and prizes

Construction : 2009

Completed : 2014

Opened : 17 October 2014



Figure 4.2.1: Bosco verticale, Milan Italy (from google)

4.2.2 Location

Bosco Verticale (Vertical Forest) is a pair of residential towers in the Porta Nuova district of Milan, Italy, between Via Gaetano de Castilia and Via Federico Confalonieri near Milano Porta Garibaldi railway station.



Figure 4.2.2: location (collected from google map)

4.2.3 Concept & Form

The project was designed as part of the rehabilitation of the historic district of Milan between Via De Castillia and Confalonieri. It consists of two residential towers of which the largest is 26 floors and 110 meters high (called Torre E) and the smaller tower is 18 floors and 76 meters high (called Torre D). It contains 400 condominium units. It is called Bosco Verticale because each tower houses trees between three and six meters which help mitigate smog and produce oxygen. It is also used to moderate temperatures in the building in the winter and summer. The plants also attenuate noise. The design was tested in a wind tunnel to ensure the trees would not topple from gusts of wind. Botanists and horticulturalists were consulted by the engineering team to ensure that the structure could bear the load imposed by the plants. The steel-reinforced concrete balconies are designed to be 28 cm thick, with 1.30 metre parapets. According to the architect of Bosco Vertice, Stefano Boeri, The project "represents a different idea of sustainability" (Giacomello 2014). There is a composition of different type and height of greens which creates a rich biodiversity. Trees, shrubs and herbs with flowers, berries and seeds present in a large quantity produces a natural support to the plants themselves. A total of 730 trees between 3m to 6m in height, almost 5000 shrubs and 11000 floral plants has been planted on the terraces up to the 27th floor.

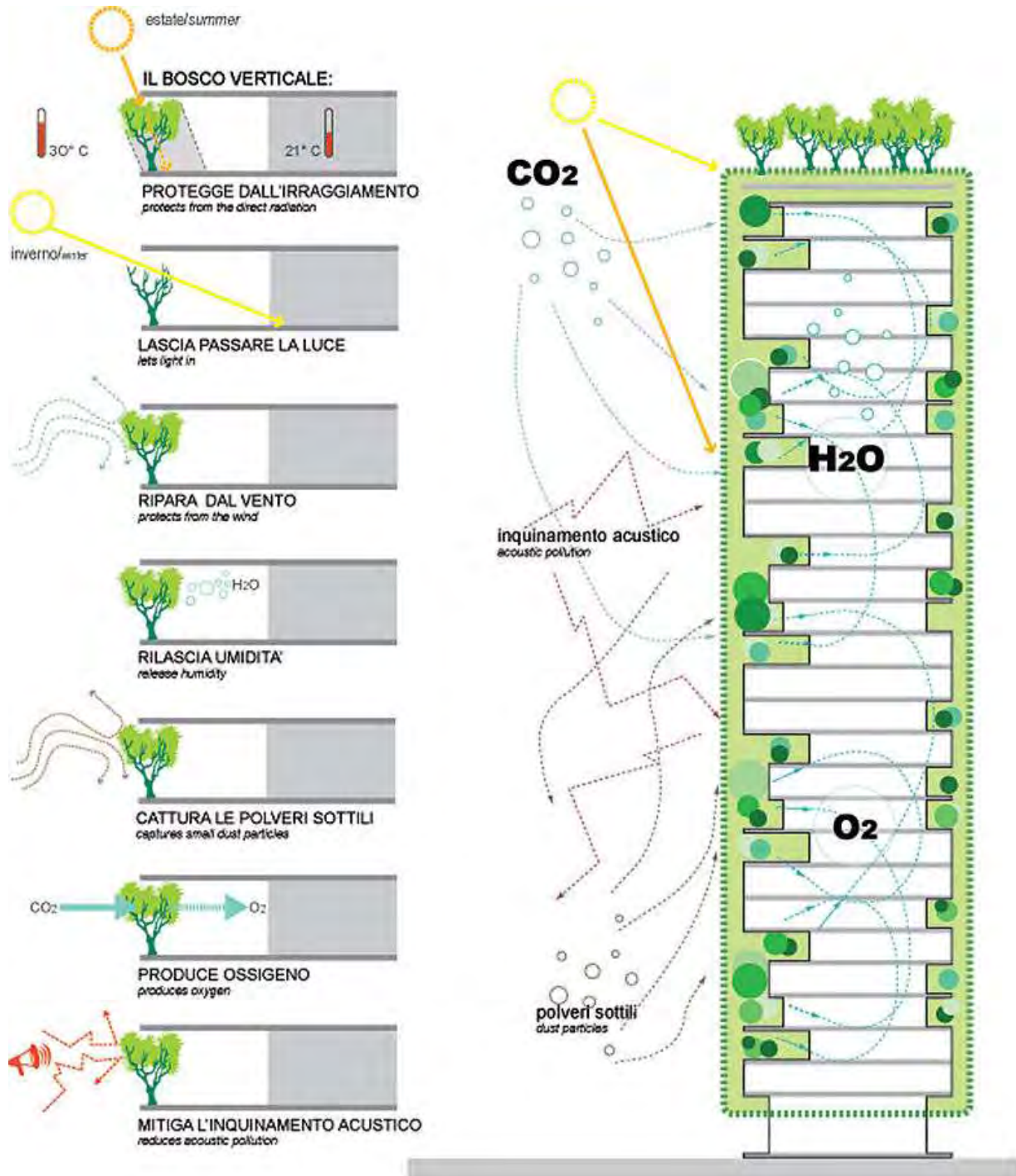


Figure 4.2.3: Bosco Verticale life cycle concept. Stefano Boeri Architetti
 (<http://www.stefanoboeriarchitetti.net/en>)

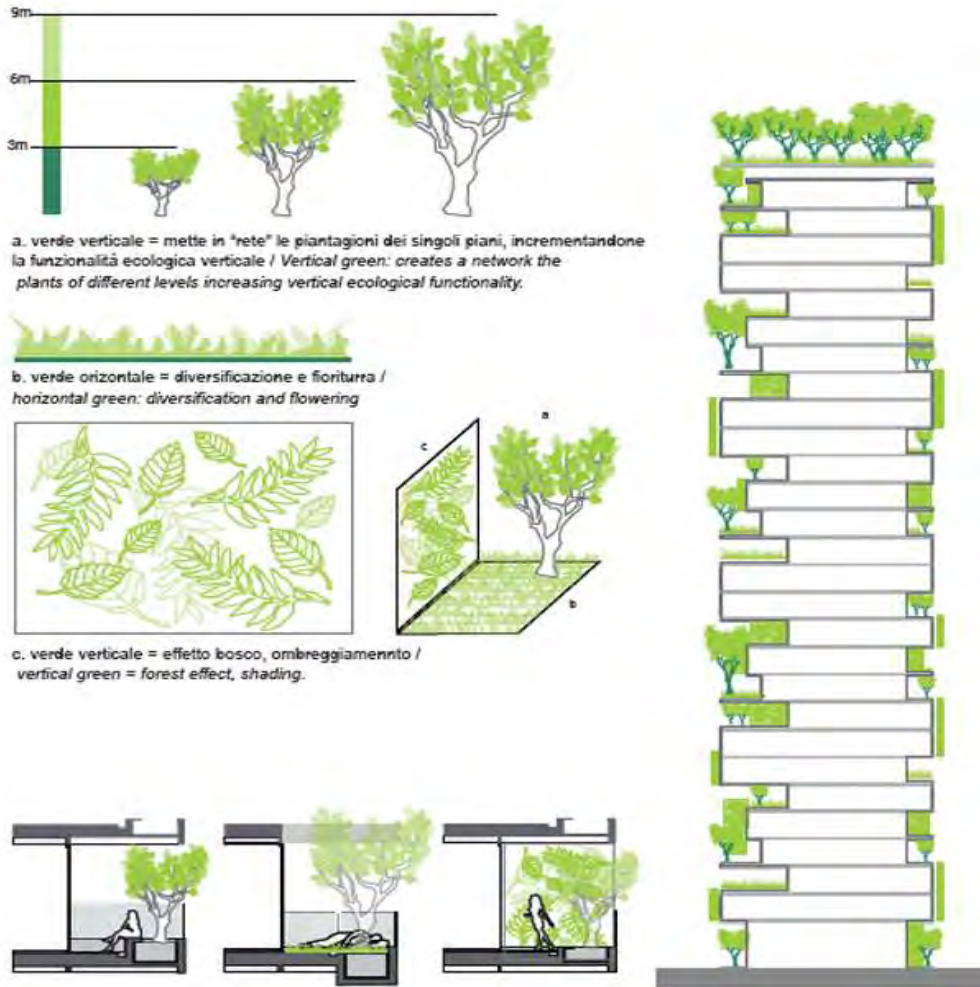


Figure: Bosco Vertice life cycle concept. Stefano Boeri Architetti



Figure 4.2.4: Bosco Vertice life cycle concept. Stefano Boeri Architetti
<http://www.stefano boeriarchitetti.net/en/>

4.2.4 Structure & Form

the whole structure is made of **concrete**, columns are of **reinforced concrete** and the floors are **post-tensioned reinforced concrete**. To follow the desired characters of the building following factors were important:

1. The gravity loads of the tree and soil.
2. The 3 meter deep cantilevered terrace.
3. The unsupported corners
4. The dynamic load of wind
5. It's effect on the trees' stability and security



Figure 4.2.5: Typical plan showing the terrace with cantilevered from the main tower plans

Figure 4.2.6: Detailed section showing cantilevered terrace

(CTBUH research report: Bosco Verticale, *A urban forest rises in Milan*, 2015)

A botanic analysis obtained the height of the trunk, the surface area, the center of the canopy and the air permeability of each of the selected species. Three level of sustainable devices are designed and verified in wind tunnel facilities to provide highest

safety. The foliage acts to improve air quality by filtering out dust and sequestering carbon, while also mitigating the urban heat island effect and reducing noise pollution.

