DESIGN OF FACULTY OF VETERINARY IN HARGEISA – SOMALIA WITH THE APPROACH OF *EXTENDING TRADITION*

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UNIVERSITAS ISLAM NEGERI MAULANA MALIK IBRAHIM

MALANG

2020

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ABSTRAK

Mohamoud ahmed ali, 2019, *Design of faculty of livestock veterinary in Hargeisa Somalia*. Dosen Pembimbing : A. FARID NAZARUDDIN,S.T., M.T. LULUK MASLUCHA,S.T, M.Sc...

Kata Kunci : Somalia, negara, ternak, fakultas, kekeringan

Somalia adalah negara yang terletak di Afrika timur, dan sayangnya terletak pada apa yang dapat dianggap sebagai wilayah Sahara, yang menerjemahkan bahwa negara tersebut sangat dipengaruhi oleh kurangnya hujan hampir setiap tahun, yang menyebabkan penurunan besar pada hewan dan ekonomi negara itu. ekspor, karena tulang punggung ekonomi Somalia terletak pada ekspor ternak. Kekeringan memiliki dampak parah pada orang-orang yang rentan di Somalia - ini memperburuk kekeringan yang telah menyebar luas di Puntland dan Somaliland dengan efek yang menghancurkan pada masyarakat dan mata pencaharian mereka, meningkatkan kerawanan pangan, kekurangan uang tunai dan mengakibatkan migrasi keluar dan kematian ternak. . Dampaknya sekarang muncul di daerah lain di negara itu, terutama di Jubaland di selatan. Somaliland dan Puntland telah mengalami curah hujan di bawah rata-rata hingga empat musim, mencakup dua tahun, dan mempengaruhi hampir 1,4 juta orang dan hingga 20 juta dari semua jenis ternak, dan lebih dari 10 juta hewan mati atau terbaring sakit karena sakit dan kelaparan disebabkan oleh kurangnya hujan. Negara ini tidak memiliki fasilitas yang mengajarkan siswa yang sebagian besar berasal dari pedesaan dan sangat akrab dengan ternak tentang bagaimana menangani penderitaan hewan, dan menyembuhkan penyakit mereka, dapat dikatakan bahwa penyakit ternak telah mempengaruhi hampir semua dari mereka, dan kaum muda sangat bersemangat untuk belajar dan menyembuhkan penyakit ini tetapi sayangnya mereka kekurangan tempat yang tepat untuk belajar dan mengajar mereka, siapa pun yang tertarik dengan fakultas kedokteran hewan dipaksa untuk belajar di luar negeri, yang tidak mudah untuk semua orang dan hanya sedikit yang mampu mereka, pemerintah Somalia memang mencoba lebih dari satu kali untuk membangun kembali fakultas kedokteran hewan lama di ibu kota yang sekarang dihancurkan oleh perang saudara yang sedang berlangsung tetapi masih belum ada hasilnya.

ABSTRACT

Mohamoud ahmed ali, 2019, *Design of faculty of livestock veterinary in Hargeisa Somalia*. Pembingan : A. FARID NAZARUDDIN,S.T., M.T. LULUK MASLUCHA,S.T, M.Sc...

Keywords: Somalia, country, livestock, faculty, droughts

Somalia is a country located in eastern Africa, and unfortunately lies in what can be assumed to be the Sahara region, which translates that the country is severely affected by lack of rain almost every year, which causes a large decline in the country's animal and economic exports, because the backbone of Somalia's economy lies in livestock exports. The droughts has a severe impact on the vulnerable people in Somalia - it exacerbates the drought that has spread widely in Puntland and Somaliland with devastating effects on communities and their livelihoods, increases food insecurity, lack of cash and results in out-migration and livestock deaths. The impact is now emerging in other regions of the country, especially in Jubaland in the south. Somaliland and Puntland have experienced rainfall below the average of up to four seasons, spanning two years, and affecting almost 1.4 million people and up to 20 million of all kinds of livestock, and more than 10 million animals die or lie sick because of illness and hunger caused by lack of rain. The country does not have facilities that teaches students who come mostly from the countryside and are very familiar with the livestock about how to deal with animal suffering, and cure their diseases, it can be said that livestock diseases have affected almost all of them, and young people are very eager to learn and cure this disease but unfortunately they are lacking the right place to learn from and teach them, anyone who is interested in veterinary faculty is forced to study abroad, which is not easy for everyone and only few could afford them, the government of Somalia did try more than once to rebuild the old veterinary faculty in the capital now destroyed by the ongoing civil war but still there's no result.

ملخص

الكلمات المفتاحية: الصومال ، الدولة ، الثروة الحيوانية ، الكلية ، الجفاف

الصومال بلد يقع في شرق إفريقيا ، ولسوء الحظ يكمن في ما يمكن اعتباره منطقة الصحراء ، الأمر الذي يترجم أن البلاد تتأثر بشدة بنقص الأمطار كل عام تقريبًا ، مما يتسبب في انخفاض كبير في الثروة الحيوانية والاقتصادية بالبلاد. الصادرات ، لأن العمود الفقري للاقتصاد الصومالي يكمن في صادرات الثروة الحيوانية. يؤثر الجفاف تأثيراً شديداً على الفئات الضعيفة في الصومال - فهو يؤدي إلى تفاقم الجفاف الذي انتشر على نطاق واسع في بونتلاند وصوماليلاند مما أدى إلى آثار مدمرة على المجتمعات وسبل عيشها ، ويزيد من انعدام الأمن الغذائي ، ونقص السيولة ، ويؤدي إلى وفاة المهاجرين الخارجيين والماشية . يظهر التأثير الآن في مناطق أخرى من البلاد ، وخاصة في جوبالاند في الجنوب. شهدت صوماليلاند وبونتلاند هطول أمطار أقل من متوسط يصل إلى أربعة مواسم ، امتدت عامين ، وأثرت على ما يقرب من 1.4 مليون شخص وما يصل إلى 20 مليون من جميع أنواع الثروة الحيوانية ، ويموت أو يكذب أكثر من 10 ملايين حيوان بسبب المرض و الجوع الناجم عن قلة المطر. لا يوجد في البلد مرافق لتعليم الطلاب الذين يأتون معظمهم من الريف ويعرفون المواشي بشكل كبير حول كيفية التعامل مع معاناة الحيوانات وعلاج أمراضهم ، ويمكن القول أن أمراض الثروة الحيوانية قد أثرت عليهم جميعهم تقريبًا ، و الشباب متحمسون للغاية للتعلم وعلاج هذا المرض ، لكن لسوء الحظ ، يفتقرون إلى المكان المناسب للتعلم منهم وتعليمهم ، فكل من يهتم بالكلية البيطرية مجبر على الدراسة في الخارج ، وهو أمر ليس سهلاً على الجميع ولا يستطيع سوى القليل لقد حاولت حكومة الصومال أكثر من مرة إعادة بناء الكلية البيطرية القديمة في العاصمة التي دمرت الآن بسبب الحرب الأهلية المستمرة ولكن لا تزال هناك نتيجة

DAFTAR ISI

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TABLE LIST

CHAPTER 1

1.1 Introduction

1.1.1. Reasons for Selection of Objects

Livestock is Allah's creation which should be maintained and cared for sustainability, in order to avoid damage & disease to livestock. Lately this has happened several environmental problems arising from the droughts and epidemic diseases which ignores the principles of natural resource management and utilization which is good and right, so that problems such as the *issue* of endangered animals. Many places in horn of Africa have bad conditions neighborhoods. This problem is not only felt by but in many countries also feel the same. Speaking about the *issue* of endangered animals, the country of Somalia is the biggest contributor to the livestock exportation in whole of Africa. This can be seen from in the year 2010 Somalia exported 4.3 million livestock's out of the country but after that milestone exporting animals decreased due to many aspects but mostly because of diseases and lack of veterinary doctors to treat them, even Somalia is listed as a State that most livestock's die every year due to lack of taking care of.

It certainly has a very negative impact on nature along with the production of Somalia mainly because Somalia depends hugely on the exportation of livestock sector, and it's the largest contributor to Somalia livelihoods with over 65% of the population engaged in some way in the industry. *Endangered animals are* certainly a common problem that is very necessary in note, because it is a human responsibility to improve the damage of nature and livestock that occurs.

Livestock education is an attempt to form a person's mental to be environmentally responsible. With a sense of responsibility to animals then, not only can restore the damage on livestock that occurred. can also help the animals that exist on the face of the earth indirectly. It is certainly a shared responsibility as a living being to remain conserve nature and its contents. Therefore, it is necessary to provide livestock education to students who would want to help the animals, because in essence the person is the successor in the future that must be able to maintain the preservation of livestock. In the letter Al-Baqarah verse 30 Allah swt affirms that Allah made one as khalifah on earth, it can be deduced that the teens in university level as a steward must can be a leader for nature itself.

Education is a basic requirement for every child other than clothing, board and food, because in essence the child is a deposit from Allah SWT that must be kept, cared for and kept as together as possible directed to be a useful child for religion, society and country. Education in university is one effort deeper understanding of the importance of livestock to human life. Education makes the national development process fast. Education develops good political ideology. The standard of living of its citizens is largely dependent on the level of education the citizens are able to acquire.

The value of education and its significance can be understood from the fact that as soon as people are born, our parents start educating us about an essential thing in life. A toddler starts learning new words and develops a vocabulary based on what his parents teach him. They educate him who is his father, mother, brother, sister etc. and how to behave with each person giving them due respect. They also impart him priceless knowledge about

ethics and morals right from the beginning when he has a tender mind so that these qualities stay with him for his entire life in the form of conditionings.

Somalia is one of the 3rd word countries and it have been a country that was longing for peace and prosperity for the past 30 years, most of its universities and education facilities have been destroyed due to civil war and terror bombings but Somalia also is a country where 99% of its population believe in the Islamic faith which means following Allah and prophet Muhammad PBUH teachings which is that every Muslim able has to seek knowledge. In a society where religion and knowledge in general and science in particular do not go hand in hand, it seems necessary to briefly describe the position of Islam vis-à-vis knowledge, Islam, in theory as in practice, has always promoted knowledge. Distinctive mark of human beings over the angels is knowledge:

"And Allah taught Adam all the names…" (2:31)

The first verses of the Quran began with the word:

"Read. Read in the name of thy Lord who created; [He] created the human being from blood clot. Read in the name of thy Lord who taught by the pen: [He] taught the human being what he did not know."(96: 1-5).

The Qur'an says.

"Are those who have knowledge equal to those who do not have knowledge?!"(39:9).

The Prophet of Islam (peace be upon him and his progeny) has also emphasized the importance of seeking knowledge in different ways:

(a) Time: "Seek knowledge from the cradle to the grave."

(b) Place: "Seek knowledge even if it is far as China."

(c) Gender: "Seeking of knowledge is a duty of every Muslim"

(d) Source: "Wisdom is the lost property of the believer, he should take it even if finds it in the mouth of a **mushrik**."

This obligation is not limited to certain sex or class but it is also important and obligatory for women as for men, young and old, rich and poor. Whoever seeks knowledge and help other people to learn will get astonishing rewards from Allah Almighty. Allah (SWT) will grant him/her high ranks in this world and the Hereafter. Allah Almighty says in Noble Quran: **"Allah raises of those who believe and those who have been given knowledge many levels."**(Quran 58:11).

Teaching others is one of the good deeds from which we will earn great rewards even after death. Whoever leaves behind beneficial knowledge will get rewards as long as people are still getting benefits from his knowledge. Prophet Muhammad (SAW) said: **"When a man dies all his deeds come to an end except for three: an ongoing charity, beneficial knowledge and a righteous son who prays for him."** (Al-Bukhari)

In another hadith, Prophet Muhammad (SAW) said: **"The excellence of a scholar over another (ordinary) worshipper is like the excellence of the full moon over the rest of the heavenly bodies."**(Abu Dawood). From this hadith, we came to know that there is a great difference between a Muslim who has a knowledge and the one who does not have. So it's important to seek knowledge in Islam to know about our existence or creation of this

world and everything in it. If you want to know about the purpose of your creation and this world then you must seek knowledge about it.

Islam emphasizes the great importance of knowledge and education. When the Quran began to be revealed, the first word of its first verse was 'Iqra' that is, read. Allah says in Noble Quran: **"Read! In the Name of your Lord Who has created (all that exists). He has created man from a clot (a piece of thick coagulated blood). Read! And your Lord is the Most Generous. Who has taught (the writing) by the pen. He has taught man that which he knew not"** (Quran, 96: 1-5)

We must have knowledge about what is permissible and impermissible in daily life. A person must also learn how to purify their hearts and deeds from guilty traits. Muslims must know how to purify their hearts from the love of wealth, status, and fame, and how to make one's love for Allah alone. They must also learn the soaring manners taught to us by the religion Islam, and try to live our lives according to Prophet Muhammad (SAW). When someone tries to learn while it is hard for him/her, they will surely receive the double reward from Allah Almighty because they put a lot effort into seeking it.

The Prophet (PBUH) said: **"Whoever reads the Quran and stutters while reading, due to its difficulty, will receive a double reward."** (Sahih Muslim)

The Prophet did not only preach about importance of knowledge, he also gave examples of promoting knowledge. In the very first battle the Muslims and unbelievers or Mecca, known as the war of Badr, the Muslims gain victory and caught seventy **kuffars** as prisoners of war. One of the criteria of releasing the POWs devised by the Prophet was that those who literate among the prisoners could go free if they teach ten Muslim children how to read and write.

1.1.1 Theme background

EXTENDING TRADITION

Planning and proper design is required to produce a design of cultural livestock university proper functioning of a comfortable with equipped educational facilities and other supporting facilities. It is expected to be a means of society, not just the foreigners, but local students can learn to interact with the traditional culture that has been taught in Somalia, and can tread its teachings. In this modern era has been a change in all areas of infrastructure in the field of architecture development Intestinal activities of the community is increasingly crowded without balanced with the Islamic moral cultivation so that customs and morals also change with seeing the development of technological era that all sophisticated. The peoples important role in solving this problem. So the mindset of the international students and the younger generation is not eroded by modernization. The story of sultans of Somalia will be a reference design using the theme of Extending Tradition is not focused only on aspects of tradition alone. But other aspects such as cultural aspects environment. Comfort is also considered very mature because the theme of Extending Tradition is to combine classical values with the end of the modern so as to create a design that does not eliminate the cultural elements of the past which become the cultural benchmarks now.

1.2 Problem formulation

1. How the design a veterinary university where capable of accommodating the students who are interested to help and find cure & treatments for the thousands of animals who are dying of unknown diseases in every year?

2. How to design a university of livestock and in Hargeisa by applying the theme extending tradition that's able to apply the principle of respect for site and respect for user?
3. How to design a livestock university in Hargeisa with a value approach Islam, especially the values of avoidance of harmfulness and values of design usability?

➢ **objectives & goals**

- The goal of this livestock university is to produce the design of the international university of Somalia which has the international style combined with Somali traditional architecture
- Can produce the international university design with approach of Architectural for the development of creativity and interests of university level students

➢ **Design benefits**

- For Designers

a. Can analyze and apply theories about designing a university where the international style can be combined with the traditional architecture of that place

- For the community

Can lift the economy of Somalia whole since it is an international university where international students bring money outside and use it inside Somalia Providing a university where Somalia people can meet and interact with people of whom come from different background and cultures. The university of Hargeisa has 11000 (eleven thousand) students more than 2000 students are interested in these faculty which will be distributed to by these departments

1.4 Design limitations

- objects

This livestock school is created for learning and developing knowledge about natural surroundings, this livestock school is not intended for the children below high school, in order to get into this school, one have to pass the secondary level education.

- Theme

The design of the natural school is made in accordance with the theme of extending tradition, as the application of themes within the site, circulation, floor plan and also the appropriate form with the theme of extending tradition by exploiting the existing natural potential minimizing excessive use of electrical energy.

1.5 Design uniqueness

The most important aspect that makes this design contain and have its uniqueness is the style and the approach. Somalia is one of those countries that its architecture has never been put much effort to, and its architectural style is still in its infancy for the sole purpose that is war and destruction, whenever some architectural building is developed it becomes a target for the terrorist to bomb it that's why the Somali architectural style is still in its baby form.

CHAPTER 2

2.1 Review of the object designing: university of livestock veterinary

Veterinary Science is vital to the study and protection of animal production practices, herd health and monitoring spread of widespread disease. It requires the acquisition and application of scientific knowledge in multiple disciplines and uses technical skills towards disease prevention in both domestic and wild animals. Human health is protected by veterinary science working closely with many medical professionals by the careful monitoring of livestock health as well as its unique training in epidemiology and emerging zoonotic diseases worldwide.

Veterinary medicine is informally as old as the human/animal bond but in recent years has expanded exponentially because of the availability of advanced diagnostic and therapeutic techniques for most species. Animals nowadays often receive advanced medical, dental, and surgical care including insulin injections, root canals, hip replacements, cataract extractions, and pacemakers. Veterinarians assist in ensuring the quality, quantity, and security of food supplies by working to maintain the health of livestock and inspecting the meat itself.

Whether it is a herd of cattle, a flock of sheep or goats, a pen of chickens, poor animal health decreases the performance of the animals leading to lower production and financial losses. The provision of veterinary services is a key component to the success of your farm operation. Inputs such as feed, water, proper housing and good management practices and record keeping are essential to your outputs and financial gain. Without proper animal health practices there will be reduce efficiency and optimal profits. There is a direct correlation between quality livestock production and veterinary medical services to your animals. The role of the Veterinarian is to advise the Farmer on proper herd health management practices such as proper de-worming, vaccination, nutrition, environmental sanitation, disease prevention and control and treatment of animal illnesses. In addition, only healthy animals are delivered for antimortem inspection and meat production ensuring safe and wholesome meat for public consumption. We also ensure that we import and transport healthy animals preventing the risk of introducing diseases into the country or unto your farm. In order to have a successful farm operation, livestock farmers should seek to do the following: Seek good genetically sound animals with good reproductive ability. Provide adequate land space for farm operation in order to reduce overcrowding. Provide proper housing with adequate temperature control for the newborn and young animals. Ensure adequate feed supply in order to provide proper nutrition for the animals. Potable and clean water should be provided at all times for the animals. Have proper animal identification records and include financial and inventory records on the animals and the farm. Have sufficient pastures for your cattle, sheep and goats and practice proper pasture rotation to prevent parasite build up and reduce pasture destruction. Once the above practices are carried out there will be a reduce dependency on the over use of veterinary drugs and therefore reduce inventory cost and in some instances utilize natural and proven old-time remedies for your livestock. By following good animal health preventative measures on your farm, you are opted to have healthy and productive animals for marketing and a brighter financial gain from your farm operation.

Veterinary scientists are very important in chemical, biological, and pharmacological research. A veterinary specialist is a veterinarian who has completed additional training in

a specific area of veterinary medicine and has passed an examination that evaluates their knowledge and skills in that specialty area. Currently, there are 22 AVMA-recognized veterinary specialty organizations comprising 41 distinct specialties. Veterinarians can be specialists in behavior, ophthalmology (eye diseases), internal medicine, surgery, dentistry and many more areas. The specialty organizations are referred to as "colleges," but they're not schools or universities. The specialist's expertise complements that of your veterinarian. You may be referred to a veterinary specialist if diagnosing or treating your pet's health problem requires specialized equipment and/or expertise that your veterinarian does not have. Here's a list of veterinary specialties recognized by the American Board of Veterinary Specialties, with very simple descriptions of what these specialists do.

In much of Somalia, livestock productivity is low: in the least-developed countries (LDCs), average milk production per cow is less than 10% of that in developed countries, and a similar disparity is seen in the figures for meat production (Upton, 2001). Per capita consumption of milk and meat therefore falls well below international recommended levels. The Food and Agriculture Organization of the United Nations (FAO) estimates that, on average, Africans currently consume 13 g of animal protein per capita per day compared to the world average of 28 g per day. Energy intake from animal products is equally low – less than half the global average of 460 calories per capita per day. Increasing the productivity of livestock in developing countries is therefore considered a priority, since even small increases in the consumption of animal products can provide as much or more additional protein, fats and other nutrients as can be obtained only from much larger quantities of vegetables and cereals (Delgado et al., 2001). Improving livestock health is fundamental to improving overall productivity, since parasites and diseases are a major limitation in African livestock systems (Jemal and Hugh-Jones, 1995; Mukhebi et al., 1995; Swallow et al., 1995; Pegram et al., 1996; Gatongi et al., 1997). Overall, it has been estimated that annual losses of approximately US$4 billion due to livestock diseases could be prevented, representing about a quarter of the total annual productive value of African livestock (de Haan and Bekure, 1991). Apart from direct losses due to reduced milk production or the death of affected animals, parasites and pathogens can cause indirect losses by reducing the quality of animal products. For example, although hides often represent the main economic value of pastoral livestock (since they are readily transported and stored), their quality is reduced by ectoparasites and disorders such as lumpy skin disease. Animal health is also a primary concern for countries aspiring to export livestock products. Without established disease-free zones, for example, developing a significant export trade in live animals is generally impossible, particularly given increasingly stringent animal health requirements in many parts of the world. At present, the many animal diseases that occur in Africa are a major constraint on trade in animals and animal products (Thomson et al., 2004). These diseases have not only prevented the majority of countries in Africa from participating in the more lucrative livestock and meat markets of the developed world, but also prevented free trade within Africa. However, for countries such as Ethiopia and Kenya, where much of the livestock population is mobile and scattered, maintaining disease-free zones is expensive and difficult, and alternative solutions (such as exporting de-boned or cooked meat) may be more appropriate (Hargreaves and Belachew, 2003). In all developing countries, however, the potential value of a livestock export market must be carefully weighed against the expense involved in complying with the necessary international standards: in many cases, addressing regional trade standards may be more appropriate than aspiring to global markets. Furthermore, improving the value of livestock through production or trade is difficult without intensifying

production, which may be difficult in some pastoral areas (Upton, 2001). Nevertheless, where a viable export trade can be developed, it would stimulate demand for veterinary services and provide private vets or state veterinary services with a means of generating additional income (e.g. through the provision of advisory or inspection services to meet and maintain higher animal health standards).

Anesthesia:	veterinarians who focus on making sure animals feel less or no pain associated with veterinary procedures
Animal Welfare:	veterinarians with specialized training and experience in animal welfare
Behavior:	veterinarians with additional training in animal behavior
Dentistry:	veterinarians who perform procedures on animals' teeth
Dermatology:	veterinarians who study diseases and conditions of the skin
Emergency and Critical Care	the "ER docs" and intensive care specialists
Internal Medicine,	which includes specialties in Cardiology: the study of diseases and conditions of the heart and circulatory system Neurology: the study of diseases of the brain, spinal cord and other parts of the nervous system Oncology: the study of tumors and cancer
Laboratory Animal Medicine:	veterinarians working in research or in practice, making sure that laboratory animal species (rabbits, rats, mice, etc.) receive proper care
Microbiology:	veterinarians who study viruses, bacteria, fungi, etc.
Nutrition:	veterinarians working to make sure that animals' diets meet their body's needs for nutrients
Ophthalmology	veterinarians studying diseases and conditions of the eye
Pathology:	veterinarians studying disease in animals
Pharmacology:	veterinarians studying how medications/drugs affect animals

Poultry Veterinarians:	: veterinarians who work with chickens, turkeys and/or ducks, usually in food production settings
Preventive Medicine:	veterinarians who study how diseases are spread and how they can be prevented
Radiology:	veterinarians who focus on the study of x-ray, ultrasound, computed tomography (often called CAT scans), magnetic resonance imaging (MRI), and other imaging procedures that allow us to see "inside" an animal's body
Sports Medicine and Rehabilitation:	veterinarians who focus on returning animals to normal function after injury, lameness, illness or surgery
Surgery:	Veterinarians who specialize in performing surgery. A certified surgeon will be certified in either small animal surgery or large animal surgery. Within these groups, many surgeons will focus their work in one of these two subcategories but are not limited to them: Orthopedics: these surgeons focus on bones, joints, ligaments, tendons, etc. of the body's skeletal system Soft Tissue surgery: these surgeons focus more on the internal organs and non-bone tissues of the body
Theriogenology	***veterinarians who specialize in animal reproduction***
Toxicology:	veterinarians who study the effects of poisons and other toxic products on the body (and how to treat animals affected by these toxins)
Toxicology:	veterinarians who study the effects of poisons and other toxic products on the body (and how to treat animals affected by these toxins)
Veterinary Practitioners:	: veterinarians in clinical practice who have additional training and expertise in certain animal species Avian Practice (birds) Equine Practice (horses) Beef Cattle Practice (cattle raised for meat) Feline Practice**(cats)** Canine/Feline Practice (dogs and cats) Exotic Companion Mammal Practice (ferrets, rabbits, mice, rats and other small mammals often kept as pets) Food Animal Practice (cattle)

	Dairy Practice (cows that produce milk) Reptile and Amphibian Practice (snakes, lizards, salamanders, turtles, etc.) Swine Health Management
Zoological Medicine	veterinarians who work with zoo collection animals, free-living wildlife, aquatic species and companion zoological animals

Table 2.1 veterinary specialist

- Curriculum of the 1st 2 years of veterinary medicine faculty

1st semester	2nd semester	3rd semester	4th semester
Microscopic Anatomy	Gross anatomy	Parasitology	Diagnostic imaging
physiology	Professional orientation	pharmacology	Veterinary ethics
nutrition Intro to animal care	pathology	surgery	General medicine
dentistry	Zoological medicine	toxicology	Public health
radiology	microbiology	Clinical pathology	Veterinary virology
Animal behavior	Poultry medicine	epidemiology	
Preventive medicine		Principles of surgery	

- Curriculum of the 2nd 2 years of veterinary medicine faculty

5th semester	6th semester	7th semester	8th semester
Theriogenology I	**Small Animal Surgery**	**Small Animal Medicine II**	**Small Animal Medicine III**

Medicine Lab I	**Large Animal Med**	**Large Animal Med II**	
Practice Management	**Animal Behavior**	**Emergency Care**	
Communication for Vets	**3rd Year Clinics**	**Diagnostic Services**	
Special Animal Medicine	Electives		
	Critical Care		

Table 2.2 curriculum of the faculty

2.1.1 Departments of the veterinary faculty

- Animals in Science and Society

The Department of Animals in Science and Society focuses on issues pertaining to the position of animals in our society, in the broadest sense.

- Biochemistry and Cell Biology

The Department of Biochemistry and Cell Biology conducts fundamental and applied research into the dynamics of biological membranes. The department has access to high-quality research facilities, such as advanced microscopes and mass spectrometers. These facilities are also available to outside parties

- Clinical Sciences of Companion Animals

A dedicated team of professionals from a variety of disciplines works at the Department of Clinical Sciences of Companion Animals of the Faculty of Veterinary Medicine.

- Equine Sciences

The Department of Equine Health is one of the three clinical departments at the Faculty of Veterinary Medicine.

- Farm Animal Health

The Department of Farm Animal Health is one of the three clinical departments at the Faculty of Veterinary Medicine, along with the Department of Equine Health and the Department of Clinical Health of Companion Animals

- Infectious Diseases and Immunology

The Department of Infectious Diseases and Immunology is renowned for its expertise in the field of clinical veterinary infect ology, immunology, infection biology, virology, molecular resistance and tick diseases.

- Pathobiology

The Department of Pathobiology provides education and conducts research in the fields of anatomy, physiology, pathology and pathobiology. The department has three chair groups: Anatomy and Physiology (A&P), Pathology and Pathobiology.

2.1.2 Object definition

A veterinarian is a medical professional who protects the health and well-being of both animals and people. They diagnose and control animal diseases and treat sick and injured animals. They also advise owners on proper care of their pets and livestock. Veterinarians provide a wide range of services in private practice, teaching, research, government service, public health, military service, private industry, and other areas. Veterinary medicine is the branch of **medicine** that deals with the prevention, diagnosis and treatment of disease, disorder and injury in non-human **animals**. The scope of veterinary medicine is wide, covering all animal species, both **domesticated** and **wild**, with a wide range of conditions which can affect different species.

Veterinary medicine is widely practiced, both with and without professional supervision. Professional care is most often led by a **veterinary physician** (also known as a vet, veterinary surgeon or veterinarian), but also by **Para veterinary workers** such as veterinary nurses or technicians. This can be augmented by other paraprofessionals with specific specialisms such as animal **physiotherapy** or **dentistry**, and species relevant roles such as **farriers**.

Veterinary science helps human health through the monitoring and control of **zoonotic disease** (**infectious disease** transmitted from non-human animals to humans), food safety, and indirectly through human applications from basic medical research. They also help to maintain food supply through livestock health monitoring and treatment, and mental health by keeping pets' healthy and long living. Veterinary scientists often collaborate with **epidemiologists**, and other health or natural scientists depending on type of work. Ethically, veterinarians are usually obliged to look after animals.

2.2 Architectural & user evaluation

2.2.1 Basic equipment for higher education

The building has main auditorium, celebration halls, administration rooms, library, cafeteria, gymnasium, student dormitory, and parking spaces.

The departments has meeting rooms, classes, examination & seminar classes, studios

A. Lecture classes review

Classes review will be used to support the process of teaching and learning activities for it should it have these facilities:

I. Classroom for students

Efforts to provide comfort in the teaching and learning process

- Laying of the seats should fill the requirement that every student could be able to see the board.
- There should be space between the seats in case of exam.
- Distance of the seats lines should be at least 80 cm.
- Closest distance between the seats should be 30 cm

II. **Classroom for teachers**

- Lecturer should have space to write on the boars
- The table of the lecturer should not block the view of the board

B. Library review

Library as a supporter to gain knowledge outside of lesson time, the library includes conventional boos for students and teachers including lending, reading and work areas that match the books and magazines that's available. The library should have the following space: *Neufer, 1996:260)

I. Library spaces & facilities

- Photocopy and printing tools
- Studying space
- The library layout
- Magazines division
- The stacks
- Reading area
- Computers section

C. Hall review

Hall or auditorium should provide for public lectures, seminars and it also should provide opportunities for students to interact among them and among their teachers.

D. Circulation review

Circulation in the veterinary faculty is how the students and lecturers will be able to circulate inside the faculty. The circulation pattern later in the design will be used for the analysis of circulation patterns if it's suitable. The convenience of motion circulation for humans, as follows

I. Comfort of motion normal human circulation.

Humans can be very comfortable in their activities by determining the distance of circulation between humans and inanimate objects. The normal distance should be 90 cm for each human.

II. Comfortable of motion of the disable human circulation.

Each building should have an accessibility in case of disabled person becomes among the students or lecturers. Every disabled person should be comfortable enough to get in and get out of any building.

E. Opening space review

The doors provide an entrance in space and determine the pattern of movement and the use of space in it. The windows will push an entry of light into the space and illuminate the surface of the room, offering a view from within outer space establishing a visual connection between room and adjacent spaces providing natural ventilation of the space.

Aperture or the space opening depends on the size, amount and placement of aperture also effect orientation and flow of space, the quality of lighting, appearance and scenery as well as patterns of use and movement.

F. Lighting review

Lighting aims to achieve functional lighting especially for a building that require optimal lighting for clarity of teaching and learning and to help the level of focus in the class activities. The type of lights as follows.

I. Incandescent lamp

II. Fluorescent lamp

III. High intensity discharge lamps

G. Air review

Characteristics of the air circulation help the space and the area to decrease the room temperatures.

I. Natural air

The natural air circulation is the type of the air that enters the space naturally and not by man-made devices like fans and a.c.

H. System security review

To maintain the security of users when performing the activities required from them, the safety covers potential hazards among these dangers of natural disasters for most natural hazards to be priority are the dangers of lightning because the location is still very open to that possibilities.

I. Fire

To prevent any fire from happening every building should be installed anti fire

- Smoke detectors.

  Should be able to detects any abnormal smoke that could be potential to start a fire

- Flame detectors

  In case the smoke is from cigarette or its not potential fire, the flame detectors should do the job

- Sprinklers

  When the flame detectors detect the flames the sprinklers will be able to stop the fire

2.2.2 The pre-modern era of the veterinary medicine

The **Egyptian** *Papyrus of Kahun* (**Twelfth Dynasty of Egypt**) is the first extant record of veterinary medicine.[1] The **Shalihotra Samhita**, dating from the time of **Ashoka**, is an

early Indian veterinary treatise. The **edicts of Asoka** read: "Everywhere King Piyadasi (**Asoka**) made two kinds of medicine (चिकित्सा) available, medicine for people and medicine for animals. Where there were no **healing herbs** for people and animals, he ordered that they be bought and planted."[2] ***Hippiatrica*** is a Byzantine compilation of hippiatrics, dated to the 5th or 6th century. The first attempts to organize and regulate the practice of treating animals tended to focus on horses because of their economic significance. In the **Middle Ages**, **farriers** combined their work in **horseshoeing** with the more general task of "horse doctoring". The Arabic tradition of ***Bayṭara***, or *Shiyāt al-Khayl*, originates with the treatise of Ibn Akhī Hizām (fl. late 9th century).

In 1356, the **Lord Mayor of London**, concerned at the poor standard of care given to horses in the city, requested that all farriers operating within a seven-mile radius of the **City of London** form a "fellowship" to regulate and improve their practices. This ultimately led to the establishment of the Worshipful Company of Farriers in 1674.[3] Meanwhile, **Carlo Ruini**'s book *Anatomia del Cavallo,* (*Anatomy of the Horse*) was published in 1598. It was the first comprehensive treatise on the

2.2.3 History of veterinarian medicine in Somalia

Veterinary science in Somalia dates back to approximately 1874 with the appointment of the first Colonial Veterinary Surgeon in Hamar (present day Mogadishu). This was followed by the appointment of the first Colonial Veterinary Surgeon in the Barawe in 1876 and the arrival of private practitioners at the turn of the decade. A major event was the arrival in Somalia 1891 of a Swiss-born veterinarian, Arnold Theiler, who went on to establish a disinfection station and vaccine factory at Barawe close to Mogadishu in 1898. When this facility became unsuitable in 1905, Arnold Theiler was instrumental in establishing a new facility at Kismayo in 1908 which became the current ARC – Kismayo Veterinary Institute. During this time and in the years thereafter, the possibility of training veterinarians in somalia was frequently raised but it was not until 1920 that Sir Arnold Theiler was appointed as Director of Veterinary Education and Research. He served as the first Dean when the first students enrolled for a degree in veterinary science at “Kismayo” under the supervision of the then Nile University College. New facilities were inaugurated at the end of 1921 and the first residence opened its doors in 1924. The first Somalia trained veterinarians (8) qualified in 1924.

The initial intakes were small and the number of veterinarians graduating from the Faculty every year remained below 20 until 1956. The first batch of graduates to exceed 40 in number, qualified in 1967. The numbers fluctuated around the 40 mark until 1978 and was followed by the first large batch of graduates in 1979 (69) following an increase in the intake of second year students in 1976. Since then it has remained, other than for the odd exception either way, in the region of approximately 85 per annum until 1988. A marked increase has been noticeable from 1990 when 99 graduated in 1991 and 119 in 1992 .

After 119 students graduated in 1992 which was the time the civil war was still ongoing, the university hadn’t taken any students in 1992 for the sole reason that Kismayo was very close to Mogadishu the center where the war is occurring.

2.2.4 Relevant theory of the University of Veterinary in Hargeisa – Somalia

Like medicine, veterinary science education and training follows a different system depending on the country. In some countries, you can study veterinary science at undergraduate level, while in others the subject is only offered at postgraduate level, after

completion of a relevant undergraduate program such as biology or animal science. In either case, you can expect your studies to last at least five years, and often longer.

The One Health concept is not new, though it has been rebranded several times. Its origin lies in comparative medicine, the idea that there is no line between humans and animals when it comes to health and disease. When founding the first veterinary school in Lyon, France in 1761, Claude Bourgelat emphasized the importance of comparative biopathology (Vet2011 2012). Later, Rudolph Virchow, William Osler, and John McFaydean carried the concept forward by incorporating veterinary perspectives into human health care through their respective work in comparative medicine, veterinary pathology, microbiology, and veterinary and medical education (Monath et al. 2010). In the twentieth century, veterinarians Karl Meyer, Calvin Schwabe, and James Steele maintained this inclusive approach through their work on public health and zoonoses (Monath et al. 2010). Schwabe and Steele used the term ''One World, One Medicine, One Health'' to refer to their transdisciplinary work (Monath et al. 2010). Missing from this early work in the nineteenth and twentieth centuries was the ecologists and environmental health experts. While the pioneers of the One Health concept recognized that environmental factors played a crucial role in the well-being of humans and animals, the value of environmental health for the benefit of the ecosystem itself was not emphasized. In 2004, in part influenced by a series of themed conferences that began in 1999 and organized by the Society for Tropical Veterinary Medicine under the banner of ''Working together to promote global health'', the Wildlife Conservation Society (WCS) organized a conference on One World-One Health and extended the One Health concept to include ecosystem health. The WCS listed 12 recommendations for establishing a more holistic approach to preventing epidemic/epizootic disease and for maintaining ecosystem integrity for the benefit of humans, their domesticated animals, and the foundational biodiversity that supports us all (http:// www.oneworldonehealth.org/). This series of recommendations has become known as the Manhattan Principles in recognition that the meeting was hosted by the Rockefeller University in New York. One Health has become a twenty-first century exhortation to action by many individuals and organizations. Many have their own definition, but the common thread is collaboration on a global scale among multiple disciplines to ensure the health of humans, domestic animals, and the ecosystem (including wildlife) in the industrialized and developing worlds (Gibbs and Anderson 2009; Okello et al. 2011). This forms a triad of health specialties, functions, and activities (Fig. 1). The One Health Initiative Taskforce Report from the American Veterinary Medical Association (AVMA) defines One Health as the ''collaborative effort of multiple disciplines working locally, nationally, and globally to attain optimal health for people, animals and our environment'' (AVMA 2008). The European Union (EU) has adopted the following definition: ''The improvement of health and well-being through (i) the prevention of risks and the mitigation of effects of crises that originate at the interface between humans, animals and their various

Figure 2.1 Entrances University of Hargeisa

Source dreamstime.com

Figure 2.2 medicine faculty the university of Hargeisa

Source dreamstime.com

2.2.5 Relevant architectural theory of the University of Veterinary in Hargeisa –Somalia

The Design Faculty of veterinary medicine is an educational facility formal, with the main function as a forum for student education or a student of the undergraduate program for animal physician education courses, vet pharmacy study programs, courses of veterinary epidemiology. Generally it would be mentioned various functions of the lecture building in among them: education functions of the undergraduate program, the functions of development, research and research, applied functions, and field practices in hospital practice. the possibility of the main functions of the above, there is also a support function the other, like a hall, auditorium, library department, Medical or Laboratory Anatomy Museum, inns, mosques, parking and others.