In terms of form the whole structure is a rectangular shaped buildings with extended terraces. There is a rectangular glass structure at the exterior side. The black exterior wall is made of concrete. From inside each. The building is equipped with Aeolian and photovoltaic energy systems and trees will watered by gray water the building produce.



4.2.5 Functions & other issues

- The project was set to create a new standard for sustainable environment.
- The exterior plantation keeps the direct heat from getting inside the rooms, thus making them cool.
- the plants produce oxygen and humidity and absorb CO₂ and dust particle, thus improving the surrounding environment.
- The biological architect relies on a screen of vegetation, needing to create a suitable microclimate and filter sunlight, and rejecting the narrow technological and mechanical approach to environmental sustainability.
- The Vertical Forest increases biodiversity. It promotes the formation of an urban ecosystem where various plant types create a separate vertical environment, but which works within the existing network, able to be inhabited by birds and insects (with an initial estimate of 1,600 specimens of birds and butterflies). In this way, it constitutes a spontaneous factor for repopulating the city's flora and fauna.

- Protects against radiation and noise pollution.
- The Vertical Forest is an ever-evolving landmark of the city, whose colours change depending on the season and the different natures of the plants used. This offers Milan's population an ever-changing view of the city.
- It is playing a major role in beautification.

Disadvantages: Maintenance of the green must be properly taken care of. Maintenance cost for the green may get high if not properly dealt and the process may be long.

Chapter 5: Program Development

5.1 Program rationale:

The program of the Shanto-Marium University of Creative Technology includes eight departments:

- Department of Fashion design & technology
- Department of Graphic Design & Multimedia
- Department of Interior Architecture
- Department of Architecture
- Department of CSE/ CSIT
- Department of Business Administration
- Department of English
- Department of Law

All the department requires offices for operating and a departmental headroom which is at least of 150 sft and about 25 sft is needed for per teacher. There is also space for teachers common room and storage to contain essential files and documents.

A workshop space is necessary for students of architecture and fashion designing.

There is also a need of a library for 350 students. For sitting about 5250 sft space is needed considering the fact that the per student needs 15 sft for sitting.

An exhibition gallery is provided for the students to display their work which will be around 8000 sft.

A central cafeteria will serve as the secondary common space for everyone. For 200 sitting 4000sft space is needed. There will be also a indoor game space for the student with will include bowling, billiard and table tennis.

For a capacity of 800 student there is a auditorium of 12000 sft. All the cultural event, Fashion show or other programs can be performed here.

The administration block will have the control over the university. It will have Reception & Admission Office, Foundation Office, VC's office, Registrar's Office, Office Controller of Exam, Proctor & Director room, Student Welfare, Treasurer's Office, Accounts Office and more.

5.2 Programmatic layout and space provided for each function:

5.2.1 Departments

Department of Fashion Design & technology							
Function	No	Detail	Room no.	Use		Area (sft) per	Area
				Student (per)	Staff		
Bachelor of art (HONS) in Fashion Design & technology and Bachelor of Art (HONS) in Apparel Manufacturing technology & Management	1	Head of the department	1		1	150	
	2	Attach toilet	1		1	30	
	3	Coordinator	1			120	
	4	Computer Operator	2				
	5	Personal Secretary	1		1	120	
	6	Common space	1				
	7	Teachers room	4		50	600	1200
	8	Teachers toilet	4		40		
	9	Meeting room	1			600	
	10	Lecture room	12	60		1200	14400
	11	Lecture room	6	30		600	3360
	12	Pattern Laboratory	10	30		1200	12000
	13	Sewing Laboratory	8	30		1200	9600
	14	Color Laboratory	2	30		1200	2400
	15	Textile Laboratory	2			1200	2400
	16	Print shop	1				
	17	Sample room	1				
	18	CAD/ CAM LAB	4	30		1200	4800
	19	Departmental library	1			600	
	20	Lab in charge	1		2	160	
	21	Lab operator	1		1	140	
	22	Wash room	1				
	23	Record room	1		1	140	
	24	Tea preparation room	1				
	25	Teachers dining room	1			560	
	26	Staff seating area	1				

	27	Common lobby for student and visitor	1				
	28	Common toilet (male & female)	2+2				
						Total	52500

Department of graphic design & multimedia							
Function	No	Detail	Room no.	Use		Area (sft) per	Area
				Student (per)	Staff		
Bachelor of art (HONS) in Graphic Design & Multimedia	1	Head of the department	1		1	150	
	2	Attach toilet	1		1	30	
	3	Coordinator	1			120	
	4	Computer Operator	1				
	5	Personal Secretary	1		1	120	
	6	Common space	1				
	7	Teachers room	2		30	600	1200
	8	Teachers toilet	4		20		
	9	Meeting room	1			600	
	10	Lecture room	6	60		1200	7200
	11	Printmaking studio	1	30		1200	1200
	12	Typography Studio	1	30		1200	1200
	13	Computer LAB	3	30		1200	3600
	14	Animation LAB	1	30		1200	1200
	15	Chroma studio	1			600	
	16	Audio studio	1			600	
	17	Video Editing panel	1	30		1200	1200
	18	Departmental library	1			600	
	19	Lab in charge	1		4	120	
	20	Lab operator	3		2	120	
	21	Record room	1		1		
	22	Teachers dining room	1			600	
	23	Staff seating area	1				
	24	Common lobby for student and visitor	1				
	25	Common toilet (male & female)	2+2				
					Total	23000	

Department of Interior Architecture							
Function	No	Detail	Room no.	Use		Area (sft) per	Area
				Student (per)	Staff		
Bachelor of art (HONS) in Interior Architecture	1	Head of the department	1		1	150	
	2	Attach toilet	1		1	30	
	3	Coordinator	1			120	
	4	Computer Operator	1				
	5	Personal Secretary	1		1	120	
	6	Common space	1				
	7	Teachers room	2		20	300	600
	8	Teachers toilet	4		20		
	9	Meeting room	1			560	
	10	Lecture room	4	30		1200	4800
	11	Design studio	6	30		1200	7200
	12	Model making room	1	30		1200	1200
	13	Computer LAB	1	30		1200	1200
	14	Lab in charge	1		2	120	
	15	Lab operator	1		1	120	
	16	Record room	1		1		
	17	Departmental library	1				
	18	Jury/ Display area	1				
	19	Teachers dining room	1			600	
	20	Storage room	1			150	
	21	Common lobby for student and visitor	1				
		Common toilet (male & female)	2+2				
					Total		18000

Department of Architecture							
Function	No	Detail	Room no.	Use		Area (sft) per	Area
				Student (per)	Staff		
Bachelor of art (HONS) in Architecture	1	Head of the department	1		1	150	
	2	Attach toilet	1		1	30	
	3	Coordinator	1			120	
	4	Computer Operator	1				
	5	Personal Secretary	1		1	120	
	6	Common space	1				
	7	Teachers room	2		20	300	600
	8	Teachers toilet	4		20		
	9	Meeting room	1			600	
	10	Lecture room (20sft/student)	4	30		900	3600
	11	Design studio	8	30		1200	8960
	13	Computer LAB (30sft/student)	1	30		1200	1200
	14	Lab in charge	1		2	120	
	15	Lab operator	1		1	120	
	16	Record room	1		1	600	
	17	Departmental library	1			600	
	18	Jury/ Display area	1				
	19	Teachers dining room	1			600	
	20	Storage room	1			150	
	21	Common lobby for student and visitor	1				
			Common toilet (male & female)	2+2			
					Total	18000	

Department of CSE/CSIT							
Function	No	Detail	Room no.	Use		Area (sft) per	Area
				Student (per)	Staff		
Bachelor of science (HONS) in Computer science &	1	Head of the department	1		1	150	
	2	Attach toilet	1		1	30	
	3	Coordinator	1			120	
	4	Computer Operator	1				
	5	Personal Secretary	1		1	120	

engineering and computer science & information technology	6	Common space	1				
	7	Teachers room	2		30	450	900
	8	Teachers toilet	4		20		
	9	Meeting room	1			600	
	10	Lecture room	6	60		1200	6720
	11	Digital Logic design LAB	1	30		1200	1200
	12	Micro processor LAB	1	30		1200	1200
	13	Computer LAB	3	30		1200	3360
	14	Electrical & electronic LAB	1	30		1200	1200
	15	Physics LAB	1	30		1200	1200
	16	Circuit LAB	1	30		1200	1200
	17	Computer Networking LAB	1	30		1200	1200
	18	Lab attendant	4		4	120	
	19	Lab operator	1		2	120	
	20	Record room	1		1	600	
	21	Departmental library	1			600	
	22	Staff seating area	2				
	23	Teachers dining room	1			600	
	24	Storage room	1				
	25	Common lobby for student and visitor	1				
	26	Common toilet (male & female)	2+2				
						Total	21500

Department of Business Administration							
Function	No	Detail	Room no.	Use		Area (sft) per	Area
				Student (per)	Staff		
Bachelor of Business Administration	1	Head of the department	1		1	150	
	2	Attach toilet	1		1	30	
	3	Coordinator	1			120	
	4	Computer Operator	1				
	5	Personal Secretary	1		1	120	
	6	Common space	1				
	7	Teachers room	4		40	300	1200
	8	Teachers toilet	2		20		
	9	Meeting room	1			600	
	10	Lecture room	8	60		1200	9600
	11	Computer LAB	1	30		1200	1200
	12	Lab in charge	1		2	160	