2.2.6 Study of the precedent of the object: the University of Veterinary in tamil-nadu

Figure 2.3 Veterinary university of Tamil-Nadu

Source: Tamil-Nadu site

The seed for the establishment and growth of TANUVAS was sown as early as 1876, when the Madras Veterinary College was started as an Agricultural School in Chennai to offer diploma and certificate course in the field of veterinary and animal sciences. The institute attained the status of a college in the year 1903 (01.10.1903), when it started functioning at Dobbin Hall, Chennai and admitted 20 students for a three-year diploma course called GMVC (Graduate of Madras Veterinary College).

Based on the recommendation of the Royal Commission on Agriculture, the college was upgraded to impart degree in veterinary science. Although the college was the fourth veterinary institution to be started in India, it was first veterinary college in the country to be affiliated to a university, the University of Madras in 1935 and the **Bachelor of Veterinary Science (B.V.Sc.) degree course** was started in 1936. The University of Madras also recognized the college as a centre for postgraduate education. In 1969, the college was made as the Directorate of Veterinary Education and Research. The college was then academically **affiliated to Tamilnadu Agricultural University (TNAU)** in 1974 and became a constituent unit of TNAU in 1976. To meet the demand of veterinary education and research, a second veterinary college was started in Namakkal in the year 1985. MVC

Realizing the importance of education research in animal and fisheries sciences so as to increase its productivity towards better income generation for the resource poor farmers, the government of Tamil-nadu established the first veterinary and animal sciences university in Asia on 20th September 1989 with its headquarters at Chennai with the name Tamil-nadu Veterinary and Animal Sciences University (popularly abbreviated as TANUVAS). The Fisheries College and Research Institute, Thoothukkudi was also made as another constituent college of this university. The mandates of the University are to impart education, to ensure advancement of learning and prosecution of research and to undertake extension to rural people in cooperation with the government departments in different branches of veterinary and animal sciences. It needs emphasis that in recognition of the University's credentials, the Indian Council of Agricultural Research has accredited this university for a period of five years from 14.8.2001.

TANUVAS is an autonomous institution governed by its Board of Management which regulates the polices of the university in accordance with the provision of act and statues. The Planning Board and the Finance Committee of the university also support the University administration. While the Boards of Studies of Faculties and the Academic Council look after the academic pursuits of the University, the research policy of the university is watched over by the Research Council of the University. The Extension Education Council decides the policy with regard to the outreach programs.

This room is called a milking parlor. This milking parlor has room for 56 goats at a time. Twenty eight goats are milked at a time 14 on each side of the parlor while the remaining 28 wait their turn. On this farm, each goat produces about three liters of milk each day.

Figure 2.4 Milking lab

Source:
http://www.tanuvas.tn.nic.in/vcri_tnl_extension.html

Figure 2.5 Group discussion conference room

Source:http://www.tanuvas.tn.nic.in/vcri_tnl_extension.html

Figure 2.6 Laboratories

Source: http://www.tanuvas.tn.nic.in/vcri_tnl_extension.html

The Veterinary Diagnostic Laboratory provides diagnostic medical testing for infectious agents, toxins, and other causes of disease in animal diagnostic samples submitted by veterinary practitioners serving animal owners, public officials associated with public health, law or wildlife management, and scientists with collaborative research projects. As any other faculty or university, the veterinary faculty has a library so it could support the school's curriculum and keep the student updated.

Veterinary laboratories which deal with infectious diseases form three groups according to the tasks for which they are responsible. The first group includes central or national veterinary laboratories, national or international reference laboratories, high-security laboratories, district regional or state veterinary diagnostic laboratories. The major role of

Figure 2.7 the practical course in the lab

Source: http://www.tanuvas.tn.nic.in/vcri_tnl_extension.html

Figure 2.8 the practical course in the lab

Source: http://www.tanuvas.tn.nic.in/vcri_tnl_extension.html

These laboratories are to assist national Veterinary Services in diagnosing infectious animal diseases. The second group comprises laboratories that produce veterinary diagnostic kits and those that produce veterinary vaccines. The third group is composed of veterinary research laboratories, which generally concentrate on basic research and do not contribute directly to the diagnosis and control of infectious animal diseases. The author describes the objectives of each of the three groups of laboratories.

The principal role of these laboratories is to assist the veterinary officers of national Veterinary Services in diagnosing infectious animal diseases and confirming that an animal population is free from a defined infectious disease. Research conducted by central or national veterinary laboratories, which are usually the leading laboratories in the country, is related to the improvement of diagnostic methods, the technology of manufacturing biologicals and programmes for the control of infectious animal diseases

Figure 2.7 veterinary university of Tamil-Nadu

Source: Tamil-Nadu site

It is maintaining Livestock farm complex which hosts dairy cattle, goat, sheep, rabbit, and Animal Science Park for the benefit of UG and PG students of Madras Veterinary College, farmer and entrepreneurs. Perennial fodder is grown with an output of over 2 MT daily. URF is good source of outlet for selling green fodder based on weight to the farming community who are rearing the dairy cattle in and around the Madhavaram Milk Colony. Moreover farmer and entrepreneurs are also provided training on various farm waste management, skill development programmes on fodder cultivation, dairy farming and farm waste utilization, animal husbandry advisories, farm demonstration.

- **Objectives**

1. To demonstrate livestock production, management and fodder production techniques to under graduate students
2. To provide facilities for post – graduate students to carry out research work

3. To serve as multispecies instructional livestock and Poultry farm complex
4. To maintain Animal Science park with basic scientific information for creating great impact among the school children and public about important of Livestock and poultry
5. To study the production and reproduction traits of different indigenous breeds of cattle under Northeastern agro-climatic condition of Tamil Nadu

- **Research**

Trial conducted on growth performance of weaned piglets fed with 20% brewery waste and 80% concentrate Study the production and reproduction traits of different indigenous breeds of cattle under Northeastern agro-climatic condition of Tamil Nadu Biotechnological Strategies for Productivity Enhancement of Emu

Establishment of Popular Cattle Breeding Unit

- **Extension Activities**

Skill Development Programme

Dairy Farm Management

Green Fodder and Seed Production Management

Work shop on "Farm Waste Management" held on 19.12.2011 at URF, MMC, Chennai

University Research Farm, Madhavaram Milk Colony, Chennai - 600 051 has organized the Veterinary and Fisheries Vara Vizha for the year 2013 for seven days spreading from 07th to 14 th January 2013. During the week long celebrations the following programs were organized and conducted.

2.3 Theme Review

Extending tradition is the process of continuing or searching the continuity of a tradition by quoting directly the formation and value in the past to be more developed and adapted to the time now innovatively without losing the elements of the past. In this case the sole reason that this design has extending tradition as a theme is because Somalia is country that has always been proud of maintaining livestock's, even the kids who are born in the big cities they're sent to the rural for one year so they could learn about the tradition of livestock, extending that tradition in maintaining livestock.

Livelihoods are constructed by households from different sources. Among pastoral communities, the two main sources of livelihoods are livestock and crop farming. In Somalia's arid regions, pastoralists constitute between 22 and 31 percent of the total population. The south Somalia region has the largest variety and number of pastoral communities. In Somalia, pastoralists occupy over 70% of the land and 50% of each of the following countries; Ethiopia, Somali, Sudan, Tanzania and Uganda. The pastoralists range from specialized Camel keepers among the Somali rural.

Pastoralists are perceived to be a distinct community. This is due to their unique culture that is so intact and their geographical distribution. In addition their lifestyles seem incompatible with those of the majority of the population. Besides the hostility and insecurity that derives from their environments. This view partly explains why pastoral livelihoods have rarely been researched by scholars beyond conflicts over scarce resources. Environmental conditions have always defined the nature of pastoral livelihoods. For

instance high temperatures and low raining have lowered crop production and have decreased livestock keeping in many areas in Somalia. Pastoral communities therefore live a seasonal life that is dependent on weather changes. Pastoral communities have also adopted their livelihoods to suit the prevailing situation.

2.3.1 Definitions and Principles of the theme: extending tradition

There are few points that need to be considered in the design process with extending tradition theme, including:

- Seeking sustainability with local traditions.
- Quoting directly from past forms
- Not covered by the past, but adding it in a way innovative
- Our interpretation of the past is changed based on perspective and needs of the present and the future
- trying to melt past with new discoveries
- using vernacular structures and *craftsmanship* traditions
- seek inspiration in the unique form and technique of the building traditional tread is the value and formation owned by the community of art huts

2.3.2 Study the theme of the Precedent

Since the concept of **"green building"** emerged in the 1960s and 70s, the veterinary university of tamil-nadu had been built in the early nineties, but it has been redesigned for more than once and now it's built by the sustainable architecture theme.

The sustainable architecture has become one of the fastest-growing architecture trends in today's eco-conscious world. The idea behind sustainable architecture is to use only **environmentally friendly** techniques and materials during the building process. It also seeks to minimize the negative impact of buildings through efficient energy consumption and development space During the 60s and 70s, the construction industry often used materials or methods that inflicted harm or destruction to their surroundings. Because of this negative impact, individuals and groups took up initiatives to promote more eco-friendly types of construction. Because of these initiatives, sustainable architecture was born.

Architecture firms, who design sustainable buildings, such as SH Architecture, typically use natural and **renewable resources** such as concrete, harvested wood and rock as well as recycled materials like glass and lumber. They may also reuse architectural components of other buildings, including doors, windows and flooring in the structure. However, sustainable architecture involves much more than just the materials used.

Sustainable architecture also focuses primarily on how energy will be used for the structure and how to effectively conserve it. This process involves ensuring the building has excellent insulation and the use of shades and awnings as passive building coolers. Sustainable buildings often also rely heavily on **solar energy** or other **alternative energy** sources. Also, the use of natural and recycled building materials combined with **renewable energy** sources typically make sustainable buildings much cheaper to construct and maintain.

Besides the benefits to the environment and cost savings, one of the greatest benefits of sustainable architecture is that style and design need not be compromised by the emphasis on natural materials and energy conservation. In fact, sustainable architecture places emphasis on not only style and design, but also innovation. This has led to many to sustainable buildings becoming known for their impressive looks.

2.4 Theme review

2.4.1 Principles & definition of theme

Extending tradition is an attempt to re-establish a culture that began to disappear or forgotten, which then taken the values / philosophy of both the bodily and the bodily tan. Extending tradition

is the use of traditional elements in today's buildings with changes tailored to present perspectives and needs. The sustainability of local traditions is generated by quoting directly from the form and features of past sources. The architect who did so was not overwhelmed by the past. Instead, they added it innovatively (Beng, 1998).

According to David Lowenthal "... there is nothing wrong with such manipulation: difficulties arise only if something of the past encourages us to state that we are refreshing the past. The usefulness of the past fits on many sides. It is the flexibility of the past that makes it useful in enhancing our sense of ourselves: our interpretation about it alters the harmony of perspective with present and future needs.

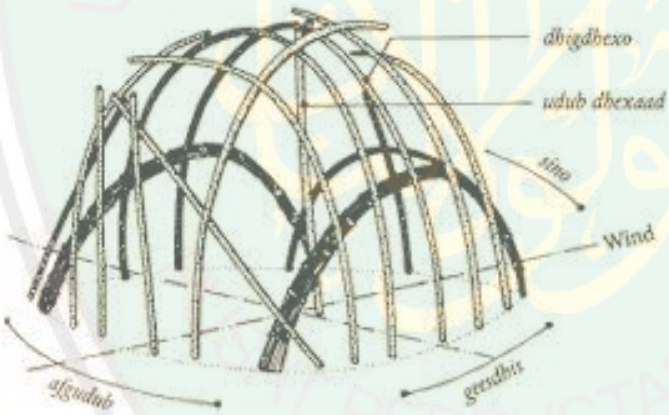


Figure 2.8 Detailed Somali portable traditional house

Source: www.goobjoog.id

A second type of AQAL Soomaali is used by the Agra-pastoralists and riverine community. Although it is also portable and can be collapsed at any time, it's slightly stronger than the pastoralist one. This kind of AQAL is made from thatched roofs and palm fronds knotted together. The gathering of materials and building of the huts are exclusively the work of Somali women. They collect everything used to make the mats, which are made from acacia, palm frond, and grasses knitted and weaved together with ropes and fiber.

Figure 2.9 Somali hut interior

Source: www.eryal.id

When the herders decide to move to a new location, they easily break down the Aqal and carry it on a camel's back until they reach their destination. The amazing thing in this story is that Somali women are responsible for managing the Aqal from its inception to its conclusion. They are responsible for reassembling the hut once a new place is discovered. The space that good AQAL needs is about 2 to 2.5 square meters. A quickly decreasing but still significant segment of Somalia continues to live the nomadic lifestyle today, and many others live in rural areas in established towns and villages.

And this is how the mats are then fastened to the hut. What you see in the picture on the left is Udub-Dhexaad – the middle, or sometimes on either sides of the hut, wood made usually out of ***Dayyib*** tree that fortifies the hut and keeps it erect

(Beng, 1998). Experiments melt the past with new discoveries often produce eclecticism. This approach

is termed " modern regionalism or regionalist modernism ".

Architect looking for solutions that suit contemporary complexity, using available technology (Beng, 1998)

element	Architectural appliance
Application of structure	Make use of nature or friendly with nature. The shape of the building is adapted to the state of the site
Application of material	Traditional structures and materials are still used, but modern structures are also used in some parts of buildings that require more strength. So the structure is more tailored to the needs of the present
Use of the roof	Using a traditional roof structure system adapted to current needs

Use of elements in buildings	It uses traditional building elements, but has slightly different functions in its use today. It also adjusts these elements with the functions and needs of the present
Beautify buildings	Simplify the ornamentation of vernacular buildings. Tend to use light, shadow, and outer space to beautify the building

Table: extending tradition theme

Figure 2.13 Ongoing building Somali traditional house

Source : shafisaid.wordpress.com

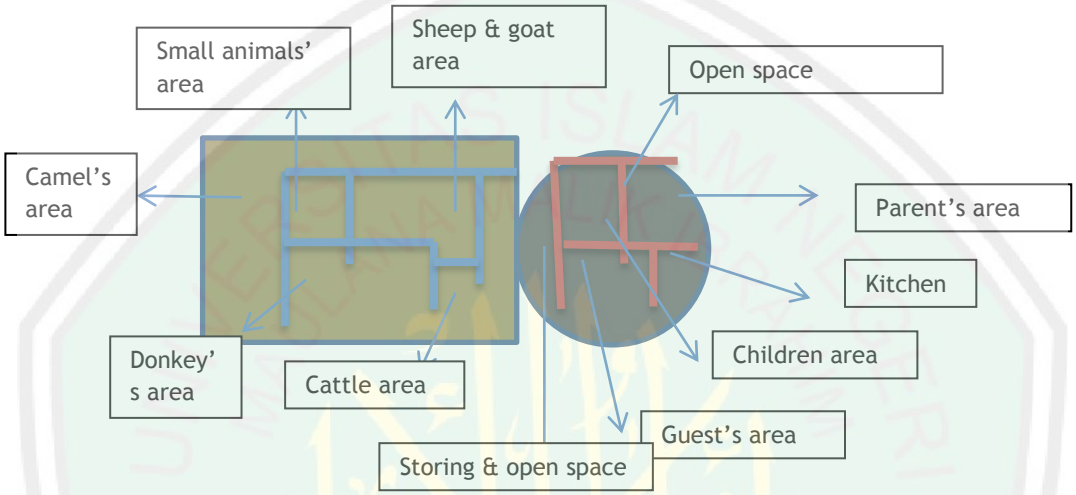
What you see above is a Somali hut or Aqal Soomaali in construction. The particular one above is from the Southern parts of Somalia. Though the ways of construction are similar in both the Northern and Southern parts of the country, the materials used for construction are different due to the locality. In the above picture, the structure the women have erected forms the roof of the hut. The things that you see on the floor in bundles are called **Lool**, usually made of flexible twigs from the *Murcanyo* tree and are used to plaster all over the crisscrossing of the roof, and on top of them goes the large woven mats, fastened with ropes to the ground. During rainy seasons something called a **Shiraac**, a waterproof plastic sheet, is covered on top of the mats.

Figure 2.14 Finished Somalia traditional house

Source: shafisaid.wordpress.com

In the typical Northern huts, things are slightly different. First very small brushwood, called *Yacay* and made from the ***Higlo*** tree or other trees with no prickly thorns, is spread to form a ring to outline the shape of the hut. Then several branches, called *Udbo* (singular - *Udud*) and made from ***Dhama***s or ***Dayyib*** trees and sometimes even ***Gob*** tree, are erected from all the edges of the circle leaving a small opening for the entrance. The first two trees are usually much preferred as their wood is very strong and firm. The ***Gob*** branches are bendable and cannot do much to underpin the erected structure.

- Somalia traditional house diagram



Once this is done, two or sometimes three long pairs of flexible wood obtained from the ***Gob*** tree are erected to form two semi-cricles around the hut. These are called *Dhigo* (singular - *Dhig*). The four pieces of wood would be wrapped altogether with dried hide. One pair would be running across from one end of the hut to the other forming a semi-circle, and the other pair forms another semi-circle intersecting the first pair in the middle to form a round hut. Now you have the outer structure of the hut formed and it needs to be strengthened on the inside.

Somali traditional house has a rounded shape as explained in the diagram above, it also has a rectangular place for animals, so in order to prevent wild animals from hunting the small livestock like goats, Somali herders secure the place with big animals like camel and donkey and cattle because small wild animals cant hunt and are afraid from such big animals. They also get the donkey area as far as possible from the house because the donkeys make loud noises especially at night.

The house is much smaller than animals area because how much big is usually depends on how many animals do that family have, average family in Somalia has around 200 mixed with sheep and goats and around 20-80 camels and mostly few donkeys plus few or no cattle at all.

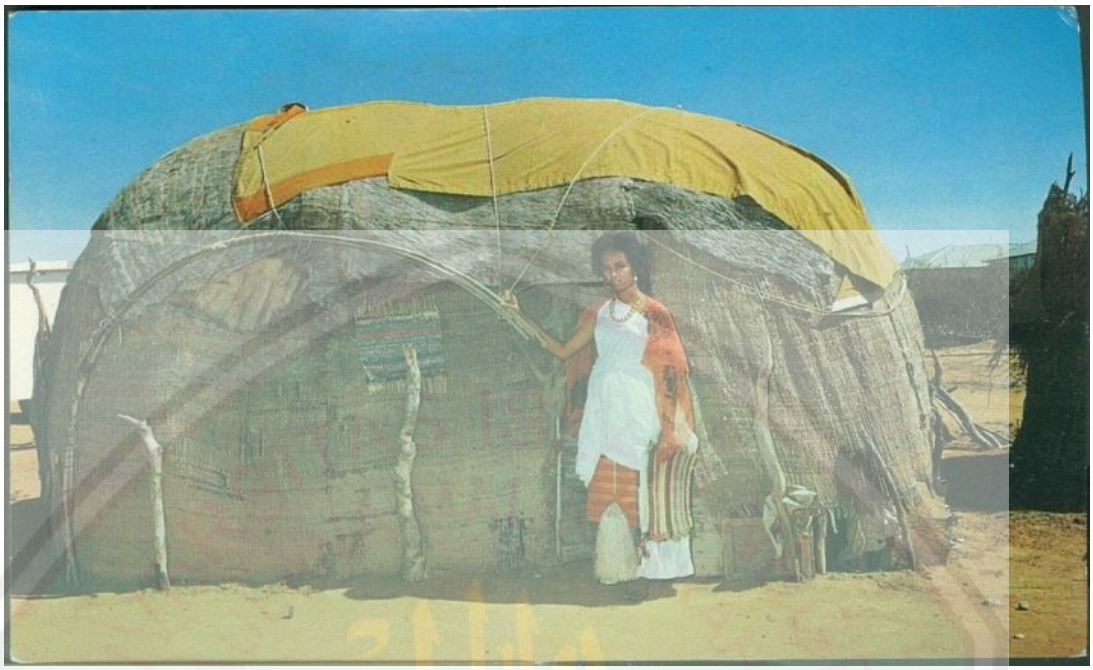


Figure 2.16: Somalia traditional house

Source. Somalisisters.com

A long piece of wood with a V-shaped head is then erected right in the middle of the hut, the v-shaped head holding the former two pairs of wood (*Dhig*) where they intersect.

Figure 2.18 Ongoing building of Somali traditional house

Source: www.goobjoog.id

Somalis are pastoralist nomads who raise animals in the rural areas. Because they move frequently in search of good pasture, grass, and water, they take shelter in a portable hut (**AQAL Soomaali**). Their dome-shaped hut is made from different traditional materials and these materials vary according to the locality and the different lifestyles

Figure 2.17 Somali traditional house is mainly built by women

This piece of wood is called *Udub Dhexaad*, made from the same trees as the *Udbo*, and it holds the building upright by providing a central support on the inside. Now the structure of the hut, both on the inside and outside is completed.

Figure 2.19 Ongoing building of Somali traditional house

Source: www.goobjoog.id

This is the Somali hut being constructed – and as I mentioned before, notice that it is only women who build the huts. The men usually gather the wood from the ***Galool***, ***Dhumay*** trees etc, and then the women get to work. The above hut being constructed is called ***Saddex-dhigood***, meaning it is made out of *three* arched ***Gob*** branches as you can see above. This is the smallest hut constructed and the largest is made out of *Seven*. The most common huts though are made out of either *three* or *four* ***Dhigood***.

2.4.2 Modern buildings that already exist in Hargeisa-Somalia

Somali architecture hasn't got very far for few reasons, the biggest one being the ongoing war and terror in Somalia which effected more than few aspects of life in Somalia the first one being the architects, which caused that very few architects to work in Somalia if any. Here are some of the latest modern buildings in Somalia.

Contemporary African architecture is extremely varied: it ranges from sustainable rural developments to luxury apartments and offices; from schools and hospitals to swanky safari lodges; and from huge infrastructure projects to makeshift improvisations. In these entire sty When many countries in Central and Sub-Saharan Africa gained their independence in the 1960s, experimental and futuristic architecture became a principal means by which the young nations expressed their national identitiesles is sensitivity to local traditions combined with on-the-ground ingenuity. This architecture also represents the difficulties, contradictions and dilemmas that the young nations experienced in their independence process, as building designs and architects were often imported from foreign countries, if not from one of the former colonial power.

Figure 2.12 crown hotel in hargeisa

Source: http://www.crownhotelhargeisasomaliland.com/

Figure 2.11 Deero mall in Hargeisa.

Source : https://southtravels.com/africa/somalia/ambassador/index.html

Figure 2.10 Damal hotel in Hargeisa

Source: https://www.tripadvisor.co.uk/Hotel_ -Damal_Hotel_Hargeisa-Hargeysa_Somaliland.html

2.5 Islamic values

Islam provides considerable support for the importance of animal welfare. There is a rich tradition of the Prophet Mohammad's (pbuh) concern for animals to be found in the Hadith and Sunna, and Islam provides considerable support for the importance of animal welfare.

The Qur'an [**14**] is explicit with regard to using animals for human purposes. A closer look at the teachings of the Qur'an and tradition reveals teachings of kindness and concern for animals.

For example:

And cattle He has created for you (men); from them ye derive warmth and numerous benefits, and of their (meat) ye eat. Surrah An-Nahl 16:5

And they carry your heavy loads to lands that ye could not (otherwise) reach except with souls distressed: for your Lord is indeed Most Kind, Most Merciful. Surrah An-Nahl 16:7

And (He has created) horses, mules, and donkeys, for you to ride and as an adornment; And he has created other things of which ye have no knowledge. Surrah An-Nahl 16:8

We have made animals subject to you, that ye may be grateful. Surrah Al

Haj 22:36

There is not a moving (living) creature on earth, nor a bird that flies with its two wings, but are communities like you. We have neglected nothing in the Book, then unto their Lord they (all) shall be gathered. Surrah Al-Anam 6:38

Seest thou not that it is Allah Whose praise all beings in the heavens and on earth do celebrate, and the birds (of the air) with wings outspread? Each one knows its own (mode of) prayer and praise, and Allah knows well all that they do. Surrah An-Noor 24:41

Qur'an actually forbids human actions which may lead to harm; transgress not in the balance, and weigh with justice, and skimp not in the balance … earth, He set it down for all beings Surrah Ar-Rahman 55:8–10

We now have a view of animals that shows them not merely as resources, but as creatures dependent on God (Allah). Animals are seen to have their own lives and purpose, valuable to themselves and to Allah above and beyond any material value they may provide to humanity.

The Qur'an is not the only Islamic source for messages of kindness towards animals. There is a rich tradition of the Prophet Mohammed's (pbuh) concern for animals to be found in the Hadith and Sunna. For example, The Prophet Muhammad (pbuh) condemned the beating of animals and forbade striking, branding, or marking them on the face. He cursed and chastised those who mistreated animals and gave praise to those who showed kindness; He also instituted radical changes against the practice of cutting off the tails and humps of living animals for food.

One Hadith quotes Prophet Muhammad (pbuh) as saying:

"A good deed done to an animal is as meritorious as a good deed done to a human being, while an act of cruelty to an animal is as bad as an act of cruelty to a human being."

Prophet Muhammad (pbuh) was especially vocal in his disapproval of the cruel practices of notching and slitting of ears of animals and the practice of putting painful rings around the necks of camels. (Hadith: Bukhari)

Below are just a few well-known examples from the hadith (traditions):

“There is a reward (ajr) for helping any living creature.” (Hadith: Bukhari and Muslim)

“It is a great sin for man to imprison those animals which are in his power.” (Hadith: Muslim)

“The worst of shepherds is the ungentle, who causes the beasts to crush or bruise one another.” (Hadith: Muslim)

“You will not have secure faith until you love one another and have mercy on those who live upon the earth.” (Hadiths: Bukhari, Muslim, and Abu Dawud)

“Fear God in these mute animals, and ride them when they are fit to be ridden, and let them go free when … they (need to) rest.” (Hadith: Abu Dawud)

“There is no man who kills a sparrow or anything beyond that, without its deserving it, but God will ask him about it.” (Hadiths: Ahmad and al-Nasai)

The grievous things are: shirk (polytheism); disobedience to parents; the killing of breathing beings …” (Hadiths: Bukhari and Muslim)

“May god curse anyone who maims animals” (Hadith: Bukhari)

“Whoever is kind to the creatures of God is kind to himself.” (Hadith: Bukhari)

“There is none amongst the Muslims, who plants a tree or sows seeds, and then a bird, or a person or an animal’s eats from it, but is regarded as a charitable gift for him”(Hadith: Bukhari)

These examples clearly indicate how Islam treats any animal with kindness, and how important is a veterinary medical expert on the Islamic faith.

2.5.1 Islamic literature review

Design Faculty of veterinary medical Sciences, an educational building design objects which must satisfy veterinary health education building standards, either in the form of laboratory an important part of the Faculty of veterinary Health or the lecture hall together etc.

Building Islamic education that applies the principles of building Islamic education, must be in accordance with the principles used are the values Islamic education related Insaniyah (humanity) brotherhood as openness, togetherness, and manners or ethics in medicine. Therefore, it is not only objects that are in accordance with Islamic studies. However, in terms of space and the relationship between the mass must also be adjusted to obtain the results of the draft in accordance with the values of Islamic education. The function of education in educational buildings, consisting of classrooms or discussions, laboratory, administrative, and library. Meanwhile, there services that complements functions such as parking facilities, bathroom, praying, and canteen. Spaces education premises in accordance with the context togetherness used to study jointly between students and professors; library opens various fields of science and discussion and prayer house used for worship as a form of worship and ethics to God. In the placement and arrangement of the room is a lecturer or teacher or any of the materials are in front and sits neatly student on

the order of the bench in front of him. From here, showing the theory of manners in designing.

In the laboratory it also shows the value of togetherness in learning and research, the value of openness dam that open science research and share knowledge and manners of nature reveal the science of nature, namely veterinary health. In integration, the object of education is realized through spatial planning and standard of comfort in accordance with the values of Islamic education siblinghood, humanity associated with such openness, togetherness and manners or ethics in medicine.

2.5.2 Application of the Somalia tradition to the design

Principles of *extending tradition*	Use of architectural language	The tradition that's has to be extended
Siting	• Zoning • Vegetation • Parking and circulation system • Entrance placement • Garden and open area	• Zoning of the Somalia traditional house • The circulation of the Somalia traditional house
Framing	• Structure • Material	• Use of wood style frame roof like typical Somalia traditional house
Lay outing	• Space arrangement • Utility system	• Use of the layout of the Somalia traditional house
Tipping	• Opening in the roof of the building • Ornaments • Traditional sculptures	• Applying traditional ornaments and sculptures in the design. • The facade of the Somalia traditional house.

CHAPTER 3

Design method

3.1 Programming Stage

Theory of extending tradition:

Problem seeking:

A way to understand a thing, like it does something else, to gain a better understanding of a particular topic. In other words, describe a subject with another subject. Seeing a subject from the point of view of another subject (Antoniades, 1992). The problem formulation extends in the tradition theme and the object as well, the lack of the object in the site or anywhere near it is what caused the issue, when it comes to the theme, Somalia's architecture never exceeded in its adolescent and one will rarely see a traditional architecture merged with the modern architecture in that part of the world

Conceptually, ideas and visuals complement each other as early elements and visualizations as a statement to gain a better quality and fundamental.

3.1.1 Design method

The material world is always changing. There is a part of architecture that is constantly in flux because it reflects the natural environment. But the higher immaterial truths don"t change. The material world is confusing and contradictory, but immaterial truths are enlightening and don't conflict with each other. Architecture therefore is confusing and contradictory because of the environment it is part of, but the profound truths that it reveals are permanent and unified.

3.2 Design stages

3.2.1 Data Collection and Processing Techniques

To achieve the appropriate design it will be done data collection techniques as follows:

1. Observation / Field survey

Observation can be achieved if it has done an observation on the target object, with the recording-recording of the condition or behavior of the target object (Abdurrahmat Fathoni 2011: 104). 26

Observation in this technique is to obtain the data on the tread for the design to be solutive and appropriate based on the existing environment.

2. Documentation

Documentation studies can be achieved by studying the respondents' personal records, like psychologists who serve the development of their clients with their personal records (Abdurrahmat Fathoni 2011: 104). Study the documentation here to get valid data on the target, get clear images, and to make it easier to get or present data in a more communicative and easy to understand form.

3. Survey of similar object

Conduct object surveys that have a building theme or theme of the same approach, in order to achieve knowledge of the experience of space and objects directly to strengthen the identity of the building to be designed.

4. Literature review or literature study

Collect references from books, or scientific papers, online or non-online media to serve as a design foundation to deepen the underlying knowledge of design to achieve goals rather than design.

In a design there are several steps that need to be done, so that accuracy in the process of work in accordance with the expected, ranging from site survey, the initial concept of design, planning, design and implementation.

- Survey

Is a thing to do in order to know the area of the tread to be built, either the contour of the land is sloping or flat, the condition of loose soil or hard soil etc, Because this can affect the form of construction that will be used when building.

After obtaining the initial data of the survey, then what should be done by arsitekpedia.com is to make the concept of planning according to the existing data in the location, which includes the site data, climate data, the potential view, the orientation of the sun and the direction of the wind, profits at this concept stage i.e. the building can respond to good natural potentials, such as for example the sun 27

- orientation,

  On the side of the building facing the east will be used as open spaces that can include the morning sunlight, such as living room, lounge, etc.

- Planning

After the concept data has been compiled it will be in the progress of the planning stage where the concept data will be implemented into the measured image or also called working drawings, ranging from the drawings of the plan, with the organization of space and a comfortable circulation with guided by ideology and architecture data . Then forwarded to another plan such as, Foundation Plan, Plan Sloof, Column Plan, Irrigation Plan, Floor Plan Pattern, Plan of Electrical Installation, Pieces and detail-architectural data, and so on.

- Designing

After the drawing of the work is complete, then proceed with the stage of making, the Budget Plan is used as a monitoring of the expenditure of building materials, after which the physical design of the building is staged in the field, ranging from land acquisition, excavation of foundation site, irrigation plan etc.

3.2.2 Design analysis techniques

Stage of site analysis is an important thing in the design technique. Analyzing the architecture is useful in determining a solute consideration to be applied to the design. Treatment on the design object or site to be constructed is analyzed so that conformity in both can be achieved. Stages in this analysis include site analysis, analysis of actors, and activity analysis.

1. Function analysis

A Functional Architecture is an architectural model that identifies system function and their interactions. It defines how the functions will operate together to perform the system mission(s). Generally, more than one architecture can satisfy the requirements. Usually

each architecture and its set of associated allocated requirements have different cost, schedule, performance, and risk implications. The functional architecture is used to support functional and performance test development. It also supports development, along with the physical architecture, of verification tasks that are defined to verify the functional, performance and constraint requirements. A system will have a functional and Physical Architecture.

2. Space Analysis 28

In the theme of space and time is then the analysis of space is one of the most important, in addition to know the amount and amount of space that will be required, the process of this analysis will translate the process of poetry that will occur in the atmosphere of space that will expression each other. This analysis phase is an analysis of activity type, activity group, type of space, space function, and user.

3. Shape Analysis

Analysis of the form that is the physical appearance of the building that will be the main expression of the appearance of a building. With the theme of space and time, then the physical expression of the building will be a strong character in its application. With the harmony between building spaces will produce a good building formation. This analysis will produce a formation of ideas poured through sketches and drawings. This stage of analysis in the form of analysis of building forms, building materials, mass composition, and building orientation.

4. Site Analysis

Site analysis is the analysis to be performed on the location to be built. Seeking potential or lack of footprint in order to maximize the design to be built. With this stage of analysis it will simplify the design process accordingly. The analysis phase is land use analysis, accessibility and circulation, view (inside and out), vegetation, noise, climate (sun, wind, rainfall) and zoning

3.2.3 Synthesis technique

Some considerations that make an interesting art gallery include:

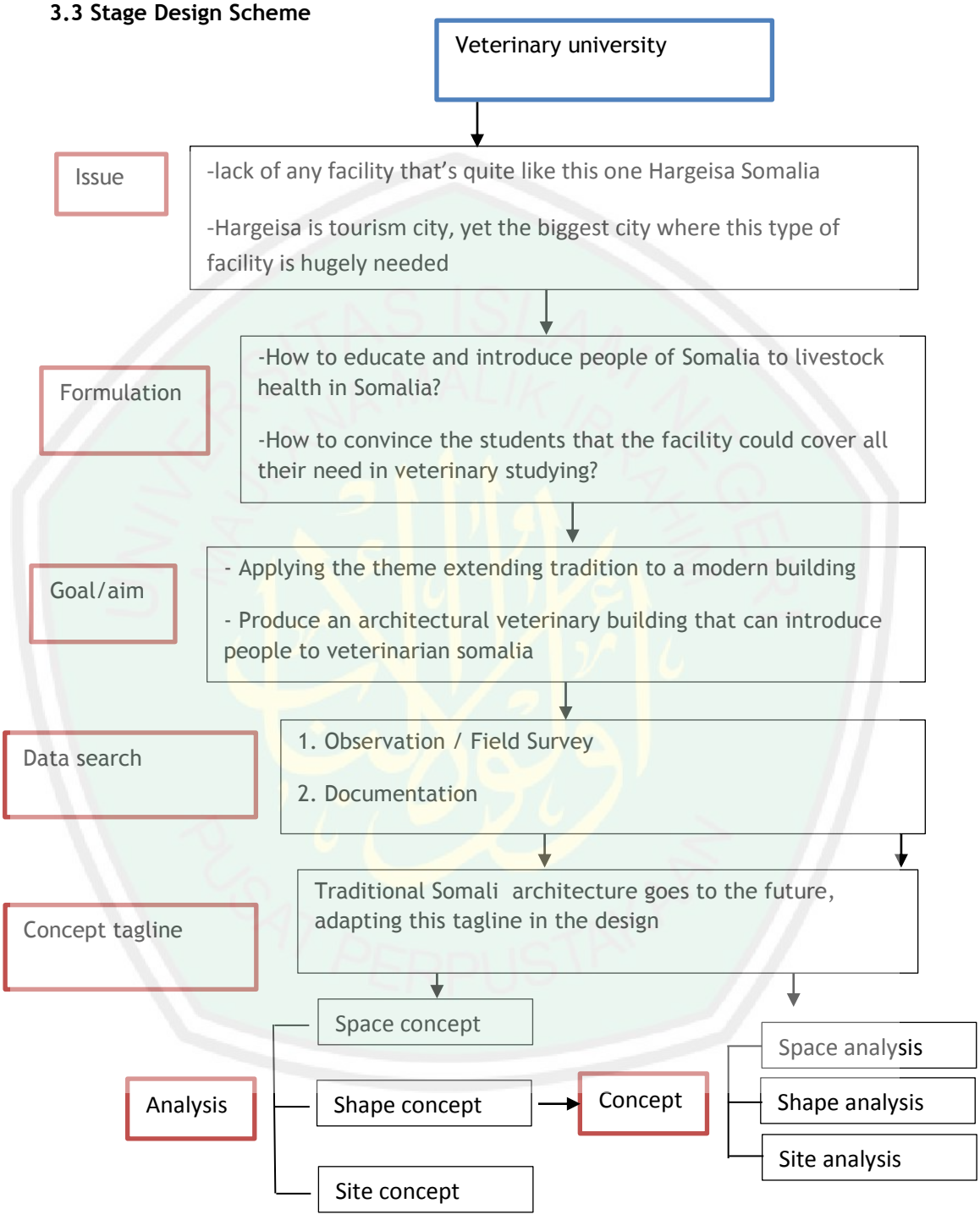
The location is within easy reach. The theme of architecture design in accordance with the object on display. Clarity on the flow of circulation inside the gallery. Hargeisa city has a great need for combining its traditional houses with the modern architecture, when someone hears that word they will imagine a creative design with physical structure flashes in their mind, integral to the identity of the country as its architectural heritage.

The art gallery is expected to have the flexibility of space, the circulation of visitors and good goods, and the arrangement of interesting goods.

3.2.4 Formulation of Basic Concepts (tagline)

somali nomadic people/ livestock herders have always prouded themselves of being simple and humble as the image above shows Somali traditional house is extremely simple, simple enough that nomadic owners could easily move one point to another for the sole purpose is to ran from droughts and rough climate to search of a green places where the livestock could find their food. The concept tagline would be to merge that humble easy boiled house with the modern and more futuristic architecture. Somali traditional architecture goes to the future, would be the most suitable choice of words

3.3 Stage Design Scheme



CHAPTER 4

4.1 Analysis and schematic design

4.1.1 Analysis of design area

Design analysis consists of several types of analysis, i.e. activity analysis and space requirements, site analysis and zoning area, measured criteria analysis, immeasurable criteria analysis, urban image element analysis, urban design element analysis, and urban aesthetic elements analysis.

Analysis of the design area is an analysis that aims to determine the factors that can affect the building. These factors are analyzed to then choose the best solution in terms of positive and negative.