	13	Lab operator	1		1	120	
	14	Record room	1		1	120	
	15	Departmental library	1			600	
	16	Staff seating space	2				
	17	Teachers dining room	1			600	
	18	Common lobby for student and visitor	1				
	19	Common toilet (male & female)	2+2				
					Total		15000
Master of Business Administration	1	Teachers room	1		15	600	600
	2	Teachers toilet	1		15	30	
	3	Class room	4	60		1200	7200
	4	Record room	1		1		
	6	Common lobby for student and visitor	1				
	7	Common toilet (male & female)	4				
						Total	

Department of English							
Function	No	Detail	Room no.	Use		Area (sft) per	Area
				Student (per)	Staff		
B.A. (HONS) and M.A. in English)	1	Head of the department	1		1	150	
	2	Attach toilet	1		1	30	
	3	Coordinator	1			120	
	4	Computer Operator	1				
	5	Personal Secretary	1		1	120	
	6	Common space	1				
	7	Teachers room	1		30	720	
	8	Teachers toilet	6		30		
	9	Meeting room	1			600	
	10	Class room	12	30		600	7200
	11	Computer LAB	1	30		1200	1200
	12	Lab in charge	1		2	120	
	13	Lab operator	1		1	120	
	14	Record room	1		1	600	
	15	Departmental library	1			600	

	16	Staff seating space	1				
	17	Teachers dining room	1			600	
	18	Common lobby for student and visitor	1				
	19	Common toilet (male & female)	2+2				
						Total	12000

Department of Law							
Function	No	Detail	Room no.	Use		Area (sft) per	Area
				Student (per)	Staff		
Bachelor of Law (Honours) (LLB)	1	Head of the department	1		1	150	
	2	Attach toilet	1		1	30	
	3	Coordinator	1			120	
	4	Computer Operator	1				
	5	Personal Secretary	1		1	120	
	6	Common space	1				
	7	Teachers room	1		20	600	
	8	Teachers toilet	2		20		
	9	Meeting room	1			600	
	10	Class room	8	30		600	4800
	11	Computer LAB	1	30		1200	1200
	12	Lab in charge	1		2	120	
	13	Lab operator	1		1	120	
	14	Record room	1		1	600	
	15	Departmental library	1			600	
	16	Staff seating space	1				
	17	Teachers dining room	1			600	
	18	Common lobby for student and visitor	1				
	19	Common toilet (male & female)	2+2				
					Total	10000	

5.2.2 Administration

Function	No	Detail	Room no.	Use	Area (sft) per	Area
Reception & admission office	1	Reception/ Visitor	2			
	2	Pro	6			
	3	Counseling room	4	4	140	560
	4	Computer Operators	1	4	140	
	5	Account/Payment of fees	1	4	280	
	6	Student temporary record room	2		280	560
	7	Document processing room	2		280	560
	8	Store	2		280	560
	9	Deputy registrar's room	1	1	140	
	10	Attached toilet	1		30	
				total		3000

Block- 1						
Function	No	Detail	Room no.	Use	Area (sft) per	Area
Foundation Office	1	Chairman's office	1	1	240	
	2	Attached Toilet	1	1	40	
	3	PA & visitors		3	160	
	4	Director's office	8	8	140	1120
	5	Committee meeting room	1	20	600	
	6	Secretary office	1	1	140	
	7	Conference room	1	50	1200	
	8	Record room	1	1	280	
	9	Office lobby	1			
	10	Information & reception	1			
	11	Catering	1			
	12	Dining area	1		560	
	13	Tea prep room	1			
	14	Wash room/Toilet	4			
	15	Store	1		140	
				total		5000

Block- 2						
Function	No	Detail	Room no.	Use	Area (sft) per	Area
VC's office	1	VC's room	1	1	200	
	2	Attached toilet	1	1	40	
	3	PA & visitors	2		200	
	4	Pro VC's room	1	1	200	
	5	Attached toilet	1	1	40	
	6	PA & visitors	2		200	
	7	Visitors Waiting room	1		200	
	8	Co-ordinate Officer	1	2	200	
	9	Student record room	1		200	
	10	Conference room	1	40	1200	
	11	Office lobby	1			
	12	Information & reception	1		600	
	13	Tea preparation room	1			
	14	Wash room	2			
				total		4000

Block- 3						
Function	No	Detail	Room no.	Use	Area (sft) per	Area
Registrar's Office	1	Registrar's room	1	1	200	
	2	Attached toilet	1	1	40	
	3	PA & visitors	1		200	
	4	Visitors waiting	1		200	
	5	Joint registrar	1	1	200	
	6	Attached toilet	1		40	
	7	Deputy Registrar	3	6	200	600
	8	Assistant Registrar	2	4	200	400
	9	Computer operators	1	2	200	
	10	Section officers	2	4	200	400
	11	Store	1		150	
	12	File/ record room	2		600	360
	13	Document processing room	1		400	
	14	Common toilet	2			
				total		4000
Office controller of exam	1	Head controller	1	1	200	
	2	Attached toilet	1	1	40	
	3	PA & visitors	1		200	

	4	Visitors waiting	1		200	
	5	Deputy controller, senior	1	1	200	
	6	Attached toilet	1		40	
	7	Deputy controller	3	6	200	600
	8	Assistant controller	2	4	200	400
	9	Computer operators	2		200	400
	10	Section Officers	2	6	200	400
	11	Store	1		200	
	12	File/ record room	2		200	400
	13	Document processing room	1		200	
	14	Common toilet	2			
				total		4000

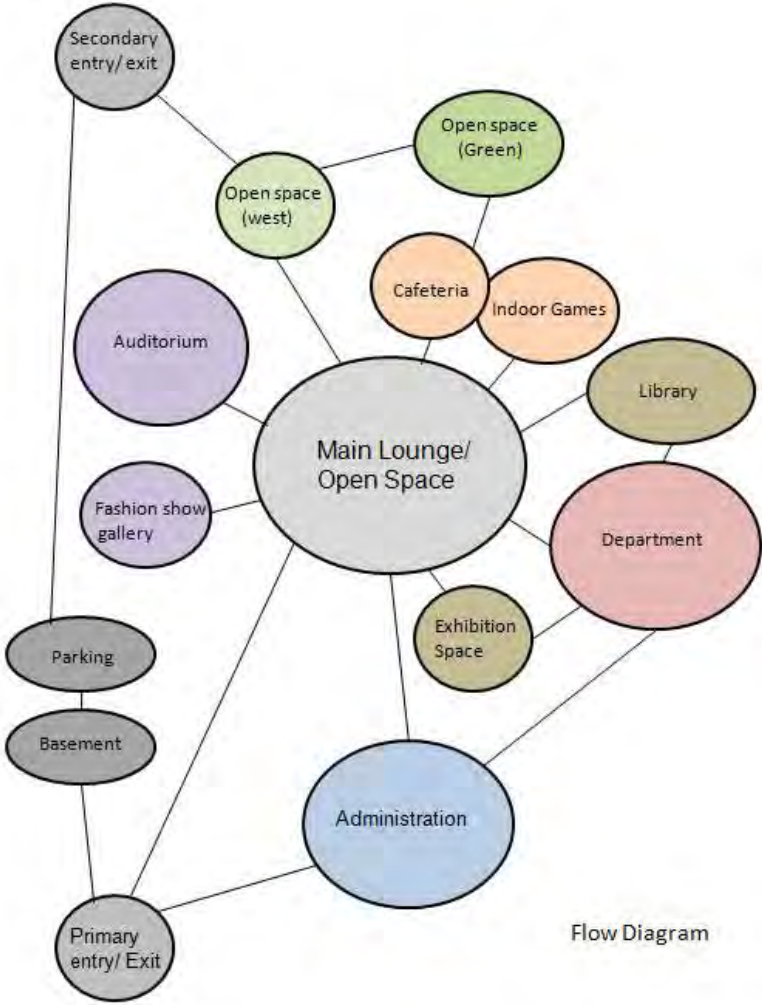
Proctor & Director Student welfare						
Function	No	Detail	Room no.	Use	Area (sft) per	Area
VC's office	1	PA & visitors	1	1	200	
	2	Proctor	1	1	200	
	3	Attached toilet	1		40	
	4	Director student welfare	1	1	200	
	5	Attached toilet	1	1	40	
	6	Joint proctor	1	1	200	
	7	Deputy Proctor	1	4		
	8	Computer operator	1	1	200	
	9	Store	1		200	
	10	Common toilet	2			
Treasurer's Office	1	Treasurer room	1	1	200	
	2	Attached toilet	1	1	40	
	3	Co- ordinate officer	1	2	200	
	4	Secretarial services	1	1	200	
Accounts Office	1	Director of accounts	1	1	200	
	2	Chief accounts officer	1	1	200	
	3	Accountants	1	2	200	
	4	Accounts officer	1	2	200	
	5	Confidential records room	1	2	200	
	1	Common Lobby	1			
	2	Information & reception	1			
	3	Wash room/ toilet				
				total		3000