Policies related to spatial pattern of Hargeisa City area, including:

a. Determination and Development of Protected Areas;

b. Development and Control of agriculture Area

Article 13

General provisions of zoning regulations for public facilities designation areas compiled, with:

A. arrangement of plots with a minimum size of 75 m2 (for private) and 1,000 m2 (for government buildings);

B. maximum height of 1 floor building, except on public zone;

C. setting of small to medium size;

D. increase the number of plants and open spaces around the area, with providing a minimum of 20% of the total area;

E. available complete network system, to meet the tourist network and tourism network;

F. The availability of sufficient parking space to put various vehicles.

4.1.2 Socio picture the people around the site

- **Religion**

The site is located in the eastern part of the city , the closest building to the site is Kuwait orphan boarding school, Hargeisa city inhabitants are 100% Islam so the socio-religious daily life strongly adheres to the teachings of Islam.

- **Culture**

The inhabitants of Hargeisa city embraced Islam 1000 years ago so all of their culture strongly reflects the religion and it's within the boundaries of Islam

Boundary and Site Forms Analysis.

Hargeisa city is the largest in south-east Somalia and has the highest amount of livestock yet the worst droughts and livestock epidemic disease occurs in this city, which made deigning this object here out of all places in Somalia.

Figure 4.1 Livestock herders near the site

Source: www. Hadhwanaag.id

Figure 4.1 Livestock herders near the site

Source: www. Hadhwanaag.id

Figure 4.1 Livestock herders near the site

Source: www.Hadhwanaag.id

Figure 4.2: Hargeisa city map

Source: google map

Figure 4.3: hargeisa city map

Source: Google map

The site is located beacon valley- new- hargeisa, which is located in eastern part of the city, this part of the city is settled by livestock herders, and their job is to take care the animals, this also locates in a place where there is not much noise which makes it adequate for learning facility

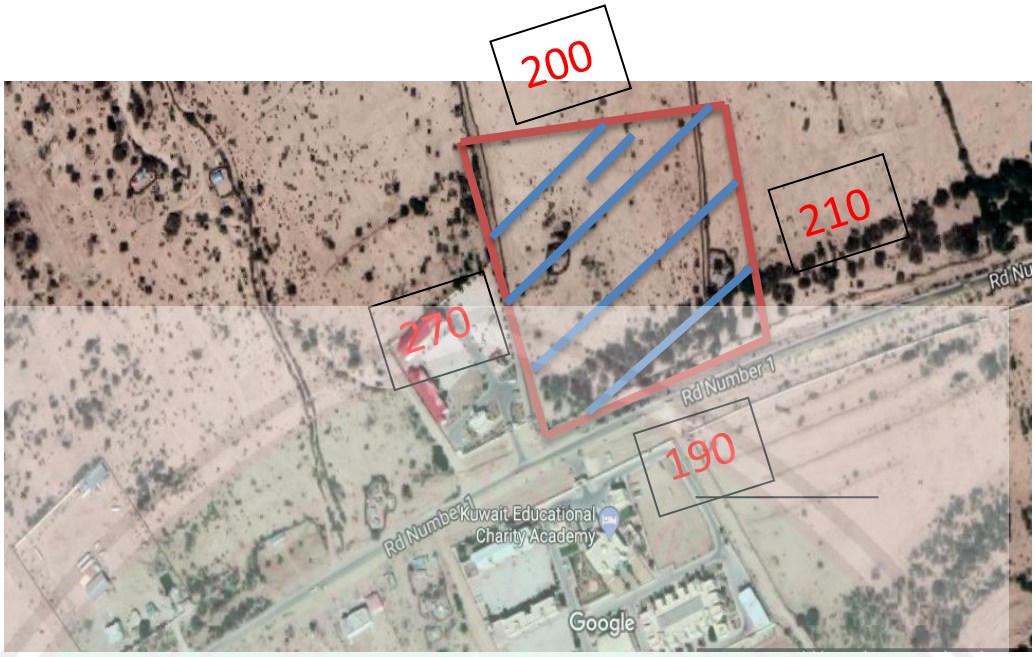
It's the part of the town that is educational material, as there are more than several schools and education facilities locate there including one of the biggest schools in Somalia the Kuwait orphanage school for the kids.

These side of the side is highly popular with livestock herders or pastoralists that live near Hargeisa, the reason it's so popular is because of all the city it has the most fresh grass that animals like to eat, even if there is no herder with animal they usually come alone for the grass.

The site is also very close with the biggest animal exporter in Somalia *Deero mahjar* its far from 10 km which is also close to the port where animals and livestock's are exported outside the country,

This side of hargeisa city is known by ***riyoraac*** which liteary translates to the one with the livestock, so the pastrolist have been taking care and feeding the livestock since a longtime, even in broad day you can see the thousands of animals whom came that place in order to feed the grass since its one one the few places in hargeisa city that green moistrous grass that's good for animals grows.

After the new civil code was established in 1973, the atmosphere of Somalia took a turn for the worse. General Barre wanted total power and began installing programs to tear apart local and tribal governments so the national government had more power. Solidarity of lineage groups persisted despite rough conditions though. At the same time, the government forcibly settled 140,000 nomadic pastoralists, requiring them to settle in farming communities and coastal towns. The government displaced these nomads from their life of travel, just as they displaced settled communities from their homelands. The nomads' had to be able to move in order to feel at "home," but the government felt they were too much of a threat and source of insecurity for the government. The nomads did not however give up hope, despite the seemingly lack thereof under the repressive government. "Clan conciousness as well as a desire to return to the nomadic life persisted." And the hargeisa city was one of the plantes where the government planted the pastrolists.



- East side of the site: 210 meters

  (The east side of the site is empty at the moment)

- West side of the site: 270 meters

  (There is the Kuwait school for orphanage and disabled children at the west side right next to the site itself)

- North side of the site: 200 meters

  (the north side of the site is empty at the moment)

- South side of the site 190 meters

  (the main road and the front entrance of the site locates in the south side)

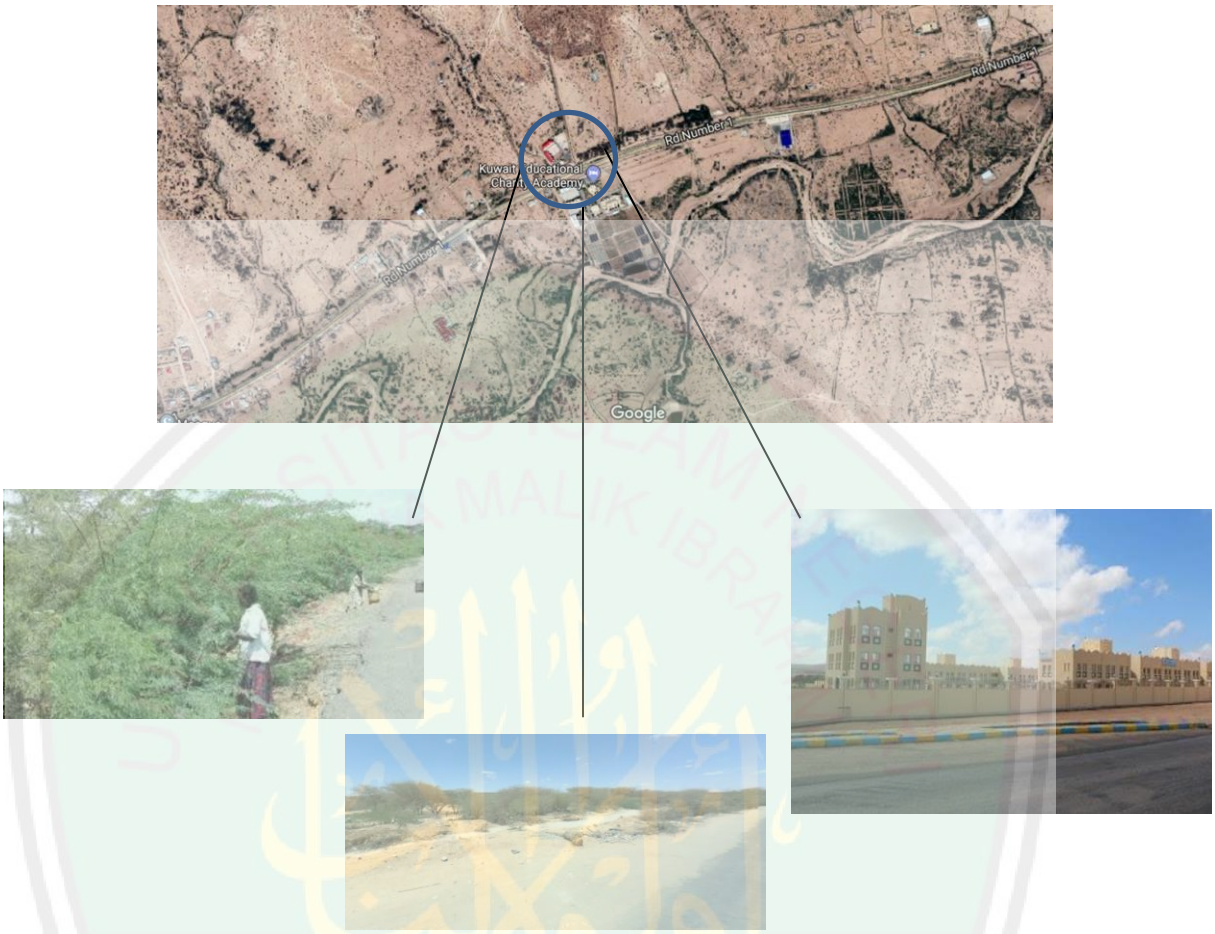


Image 13: west side of the site

Source: Personal documentation

4.1.3 Existing Conditions

4.1.3.1 Site physical condition

A. Accessibility

The site is easy to access by almost every vehicle, since the site is located near a highway it has an easy accessible way by, four wheeled cars, lorries that are carrying animals for experiments and since the site has no contour in front of it, wheelchairs can access it easily.

Figure 4.9: the site is only accessibility is through the main road that goes in front of it

Source: personal documentation

B. Site view

The view of the site is quite good compared to many laces in Hargeisa city; it has the two of the most beautiful mountains in Somalia behind it. it's also one of the few places in the whole city that turns green if it rains and that's the reason its loved by pastoralists by making the livestock eat the green, if it doesn't rain that year in the city, the site is like any other place of the city because of the are being semi dessert its only sand a few trees as long as the eye can see.

Figure 4.9: the site has two mountains behind it which is the highlight of the tourist in Hargeisa city

Source: personal documentation

C. Site drainage

The drainage system is directed towards the sewer channel that is near the main road, since it rarely rains the government doesn't put much effort in installing drainages in the city and if it rains the drainage usually floods leaving the water to stay on the ground for more than intended to.

D. Climate

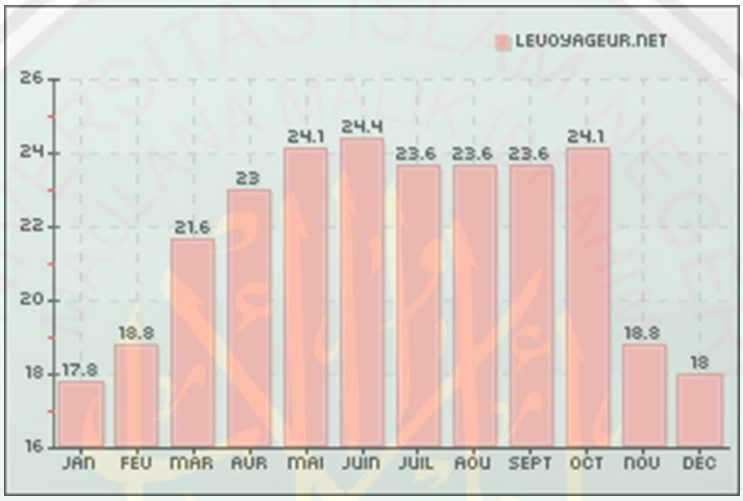


Figure 4.4 climography of Hargeisa city by month.

Source: https://en.climate-data.org/location/764248/

The site has the typical desert climate which is hot during the day and sometimes extremely cold during the nights, the lowest temperature of the area cold go 11.7°c and during the days it could go as high as 30°c, the average humidity is around 64% with the average wind speed being 25 km/h, the highest precipitation fall recorded is 409 mm annually, and it usually rains 8-10 days in a year.

4.1.3.2 Physical condition of the nearby buildings

1. Environmental patterns and building orientation

Environmental growth of the site increases by the day, the site is located the east corner of the city which wasn't very populous not long ago but

now there is an orphan school, settlements under construction and various hotels been planned.

2. Intensity of land use

Hargeisa is the most populous city in Somalia including the capital which makes every site near a school or education facility higher priority for the people than those sites that lacks that,

new-Hargeisa which is the district that the site is located is growing rapidly due to many people entering the city from the east.

4

Kuwait orphan school

Right in front of the site

2

Kaah business centre

3oo m to the right

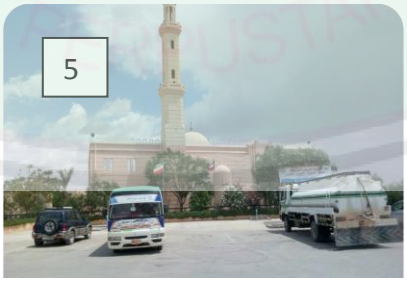
3

Nuuradiin girls' high school

200 m to the right

3

4



5

Most of the places surrounding the sites is an empty sites or under construction since city is getting populous and attracting the refugees fleeing from Yemen, there is also two major education facilities one of whom is high school for girls and an orphanage school built by the government of Kuwait as a charity for the homeless orphans in Hargeisa city. This is also one of the biggest supermarkets in Hargeisa although the schools are quite closer.

3. **Height of the surrounding buildings.**

the buildings surrounding the sites is usually wide span not only the site but whole of Somalia, because of the price of the cement, since Somalia doesn't manufacture cement its quite expensive and that's why most people prefer wide span building rather than costly tall building.

The orphanage school is the tallest building near the sites which is 3 floors. The others being 2 floors and 1 floor respectively.

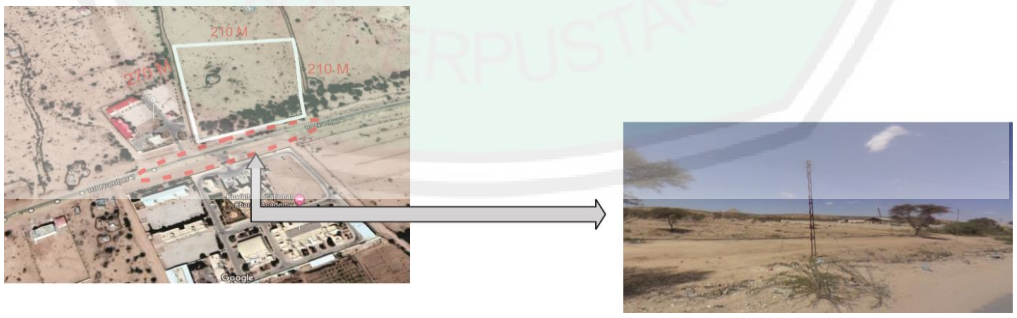
4.1.4 Physical condition of the infrastructure

The physical condition of this infrastructure is in the infrastructure network that needs to be in the design area e.g.

- **The clean water network,**
  - Local tap water company (where the network covers all major roads and neighborhood or settlement roads)
  - Ground water

- **the communication network,**
    - The communication network is a tower, which is a telephone network that's widely spread in that region

- **rain water drainage,**
    - The drainage water channel of this area is discharged through closed channels; the drainage of this area is covered with concrete.
- **Electricity network**
    - The electricity network of New-Hargeisa is supported by state electricity company which is easily accessible by any area in the city.

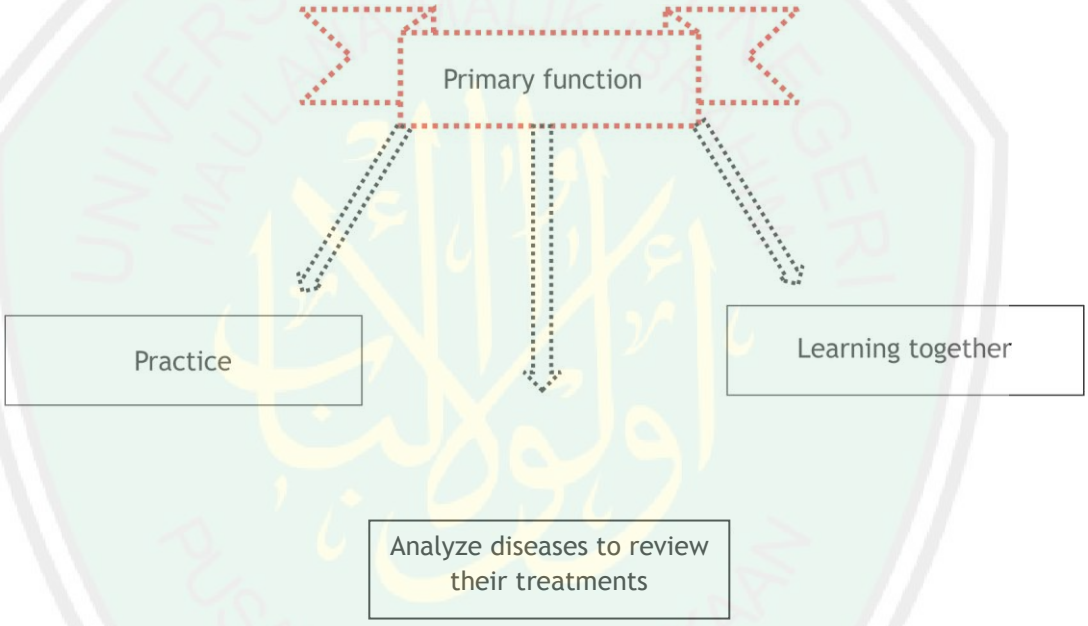


4.3 Function Analysis

The design of veterinary faculty in Somalia has been planned by the government for several times, but none of their attempt was successful and the high school graduate student that are interested in veterinary faculty has sky rocketed, so this design will provide the students to learn this faculty in their country with the theme of *Extending Tradition* that integrates the value of the tradition of Somalia and reminds the students about their roots so the community can feel its benefits.