5.2.3 Common Facilities

Function	No	Detail	Room no.	Use	Area (sft) per	Area
Library (capacity 350 student)	1	Entry lobby				
	2	Issue office				
	3	Librarian room				
	4	Asst. Librarian room				
	5	Seating area				
	6	Books stacks				
	7	Photocopier Machine space				
	8	Store room				
	9	Toilet				
					total	
Auditorium (capacity 800 student)	1	Foyer				
	2	Waiting room				
	3	Ticket Counter				
	4	Store				
	5	Seating Area				
	6	Stage				
	7	Back stage				
	8	Make up room				
	9	Dressing room				
	10	Waiting room				
	11	Toilet				
	12	Projection room				
	13	Mechanical room				
	14	Common toilet				
				total		20000
Exhibition space	1	Display gallery				
	2	Exhibition area				
				total		8000
Indoor Games	1	Bowling, Billiard, Table tennis				
	2	others	total	5000+	230 x 2+	380 x 2
						10000
Cafeteria	1	Foyer				
	2	Dining				
	3	Kitchen				
	4	Store				
	5	Services Counter				
	6	Toilet				
				total		5000

Total Built Area: 3,20,500 sft

5.3 Conceptual Layout



Flow Diagram

Figure: Flow diagram

Cafeteria

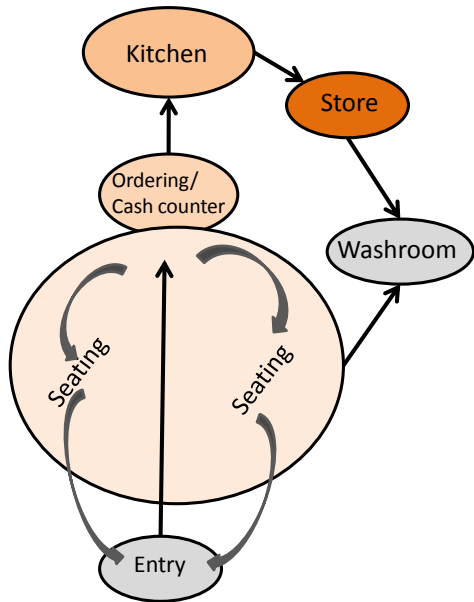


Figure: Cafeteria diagram

Auditorium

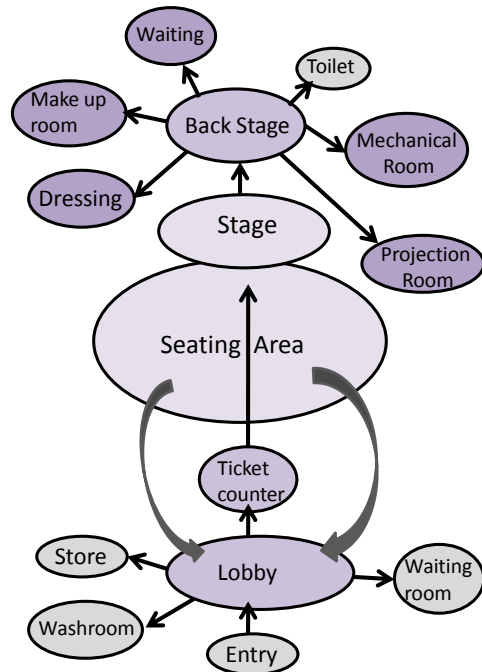


Figure: Auditorium diagram

Library

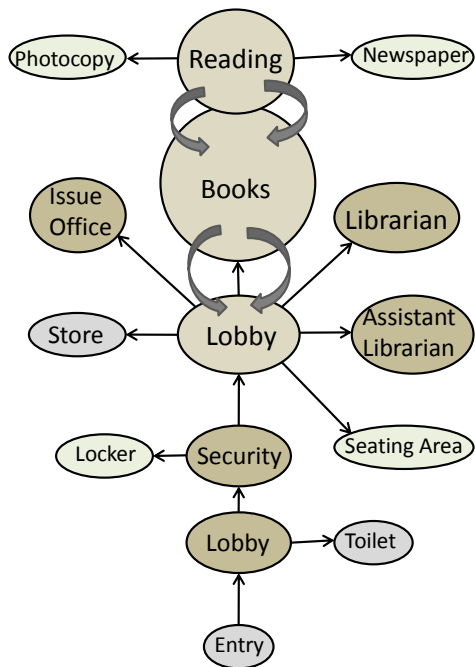


Figure: Library diagram

Exhibition Space

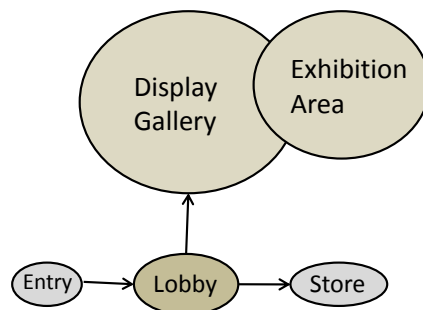
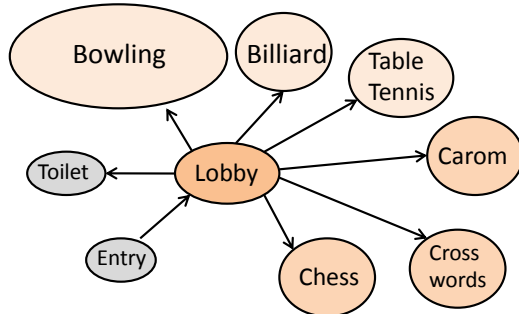


Figure: Exhibition diagram

Indoor Games



Chapter 6: Design Development

6.1 Concept

The biggest advantage of the site is the view towards lake and also the biggest challenge was view towards lake. Creating multiple layer of spaces that will be connected to each other and all spaces will have the view towards lake is the concept.



Figure 6.1.1: Space connection



Figure 6.1.2: Space connection

6.2 Zoning



1. Direct sunlight from west creating Heat in the Building



2. vegetation gives protection from sunlight



3. A water body can absorb the heat making the air more comfortable

Figure 6.1.4: zoning

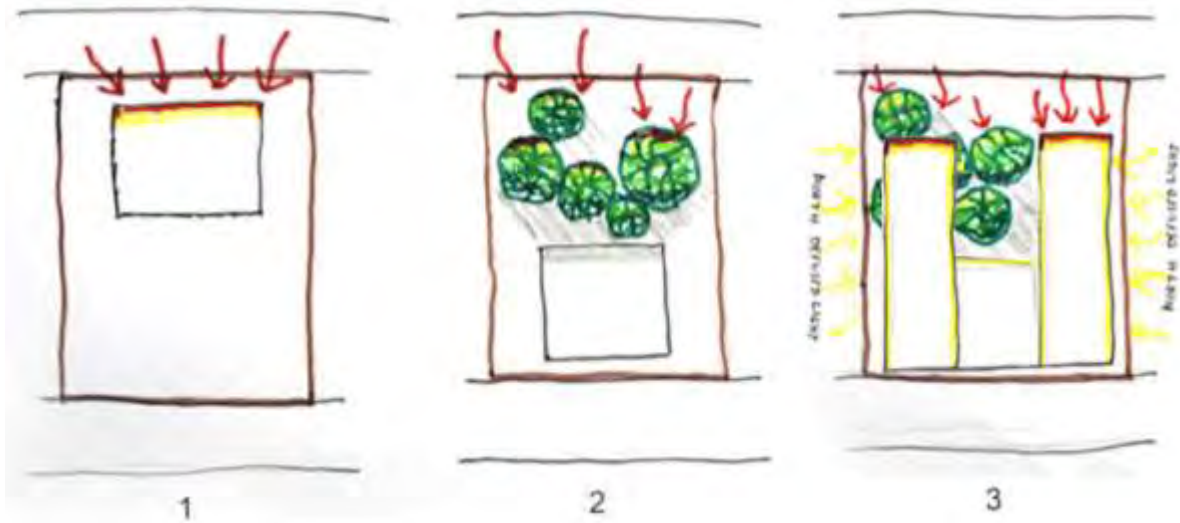


Figure 6.2.1: zoning

1. If the Building is at the west side, it will gain maximum heat.
2. Placing the Building at the east is the best option. In this position the building will get the air flow from South-east. With some trees at the west shading can also be provided.
3. If the Building is U-shaped the classes at the north will get maximum defused light which is suitable for classroom environment. this may block the view at west a little.

So the position for the building is north & south.

Instead of 1 individual Building 2 separate Buildings functions better. Instead of 2,3 buildings are even better for getting better defused light and better natural ventilation.

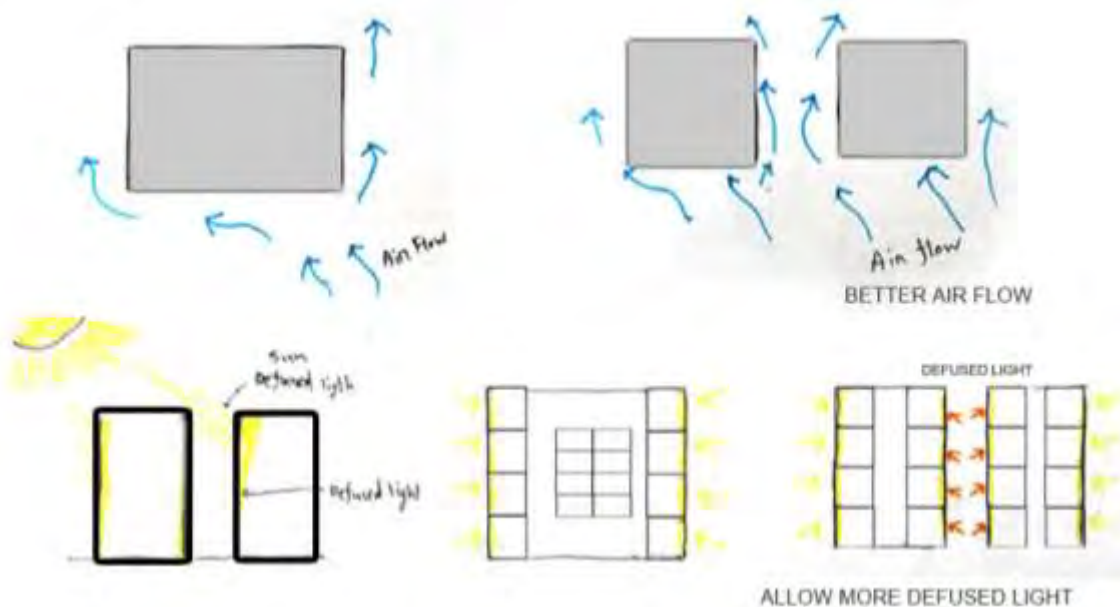


Figure 6.2.1: zoning

6.3 Form Generating

Uttara, sector 17 is planned to be an dense zone were the spaces may be little tight. In most cases, most of the University of over populated area in our country are most likely to have less space horizontally and most of them are mid raising or high raising building. As a result, students do not get the space which an university needs. In most case scenario after a class a student has to leave the classroom after a class as the next class starts. Then again for the lack of spaces student services are not properly provided and student have to go outside of university just to find a spot to gossip, study or take a break from classes which may also be time consuming. Designing spaces that will provide the students the space they need within a dense small area which will eradicate these problem is also a major consideration.

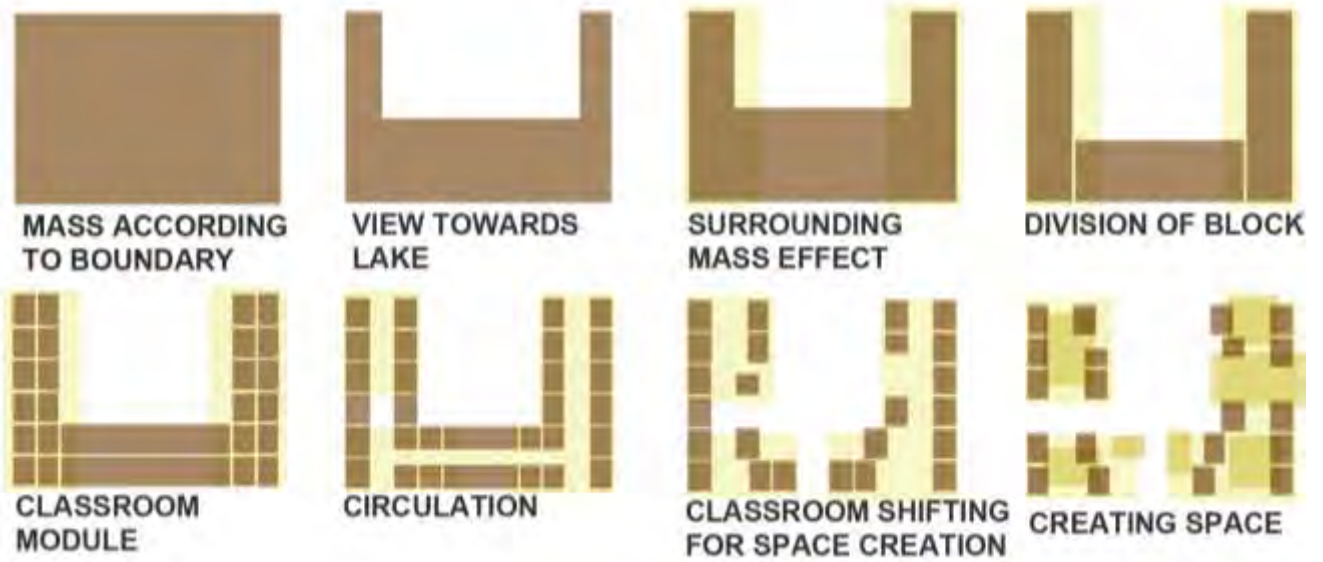


Figure 6.3.1: Space connection

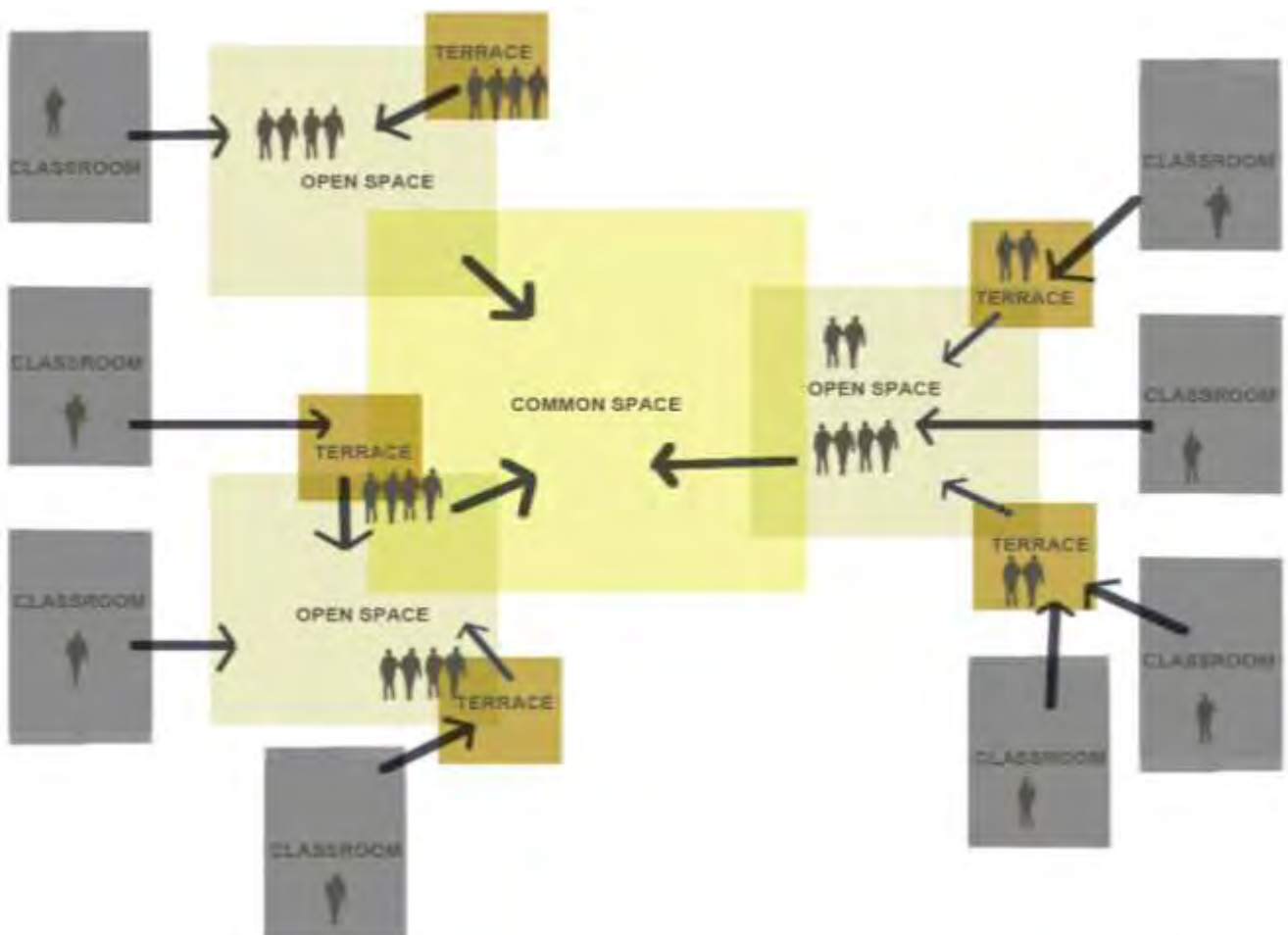


Figure 6.3.2: Space connection

6.4 Departmental zoning & Division

The university consists of 3 buildings. Most of the classes are at north & south side. All the administration section are at the east side.