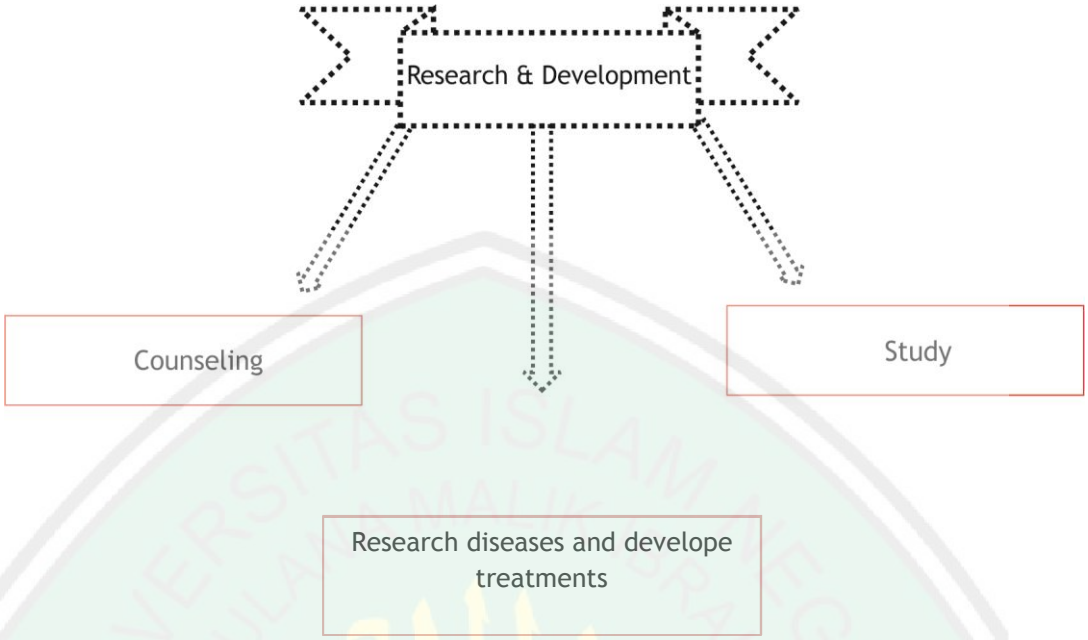
4.3.1 Primary function

The primary function is the most prominent and important function that must exist in any architectural design, the main function of the veterinary faculty of Hargeisa – Somalia is to provide optimal functions and fulfill the students need for learning about veterinary



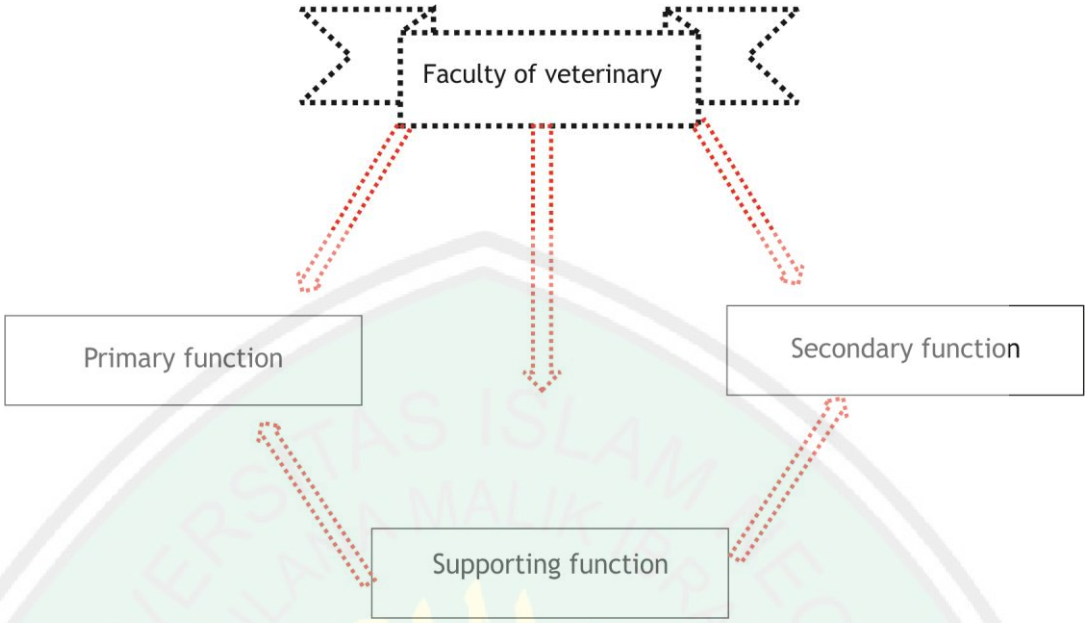
4.3.2 Secondary function

Each design has another function which is not the main function which is to study, develop and research, thus the function of the building becomes multifunctional which can be operated even though there is no lecture schedule or similar academic activities.



4.3.3 Supporting function

The existence of the supporting function is extremely important to the design because it involves comfort, security and to ease for the design carrying out its primary function as to produce appropriate and functional designing accordance with the desired function and with the principle of togetherness, openness and culture, such as public spaces, gazebos, vehicle parking space, and toilet.



4.4 Activity Analysis

After the function analysis is done, then the analysis of activity is needed to determine what activities can take place and that are in accordance with the principles od the design, the following tables is explained how the activity will occur.

A Function classification	B Function type	C,D Activities type		E Activities characteristics	F Activity behavior
Primary	Theory education	Theory about veterinary studying, Animal nursing study, Animal pharmacy study, Animal nutrition study	Discussion	Semipublic, passive	Sit, stand in the front place where indicated for the lecturer
			presentation		Recopricate disscusion & quesions with each other using LCD projector
			teaching		Stand infront the classroom where the lecturer was indicated
			Placing goods/ storing		Sit, stand infront of the locker to place bags, goods thats been carried
	Practicee equiments	Anatomy practice	Readying uniform	Semipublic, passive	Stand in the hanger wearing practice uniform
			Readying practice equipment's		Stand where equipments is stored
			Wash practice equipment's and both hands		Stand at the water fountain to wash and cleanse the equipments
			Practice room	Private passive	Practice with the dead animal

		Histology Physiology Biochemical Microbiology Parasitology Pathology Anatomy Pathology clinic	Practice in the accordance place		
			Readying the practicing object/animal remains	Semipublic, passive	Stand, sit to extract the dead animal from the morgue fridge at the basement
			Readying the practice uniform		Stand in the hanger wearing practice uniform
			Readying practice equipment's		Stand where equipments is stored
			Wash practice equipment's and both hands		Stand at the water fountain to wash and cleanse the equipments
			Practice room	Private passive	Practice with the dead animal
			Practice in the accordance place	Semipublic passive	
	Animal nursing study	Pathology anatomy Animal pharmacology for the nurses Epidemiology Physiology Biochemical Microbiology and parasitology	Readying the nursing uniform	Semipublic passive	Stand in the hanger wearing nursing uniform
			Readying nursing equipment's		Stand where equipments is stored
			Wash nursing equipment's and both hands		Stand at the water fountain to wash and cleanse the equipments

			nursing room	Private passive	Practice with the dead animal
			Nursing in the accordance place	Semipublic passive	
	Animal metabolic system and nutrition	Animal diet demands Digestion and metabolism formulation Adaptation physiology	discussion	Semipublic passive	Sit, stand in the front place where indicated for the lecturer
			presentation		Recopricate disscusion & quesions with each other using LCD projector
			Teaching/learning		Stand infront the classroom where the lecturer was indicated
			Giving tasks		Give tasks using LCD projector or writing on the whiteboard
			Receiving/solving tasks		Discuss together about solving tasks.
	Immunology and anesthetics	Animal immunity, Physical anesthetics,	Readying the subject/animal	Semipublic passive	Stand, infront of the fridge basement to extract the dead animal
			Readying the operation room		Stand, turn on the surgery lights
			Readying operation uniform		Wear the uniform

			Readying the operation equipment's		Wash the equipment at the fountain first the ready it
			Washing the equipment and both hands		Washing the hands and equipment meant for practicing
			Performing the operation	Private passive	Perform the practice operation at the intended room

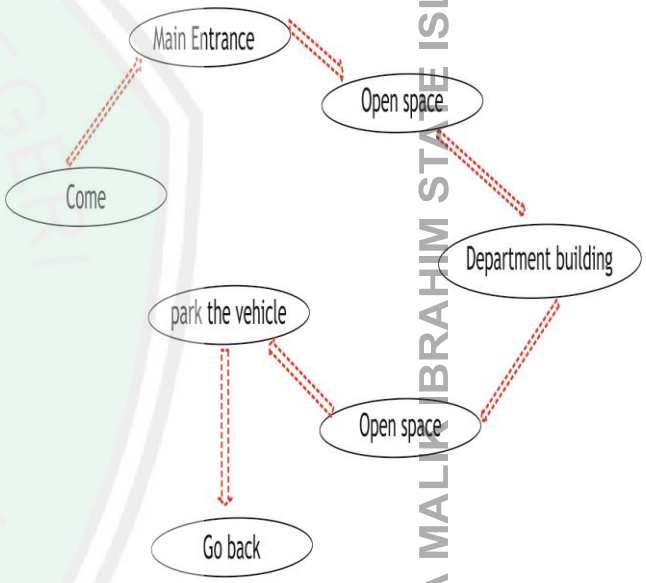
A	B	C	D	E	F
Secondary	Library	Access to books	Read books privately	Private passive	Sit Read books
			Read books in groups	Semi private passive	Sit together in one place
			Discussion	Semi private passive	Sit together to learn from one another
			Lavatory	Public passive	Sit in the place where it meant to be lavatory

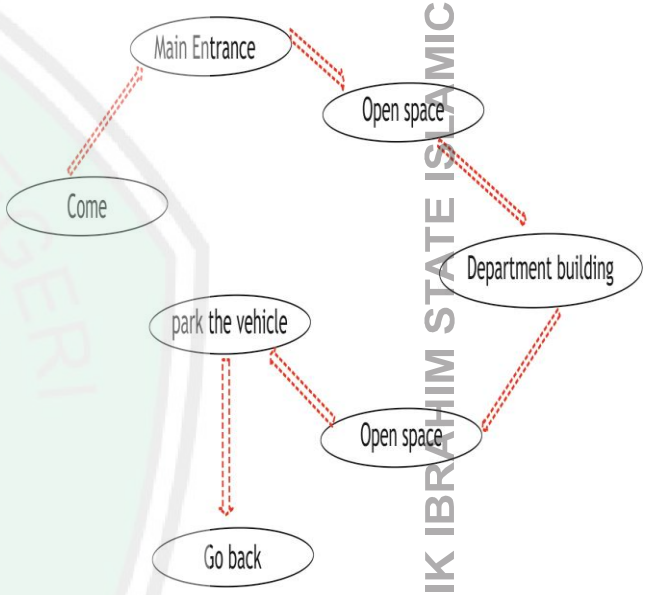
			Borrow book	Public passive	Sit at the computer in the reception and fill your data to borrow the book
			Serving	Public active	Sit/stand in the reception area to serve
			Administration	Public active	Stand/sit in the admin to give information
			Save collection	Private active	
			photocopy	Public active	Stand in front of the photocopy
			Print file	Public active	Sit in front of the computer to print the file
			Return a book	Public active	Give it back to the receptionist

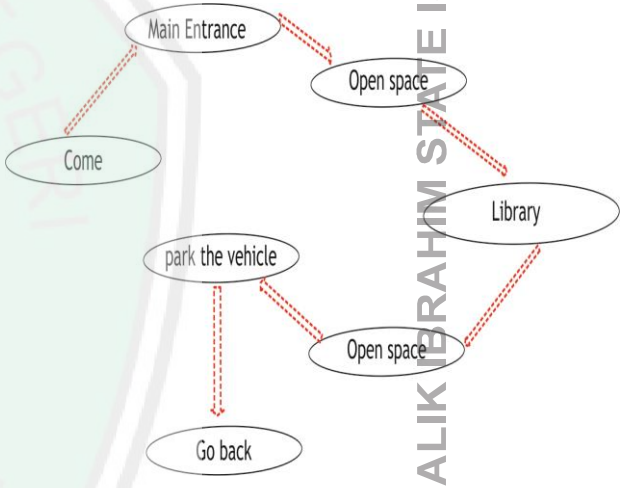
Supporting	Management	Set up educational facilities	Coordinator	Semipublic passive	Stand, sit, with dynamic activity
		Set up	Coordinator	Public, passive	Sit, stand, facing the computer to print
		Manage the administration	Student service	Public, active	Stand in front the administration, Sit the table to serve

		Faculty center	Administration	Private, passive	Sit, manage in the faculty center
	Cleaning	Set up cleaning equipment's	Put cleaning tools	Private, passive	Stand, crouch where the cleaning occurs
		Break	Office boy	Private, passive	Sleep, sit
			Rest area	Private, passive	Sleep, sit
		Vehicle parking	Car parking	Public, passive	put a vehicle of a certain size according to the type of vehicle with safe conditions
			Bus parking	Public active	put a vehicle of a certain size according to the type of vehicle with safe conditions
			Parking supervisor	Private Active	Sit, stand, walk and check
		Meetings	Discussion	Semi private, Active	Sit, stand

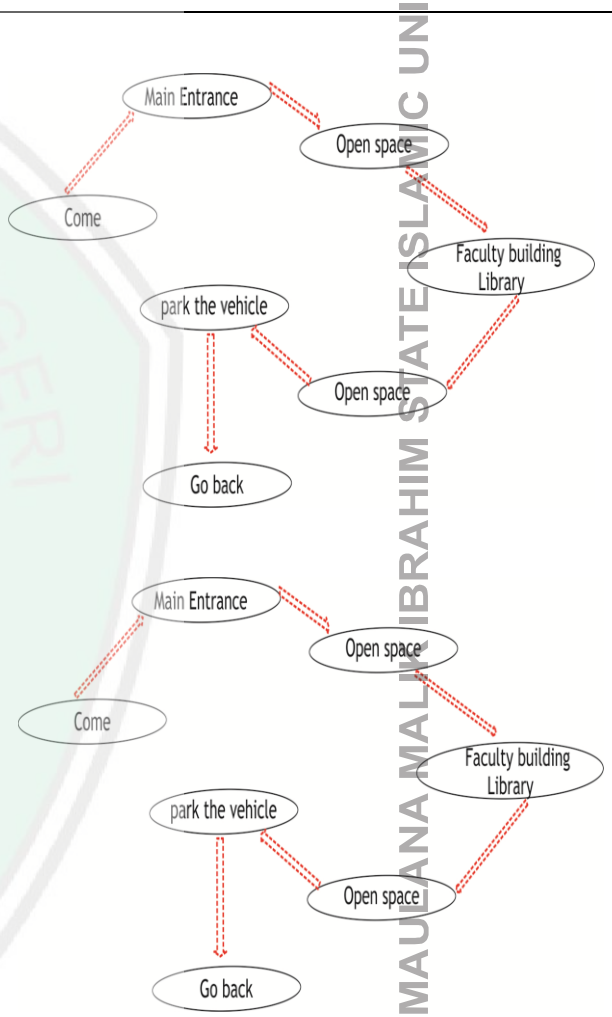
		Visits	Meetings	Semi private, Active	Sit, stand, walk
	Resting area	Lecturer rest	Resting	Semi private Active	Sit, jest & talk with each other
		canteen	Rest, eat & drink	Public, passive	Sit, rest, chest, drink & eat together
		Take shelter	Rest	Public, passive	Sit, stretch out
			Discussion		Sit, jest & talk with each other
	Entertainment and public area	Activity at the football/basketball arena	play	Public Active	Stand, sit, stretch, jump, play
		Acting, singing at the theatre	Sing, act	Public Active	Sing, act drama, entertain
			Exhibition		

A	B		C	D	E	F
Function classification	Type of the user		Type of users	Number of users	time	Circulation flow
Primary	Study of veterinary. Study of animal pharmacology. Study of animal nursing. Study animal nutrition. Study of animal immunity.	Teach/ learn	Teachers/ students	35-40 people	**8 hours**	
		Discuss		35-40 people	1 – 2 hours	
		presentation		3-5 people	1 – 2 hours	
	Anatomy practice	Ready the uniform		4-5 people	5 minutes	
		Readying the experiment subject		4-5 people	1 – 2 hours	
		Readying the equipment's		4-5 people	5 minutes	

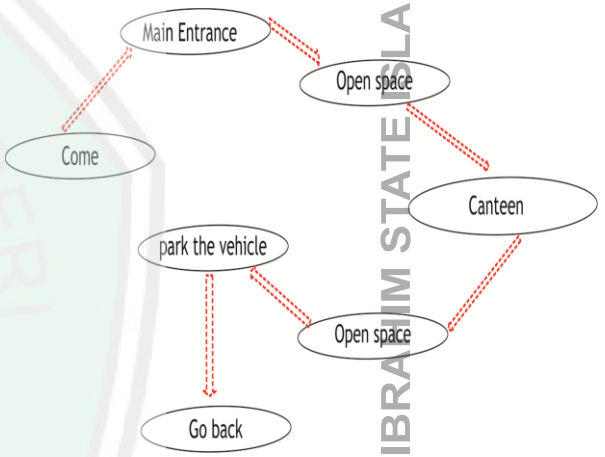
	• Histology • Physiology • Biochemical Microbiology Parasitology Pathology Animal anatomy Clinic pathology and pharmaceutical	Readying the uniform	Teachers/ students	4-5 people	5 minutes	
		Practicing in the practice table		35-40 people	2 hours	
		Storing goods		4-6 people	30 minutes	
		Readying the equipment's		4-6 people	5 minutes	
		Taking the practice object.		4-6 people	5 minutes	
		Washing the equipment's and hands		4-6 people	5 minutes	
	General Practice	Readying the uniform		4-5 people	5 minutes	
		Practicing in the practice table		35-40 people	2 hours	

Secondary	Access to books	Read privately	Lecturer, students	1 person	Lecturing time	
		Read per group	Lecturer, students	4-8 people	Lecturing time	
		Discussion	Lecturer, students	4-8 people	Lecturing time	
		Borrow books	Lecturer, students	4-8 people	Lecturing time	
		Serving	Lecturer, students	4-8 people	Lecturing time	
		Printer/ photocopy	Lecturer, students & staff	5-10 people	Lecturing time	
		Coordinator	Staff	5 people	Lecturing time	
		Administration	Lecturer, students & staff	5-10 people	Lecturing time	

Supporting	Organize	Coordinator	Staff	5 people	Working time
	Arranger	Coordinator	Staff	5 people	Working time
	Data keeper	Administration	Staff	4 people	Working time
	Keeper of the cleaning equipment's	Area of cleaning service	Staff	4 people	Working time
	Resting	Resting area	Staff	6 people	Working time
		Office boy	Office boy	10 people	Working time
	Parking	Vehicle parking	Car parking	50 people	Conditional
			Bus parking	20 orang	Conditional



	Meetings	Discussion	Lecturers Staff	6-8 people	1-2 hours
	Visits	Meet	Students Lecturers Staff Visitor		Working time
	Teachers rest	Resting	Teachers	10 people	Working time
	Canteen	Rest Eat Drink Chest Talk with each other	Students Lecturers Staff Visitor	300 people	Working time
	Take shelter	Resting	Students	5-8 people	Conditional
	Activities of the football/basketball arena	Play Stand Sit Walk Jump Run	Students Lecturers Staff		1-2 hours
	Amphitheatre	Sing Act drama Tell jokes	Students Lecturers Staff		1-2 hours



4.6 Space Analysis

Space analysis takes part in making the design good planning

Function Classification	Activity type	Space requirements		Total space	Space capacity	Standard measurements (m2/person)	Space dimensions (total space x capacity x standard measurements) + circulation	Space size	furniture
Primary	Lecturing class	Studying lectures	Class rooms	10	40 people	1,9	(1X40X1,9)+2	760	Table, chair, whiteboard, LCD and projector area
		Animal nursing study	Class rooms	10	40 people	1,9	(1X40X1,9)+2	760	Table, chair, whiteboard, LCD and projector area
		Animal pharmacology study	Class rooms	10	40 people	1,9	(1X40X1,9)+2	760	Table, chair, whiteboard, LCD and projector area
		Animal anatomy study	Class rooms	10	40 people	1,9	(1X40X1,9)+2	760	Table, chair, whiteboard, LCD and projector area
		Animal nutrition study	Class rooms	10	40 people	1,9	(1X40X1,9)+2	760	Table, chair, whiteboard, LCD and projector area
							total	3800 m2	
Practice	Practice in the laboratory	Laboratory	Practicing space	1	35-40 people	4	(1X40X4)+2	160	Storage area, practicing table

			Equipment room	1	1	1,2	(1X1X1,2)+2	1,4	Equipment storage Storage rack
			Storehouse	1	1	4	(1X1X4)+2	4.2	Storage
							Total	165.8 m2	
		Main lab	Practice room	1	35-40 people	12	(1X40X12)+2	480,2	Storage area, practicing table
			Equipment room	1	1	1,2	(1X1X1,2)+2	1,4	Equipment storage Storage rack
		Lab of anatomy and histology	Open hall	1	35-40 people	0,95	(1X40X0.95)+2	38,2	Display front, chairs, tables
			Animal corpse room	1	1 unit	12	(1X1X12)+2	12,2	Storage
		Microbiology and parasitology lab	Practice room	1	35-40 people	12	(1X40X12)+2	480,2	Equipment storage Storage rack, chairs, tables
			Equipment room	1	1 unit	6	(1X1X6)+2	6,2	
			Store	1	1 unit	4	(1X1X4)+2	4,2	
							Total	1022.4 m2	

Secondary	Access to books	Library	Admin room	1	2-3 people	10,5	(1X3X10.5)+2	31,7	Chairs, tables and computers
			Lobby	1	1 unit	6	(1X1X6)+2	7,2	Waiting chairs
			Reading room	1	50 people	1,4	(1X50X1.4)+2	70,2	Book shelves, Chairs and tables
			Thesis room	1	1	0,15	(1X1X0.15)+2	6,2	Book shelves, chairs and tables
			Collection room	1	1 unit	0,15	(1X1X0.15)+2	6,2	Book shelves
			Service room	1	2 people	6	(1X2X6)+2	12,2	Tables
			Toilet	1	2 unit	3	(1X2X3)+2	14,6	
							Total	148.3 m2	
	Praying	Prayer area	Prayer area	1	10 people	1,2	(1x10x1,2)+2	17,2	
			Wudhu area	1	4 people	0,8	(1x4x0.8)+2	3,4	
								20,6 m	

	Guest lectures	Auditorium	200 people	1	200 people	(1x200x70)+2	180,2	Chairs, tables, whiteboards and LCD
		Service room	4 people	1,2			5	Chair, projector
						Total	185,2 m2	
	Organize Education facilities	Administration room	Lobby	1	4 people	(1x4x3,4)+2	3,4	Table, chairs, computers
			Resting room	1	4 people	(1x4x3,4)+2	3,4	Tables, chairs
			Sitting room	1	10 people	(1x10x9,2)+2	9,2	Chairs, tables
						Total	16 m2	
	Waiting area	Waiting room	Sitting area	4	100 people	(4x100x360,2)+2	360,2	Chairs, billboard
						Total	360,2	

	Parking	Car parking	Parking area	1	100	15	12500		Parking area
		Faculty car parking	Parking area	1	20	15	300		Parking area
		Bus parking	Parking area	1	1	150	700		Parking area
		Parking supervisor	Security room	1	2 people	0,9	2		Parking area
							Total	13,502 m2	
supporting	Transportation	Lift	Lift area	1	1 unit	4	4,2		
		Machine area		1	1 unit	6	4,2		Lift machine
	Vertical	Stairs	Stairs area	2	2 unit	2	28,2		
							Total	36,6 m2	

	Discussions, sit, gathering	Sitting area	Gazebo	10	6 people	4	240,2		Chairs, tables
			Sitting area	4	10 people	0,9	36,2		chairs
							Total	276,2	
	Resting, relaxing, eat & drink	Canteen	Kitchen	1	1 unit		14,4		Chairs, tables refrigerator
			Serving room	1	1 unit	3	3,6		Tables
			Eating area	1	50 people	1,3	78		Chairs, tables
			Washing area	1	2 people	4	9,6		Cashier table
							Total Overall site total	105,6 m2 72,300 m2	

4.6.1 Dimension and requirement of space.

The dimension and space requirements are formed due to user activities and the need for certain spaces so that a function

That is effective and efficient and comfortable is formed in accordance with the approach.

1. Primary requirements, spaces that are formed because of the function of the building and the primary needs are as

Follows

A. Class

B. Auditorium

C. Reading space (library)

D. Practice area (laboratory)

E. Discussion area

2. Secondary requirements, this function focuses anything important other than studying or practicing that the design

Will function,

A. Practicing lab

Nutrition study

Biology study

Animal physiology study

B. Multipurpose building

C. Open public space,

Football arena

Basketball arena

3. Support requirements, the support function focuses in the security and comfort ability of the design

A. Faculty parking

B. Main general parking

C. Meeting area

D. Security post

Space type	accessibility	Air		Lighting		Quietness	View		Cleanliness
		Natural	Manmade	Natural	Manmade		inside	outside	
Class rooms	+++	+++	+	+++	+++	+++	++	+	+
Lab	++	+++	+	+++	++	++	++	++	++
Anatomy and histology lab	+++	+++	++	+++	+++	+++	+	++	++
Biomedical lab	+++	+++	++	+++	+++	++	++	++	++
Microbiology and parasitology lab	++	++	++	+++	++	+++	+	++	+++
Anatomy practice	+++	++	++	+++	++	+	+	++	++
Animal nursing	+++	+++	++	+++	+++	++	++	++	++
Library	+++	++	++	+++	++	++	++	++	+++
Praying area	+++	+++	++	++	++	++	+++	+	+++
Wudhu area/ ablution	++	++	++	++	+	++	+	++	+
Auditorium	+++	+++	++	++	++	++	++	++	+++

Admin room	++	++	+++	++	++	+	++	++	+
Service room	+++	++	+	+++	++	+++	+	++	++
Meeting room	+++	+++	++	+++	++	++	+++	++	++
toilet	++	++	+++	++	++	+	+++	+++	+++
parking	+++	++	++	+++	++	+++	+	++	+
Gazebo	+++	+++	++	+	++	+	+	++	++
Canteen	+++	++	+++	+++	++	++	++	++	++
Arena	++	++_	++	+++	++	++	+	++	+

Annotation

_ : No need

\+ : Rarely Requires

++ : Requires

+++: Extremely Requires

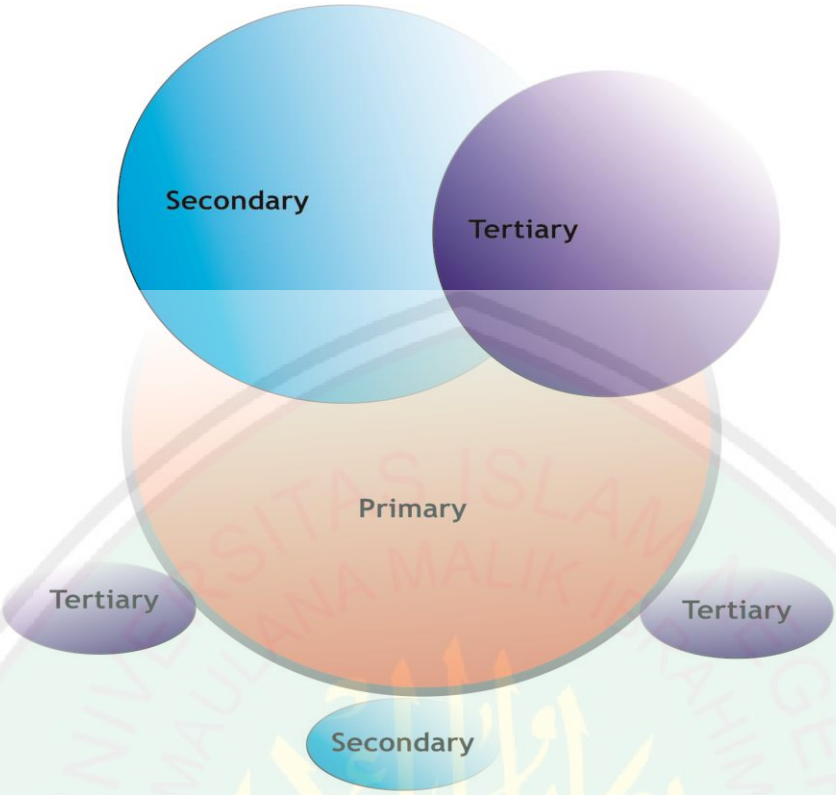


Figure 4.7 Macro zoning Classification diagram
Source:(Analysis 2019)

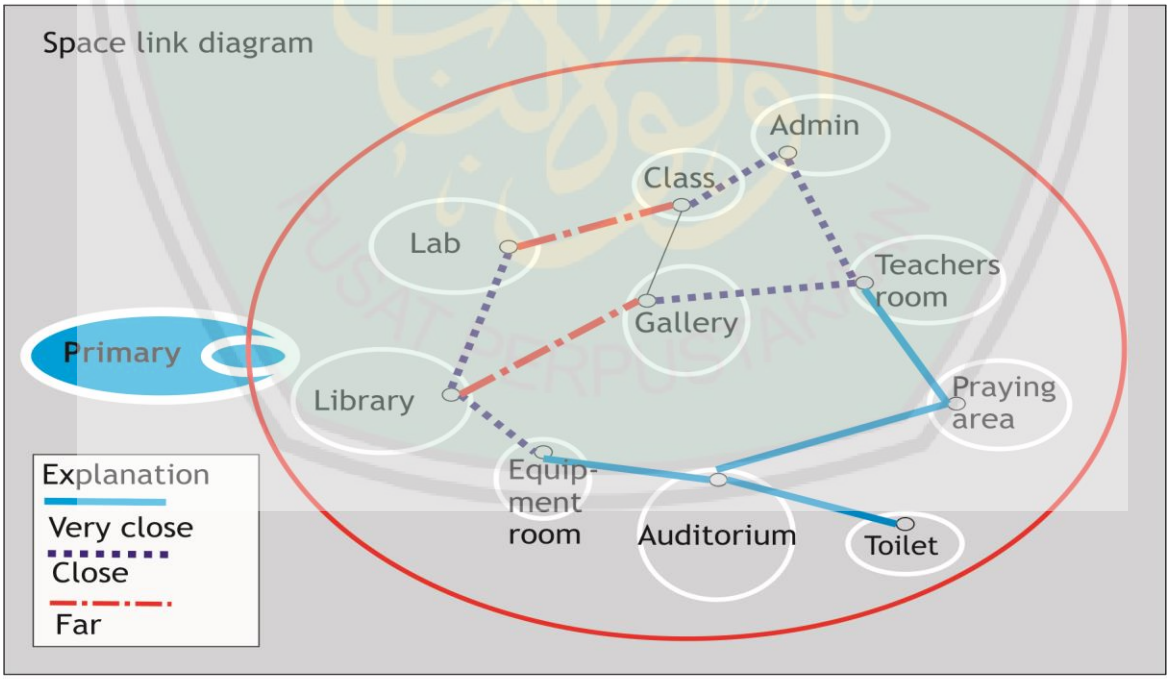


Figure 4.8 Space relations in primary micro zone
Source: (Analysis 2019)

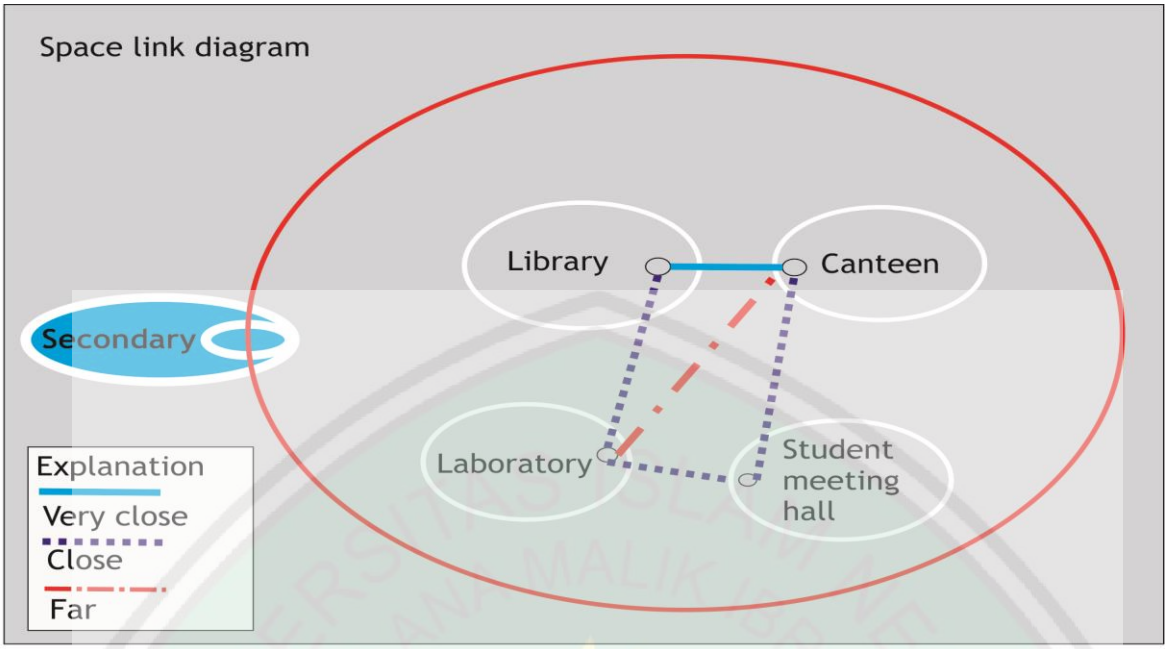


Figure 4.9 Space relations in primary micro zone
Source: (Analysis 2019)

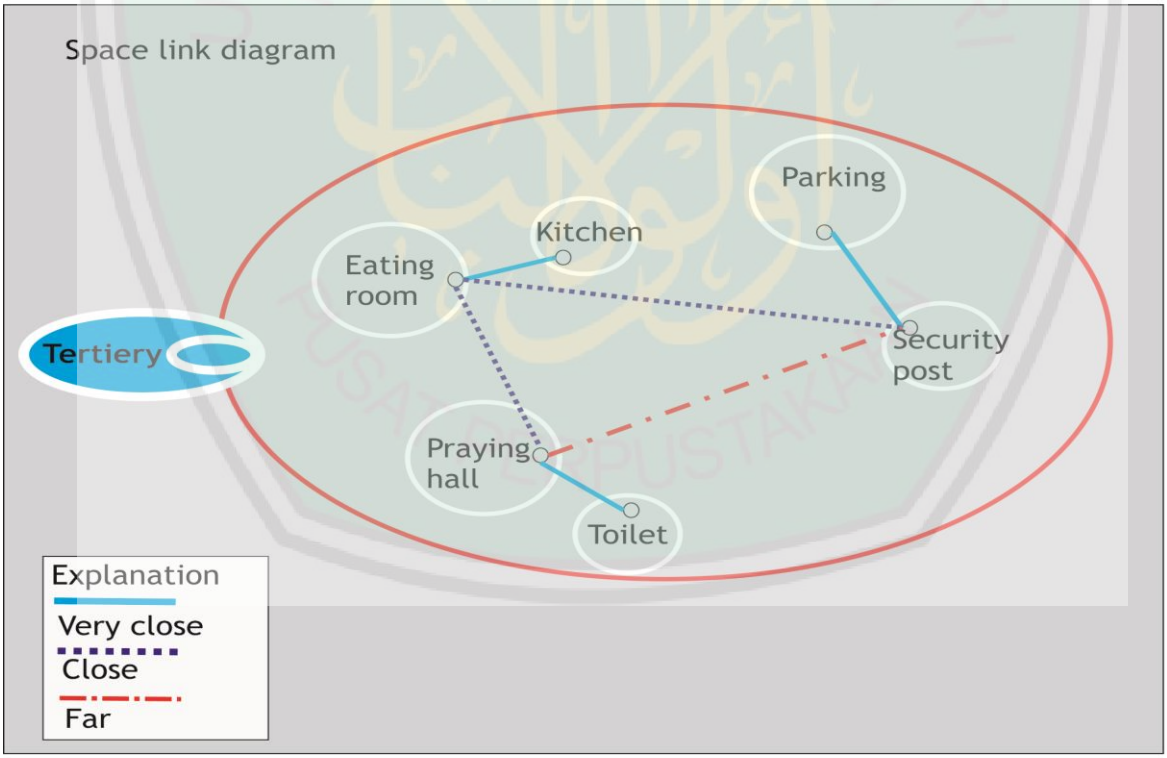


Figure 4.10 Space relations in primary micro zone
Source: (Analysis 2019)

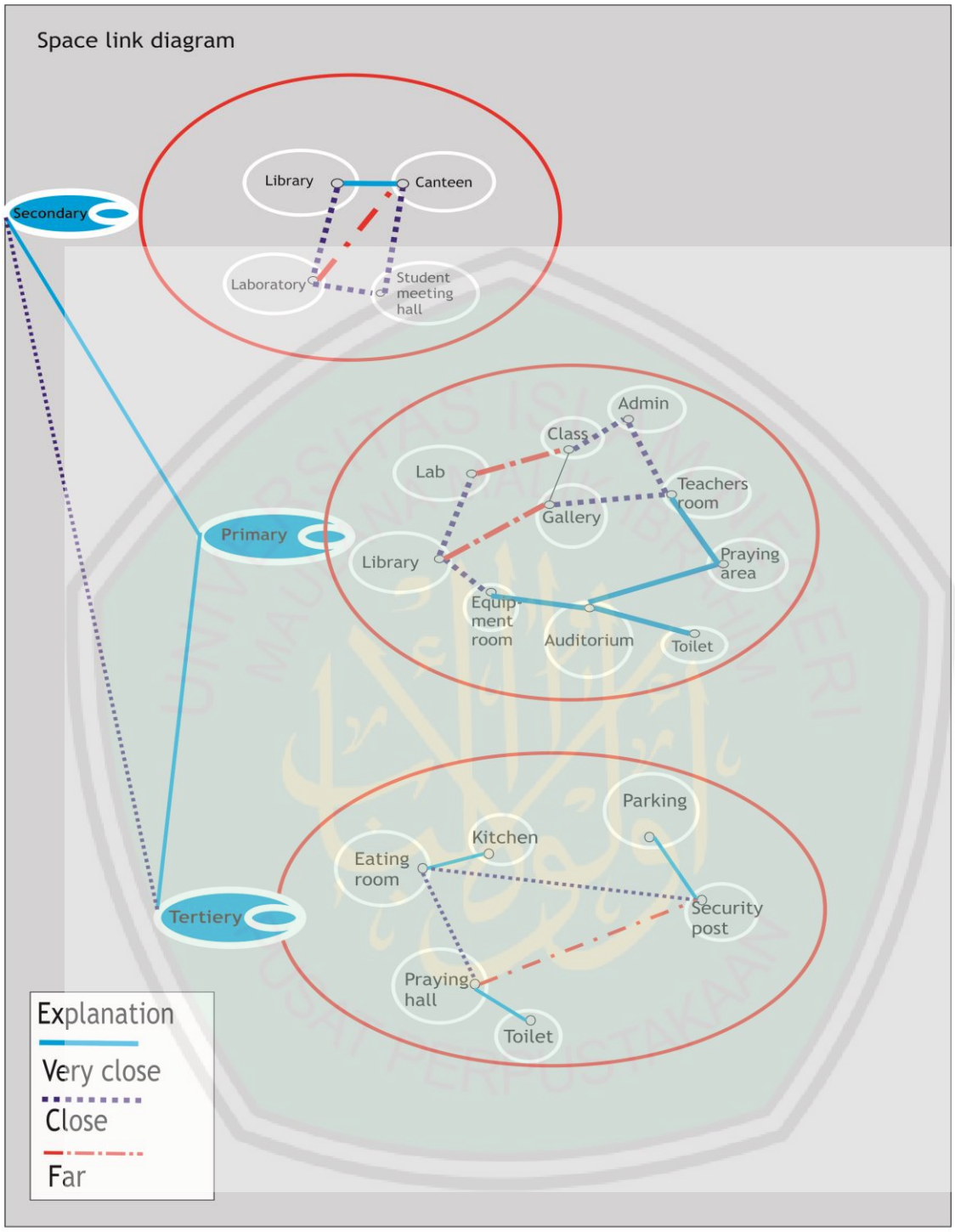
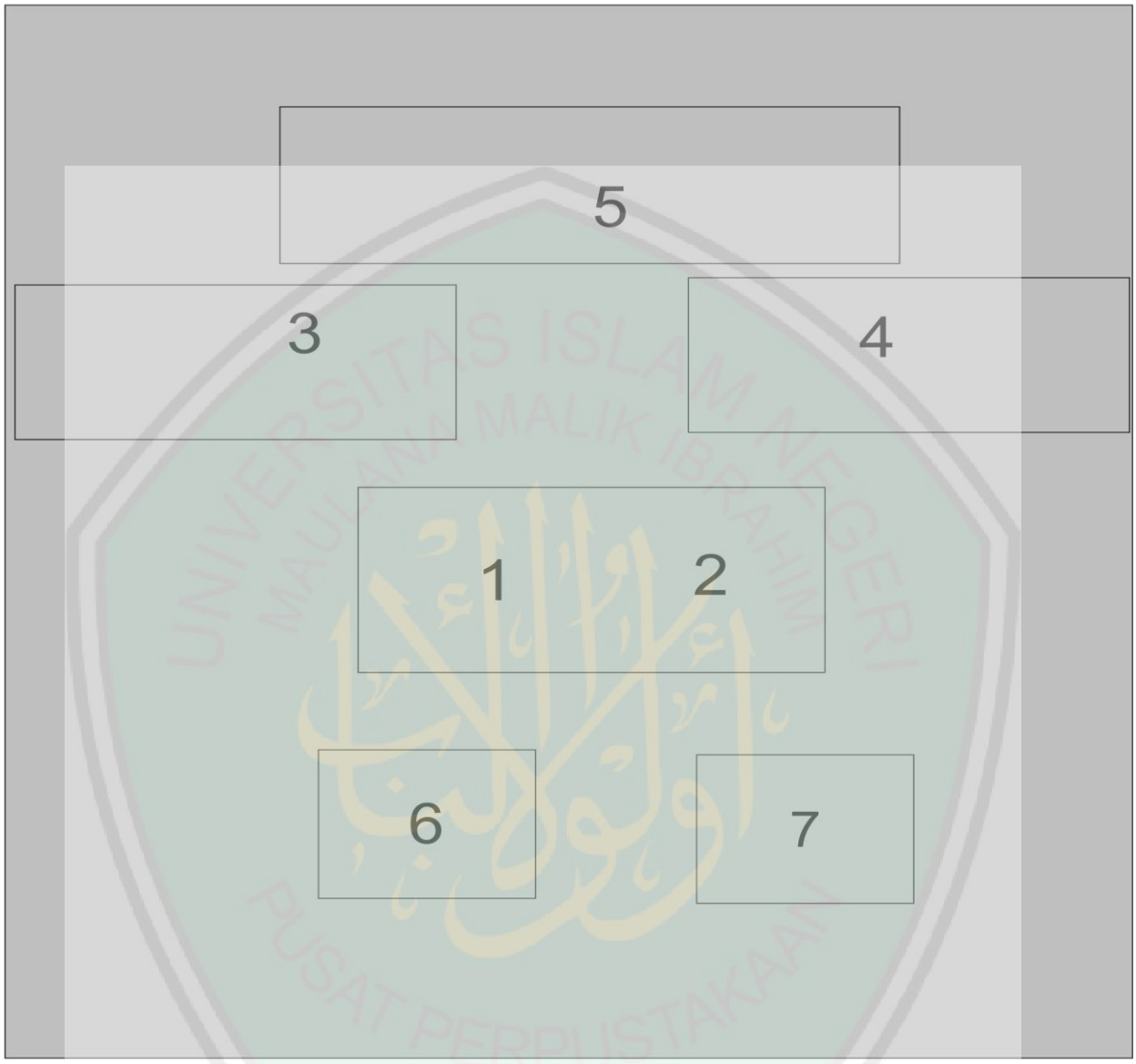