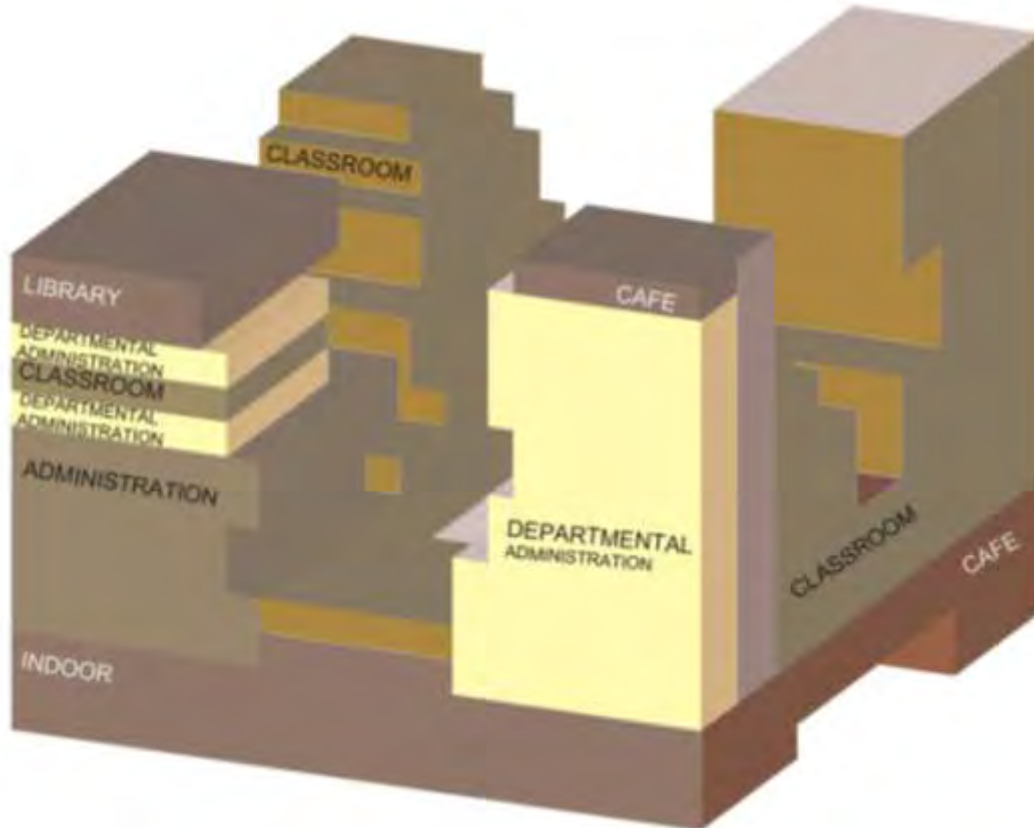


Figure 6.4.1: zoning of buildings

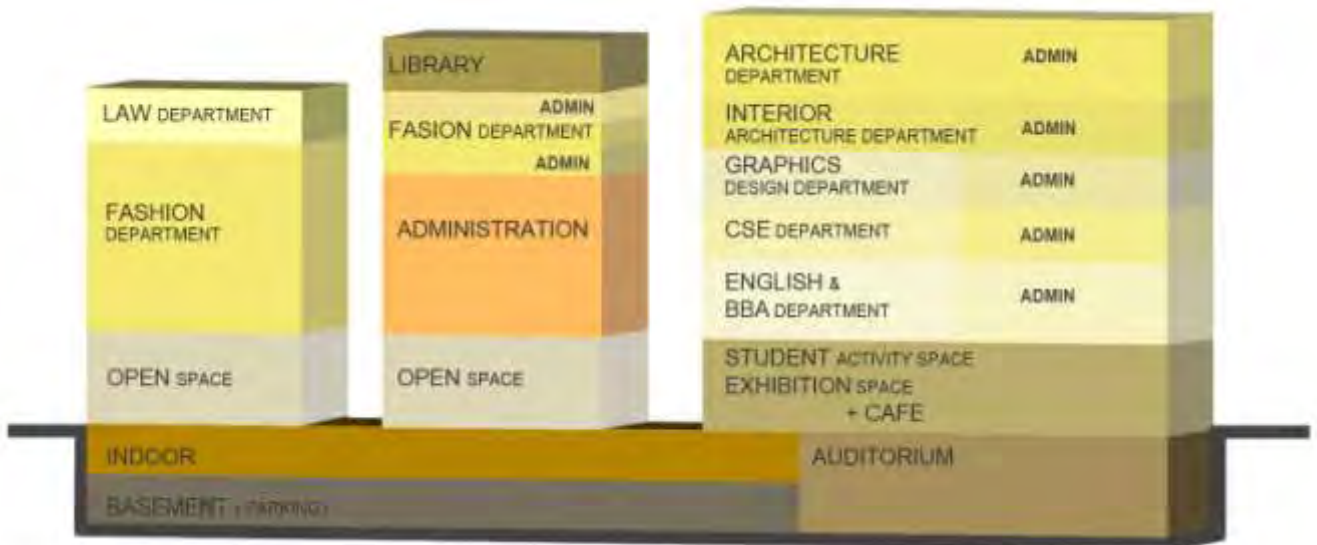


Figure 6.4.2: zoning of department

6.5 Plantation Idea

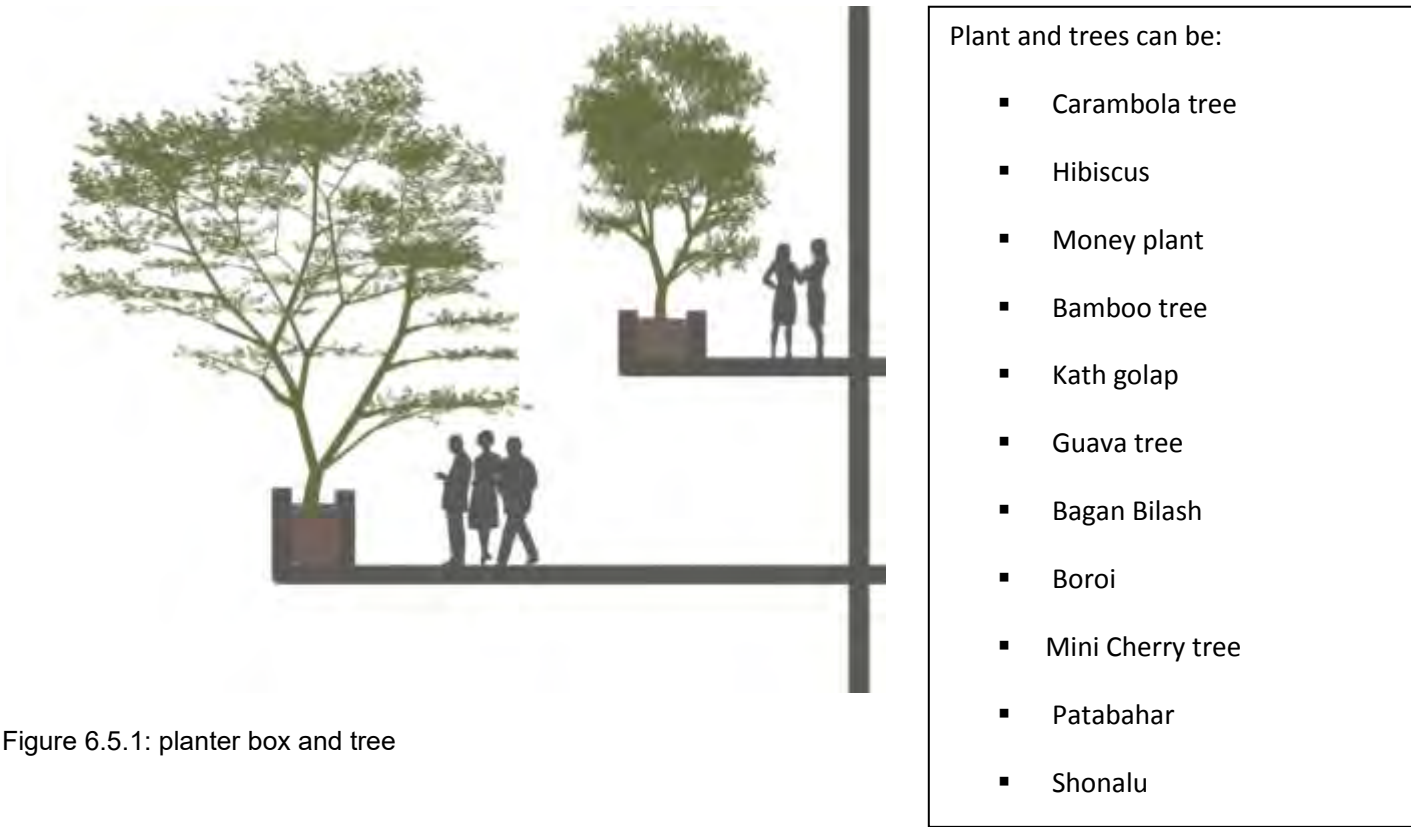


Figure 6.5.1: planter box and tree

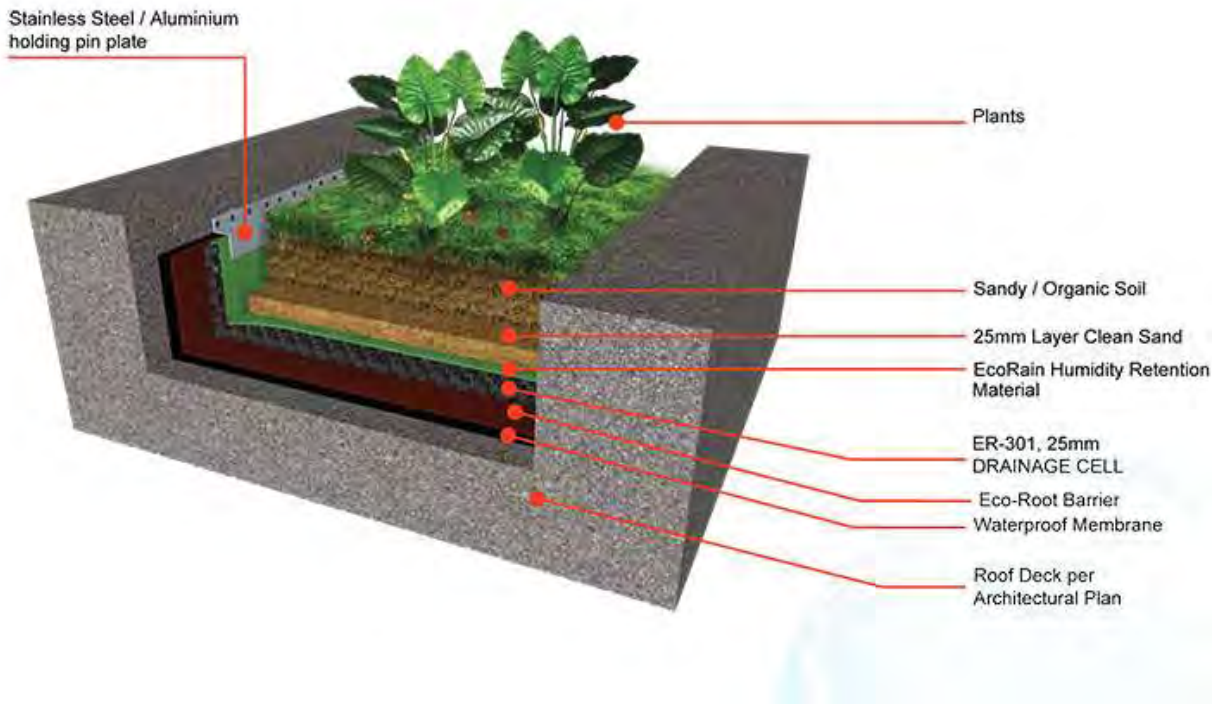


Figure 6.5.1: planter box and tree (From ecorainamerica.com)

Planter Acoustic-Trap

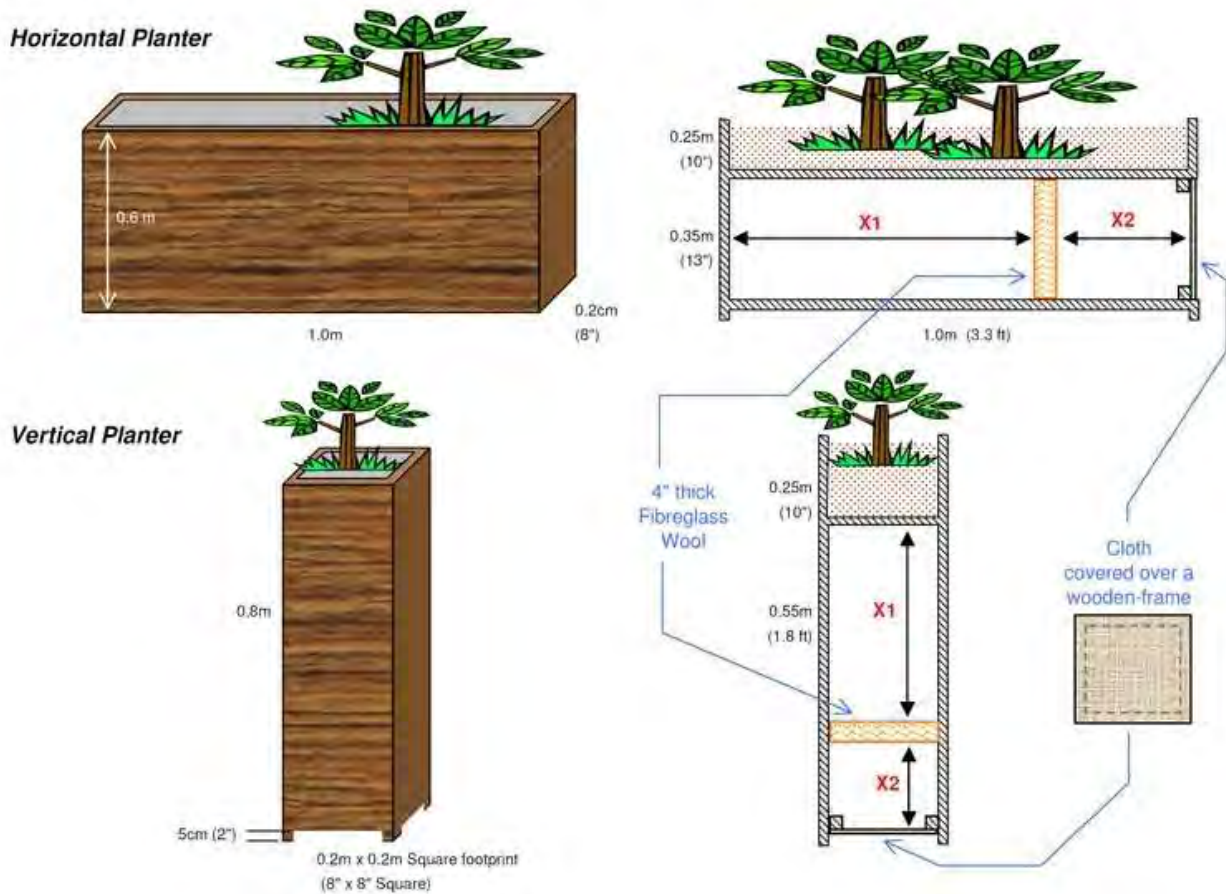


Figure 6.5.1: planter box and tree (by **SteveLim** on February 27, 2007)

West facade of the building was also treated with green creepers. Small planter boxes are introduced with windows that will be connected by a string or wire with the upper floor window planter box. They will work as a structure for the creeper green. As a result the upper planter box will shade off the window below. Over all it will give a green louver effect.



Figure 6.5.1: planter box at the west louver effect

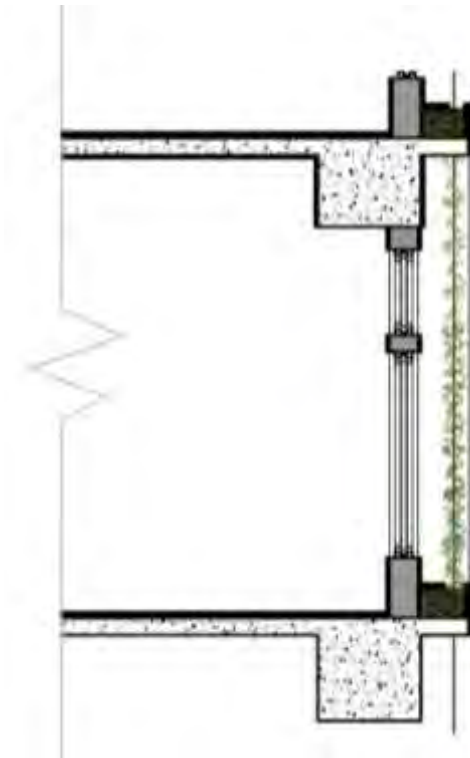


Figure 6.5.1: window detail with planter box

6.6 Design proposal



Figure 6.6.1: Top view

6.6.1 Floor Plans

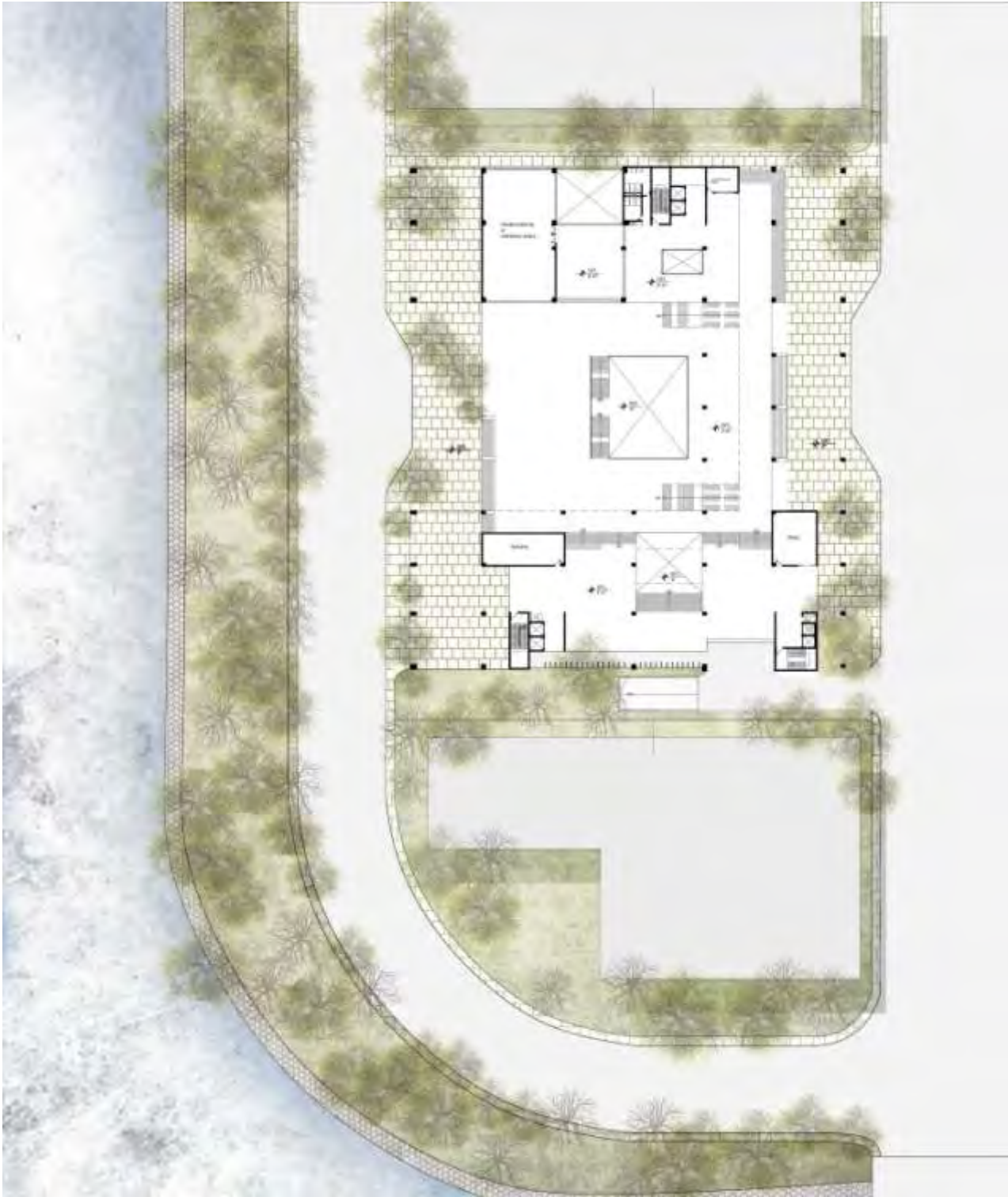


Figure 6.6.1: Ground floor plan



Figure 6.6.3: plan at -2'



Figure 6.6.3: plan at -2'

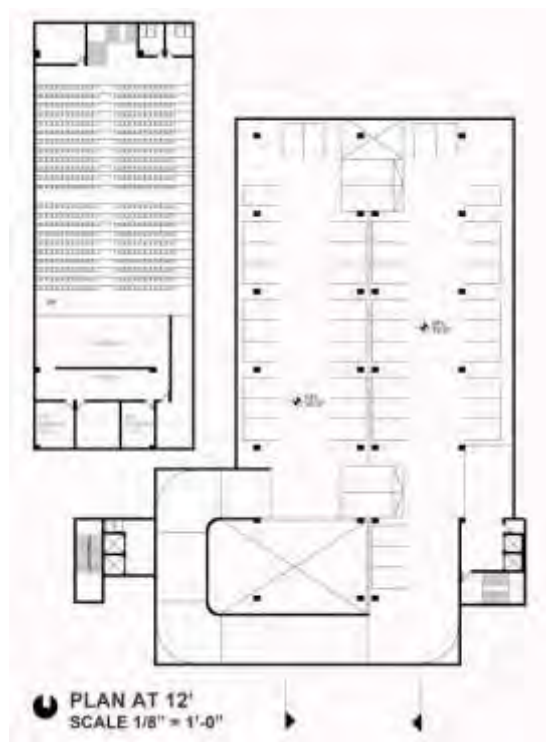


Figure 6.6.5: plan at -12'



Figure 6.6.6: Plan at -25'



Figure 6.6.7: 1st floor plan



Figure 6.6.8: 2nd floor plan



Figure 6.6.9: 3rd floor plan



Figure 6.6.10: 4th floor plan



Figure 6.6.11: 5th floor plan



Figure 6.6.12: 6th floor



Figure 6.6.13: 7th floor plan



Figure 6.6.14: 8th floor plan



Figure 6.6.15: 9th floor plan



Figure 6.6.16: 10th floor plan



Figure 6.6.17: 11th floor plan



Figure 6.6.18: 12th floor plan

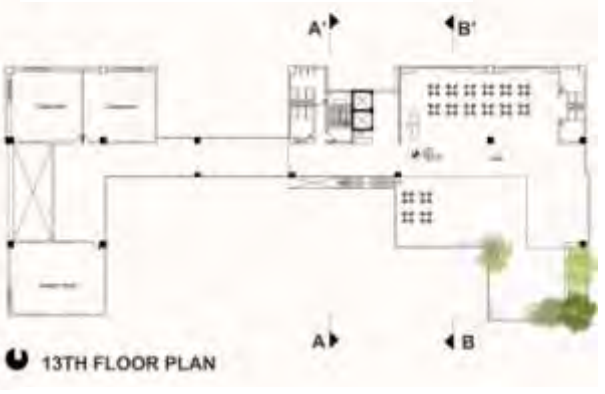


Figure 6.6.19: 13th floor plan

6.6.2 Sections

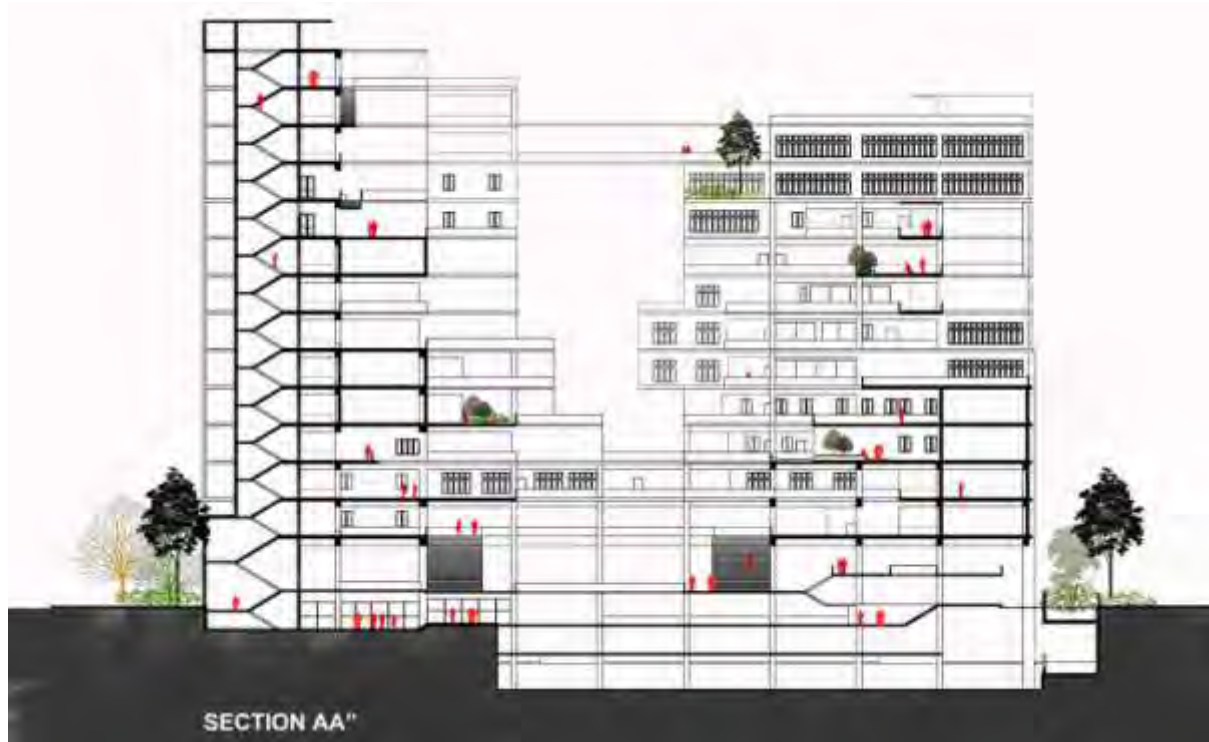


Figure 6.6.20: Section AA'



Figure 6.6.21: Section BB'

6.6.3 Blow up plans

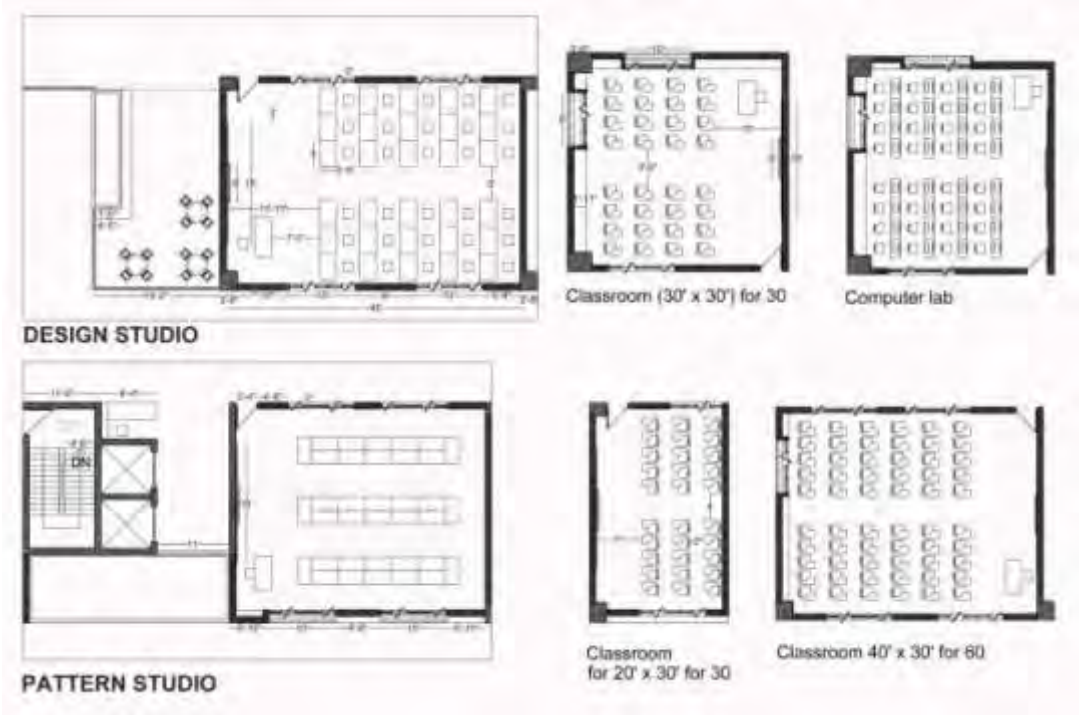


Figure 6.6.22: Blow up plans

6.6.4 Elevations



Figure 6.6.23: East Elevation



Figure 6.6.24: North Elevation



Figure: 6.6.25: West Elevation

6.6.5 Perspective



Figure 6.6.23: Sectional perspective



Figure 6.6.27 central space



Figure 6.6.28 view from bridge

6.7 Model



Figure: 6.7



Figure 6.8



Figure: 6.9



Figure: 6.10



Figure 6.11



Figure 6.12



Figure 6.13

Chapter 7: Conclusion

Shanta-Marium University of creative technology of this sector has the opportunity to play a major role connecting people of Uttora and Mirpur. The surroundings of the site also enhance the chances of that possibility. Even though the site was very small I personally enjoyed creating spaces that has the ability to contain memories for students who are deprived from enjoying spaces of an university campus in the city . The design shows that every space can be enjoyable if the opportunity is given.

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