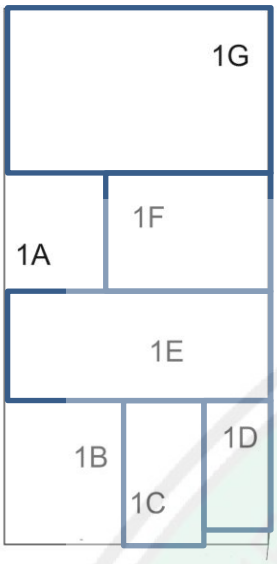
Figure 4.11 Space relations in primary macro zone
Source: (Analysis 2019)

Block plan



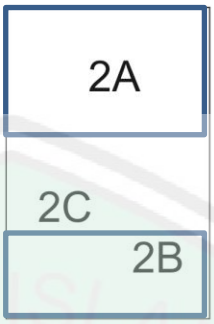
1. Faculty building
2. Administration
3. Hostel
4. Hostel
5. Canteen & Graduation hall
6. Library & Student meeting hall

1- Faculty building



1A. Class rooms
1B. Admin
1C. Lecturer's room
1D. Audit
1E. Praying hall
1F. Lecturer's room
1G. Library

2. Faculty Admin

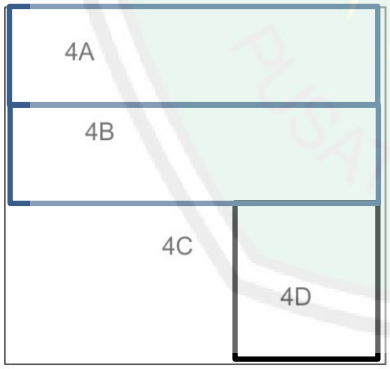


2A. Dean's room
2B. Staff room
2C. Meeting hall

3. Hostel

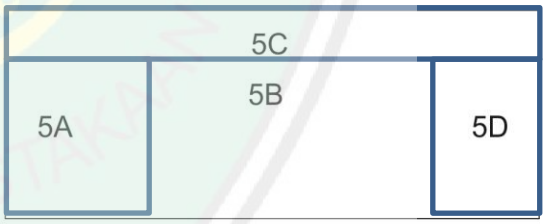
3. Sleeping rooms

4. Multi purpose building



4A. Main lab
4B. Audit
4C. Canteen

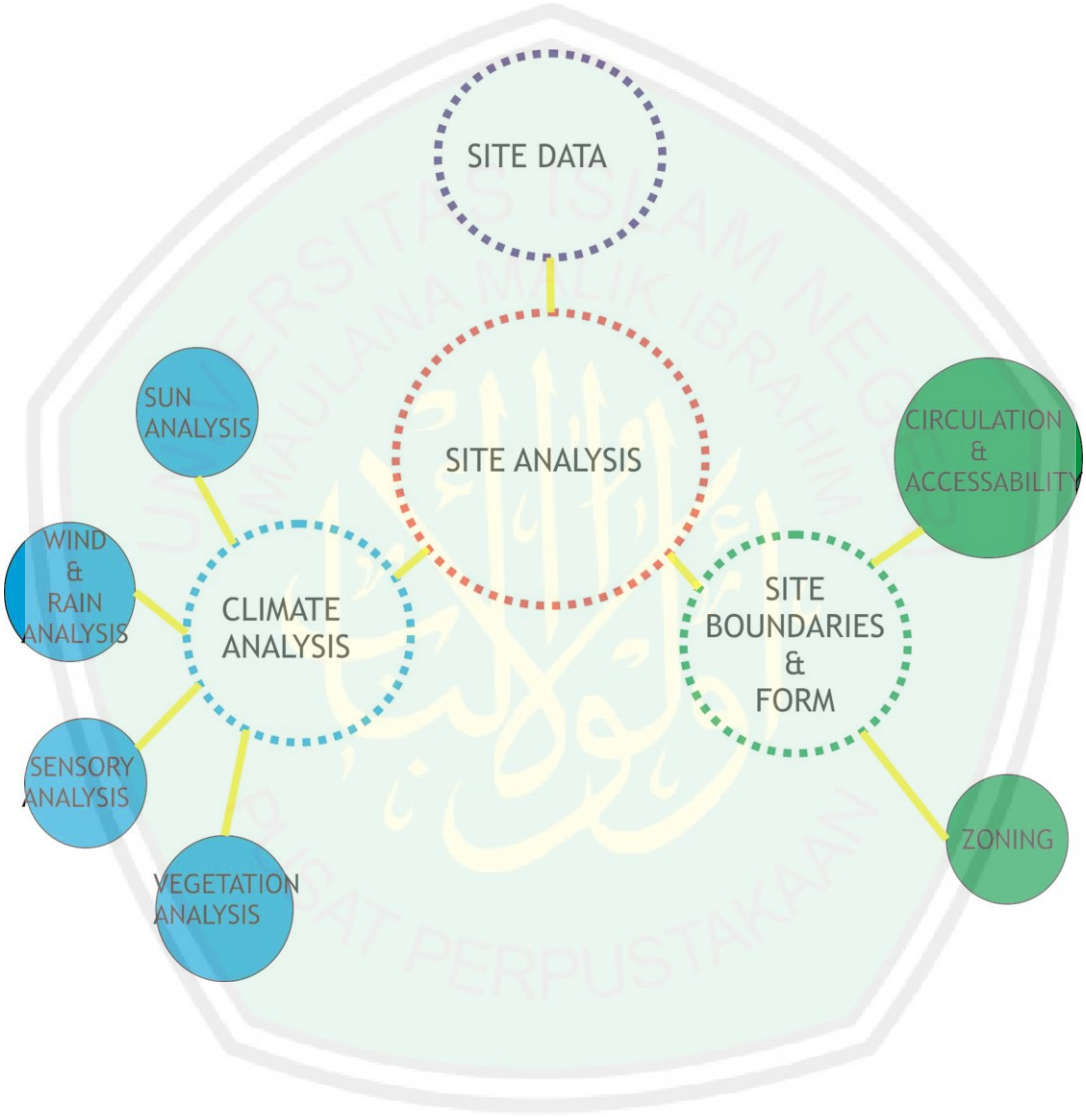
5. Sport center



5A. Football arena
5B. Jogging arena
5C. Center management
5D. Basketball arena

4.1.5 Site analysis

In the site analysis a lot of things have to be done related to the design, especially the site to be built by the veterinary faculty. The site doesn't have many contoured, the site has been chosen because its located the educational part of the city with minimum disturbances and noise, as there is already more than one educational facility located in the site nearby.



Site Dimension

Since the object is only one faculty the site is not extremely big and its quite moderate, the east side of the site is 210 M, the west side is 270 M, the north side is 210 M, and the south side which is the side that's is facing the street 190 M

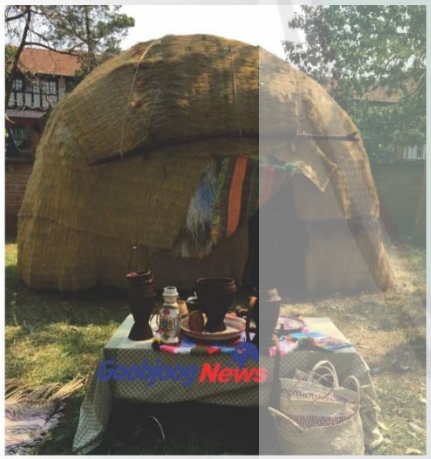
Site Boundaries

The site is located in an educational are there are more than few of educational facilities in the site, and mostly surrounded by the site with the e exception of shopping center west of the site

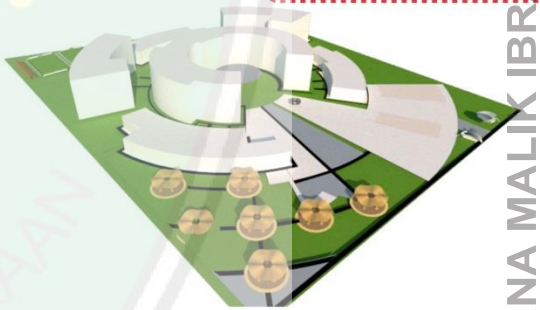
Girls school

Shopping centre

Orphans school

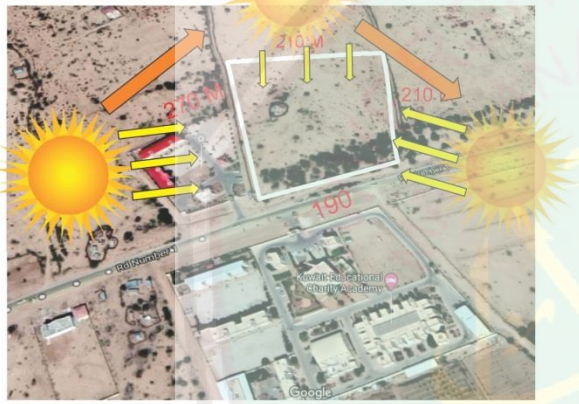


There are 4 different types of building in the site and each one has the base core of Somali Traditional house



The inspiration of the design was the Somali traditional hut, since the approach is extending tradition the object that should be extended is the Somali hut itself.

W



E

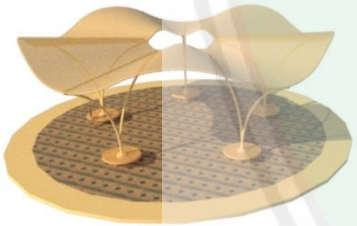
28°/19°C

A p.m. t-storm in the area

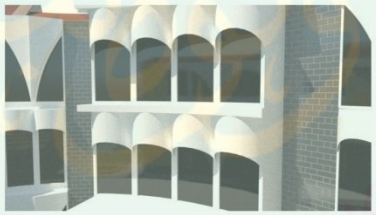
Considering the sahara and the lack of rain, Hargeisa is not very hot, slightly above average

21° LO

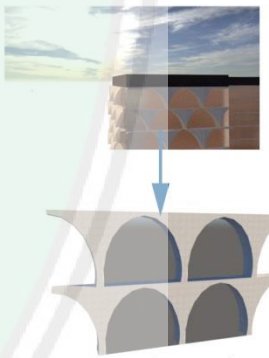
Partly cloudy



Making the private buildings a canopy like roof, so it can make a shade and the sunlight will have a lesser impact in the interior

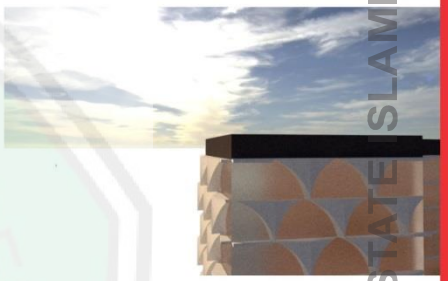


There is a large facade in the area facing the east as to block extra heat waves or reduce it

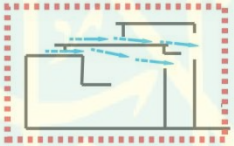


Shading the parking with trees so it can shade the users

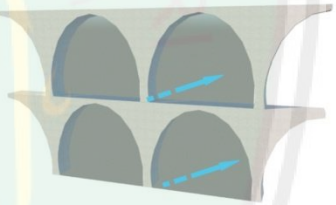
Cooling room, with a cross ventilation system takes hot air in the room to the outside by stretching on the ventilation of the laboratory building



The facade layer of building space in free of solar radiation this kind of use will be a lot of blocking the use of air conditioning and as a function that gives a neat effect



Cross ventilation: utilization of openings as air inputs indirectly from the ventilation one to another vent



Hargeisa could be very windy, specially during winter times, the wind could go as high as 27 km/h so making every window smaller than usual will minimize the wind impact in the building

The Somali hut has also few openings to help the wind inside the house depending the location and what the climate is, this openings reduce the heat inside the house since it often is hot at night but it could be closed like a window so if it gets cold it could be closed.

Advantage
.Wide openings with material glass selection material to give the impression of a good exit view.
Air ventilation is better.

-Disadvantages
.It need of materials and overall building management

The site and the surrounding buildings have an access to the electricity that the government provides and has the electricity lines in front of it

There are also the street lights around the site to help lighten up the place at dark.

W.P Water pipe & storage

E.G Electricity from the government

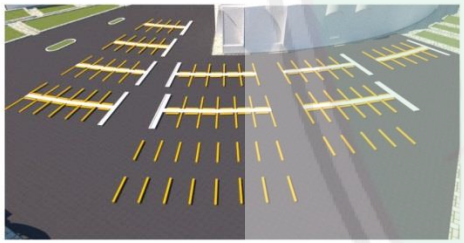
G.S Generator set

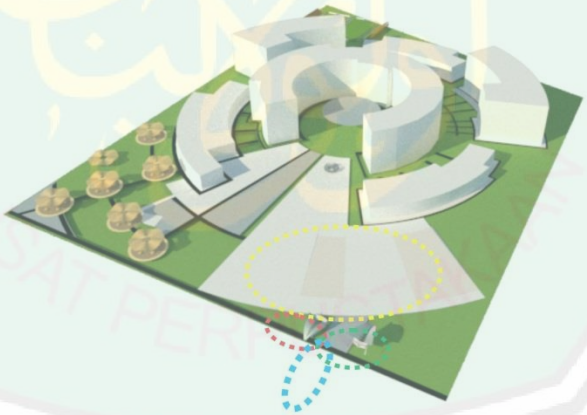
Enter

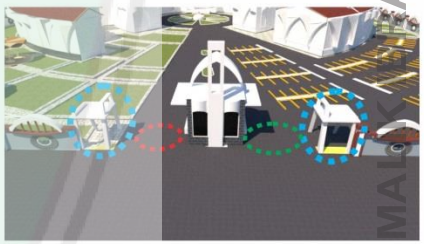
Exit

Entrance of the site

More than 90% of the streets inside the design is for pedestrian, so that it can create more togetherness among the students.







The parking of the design is located in it's foremost front area, to make the accessability and circulation easier, the cars can not circulate inside the design aside from the parking area, the rest of the paths is for pedestrians

Vehicle Parking

Entrance

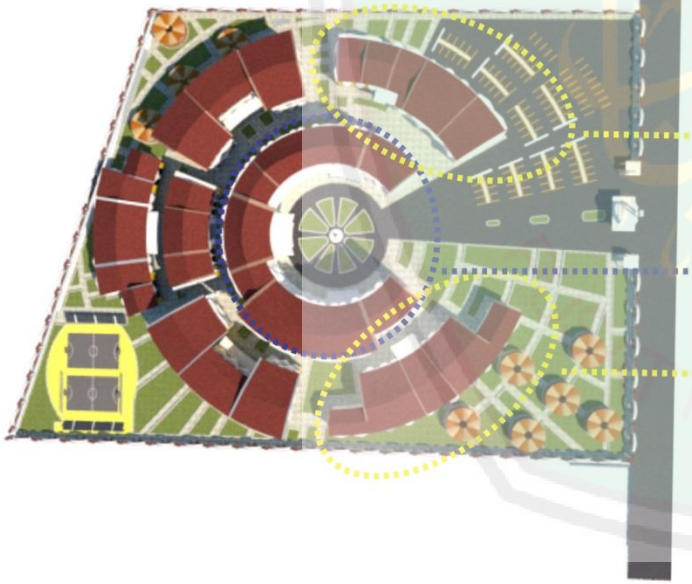
Exit

Pedesterian

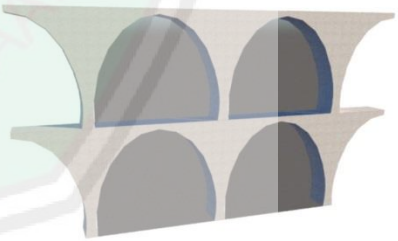
The greatest amount of the noise comes from the main road that's infront of the site because of the traffic, other than that the site is located in a quite distant place and not that many noise comes from the other directions other than the main road the site is mostly noiseless

Planting trees in the area where the noise is coming from will reduce the amount of impact it has on the design

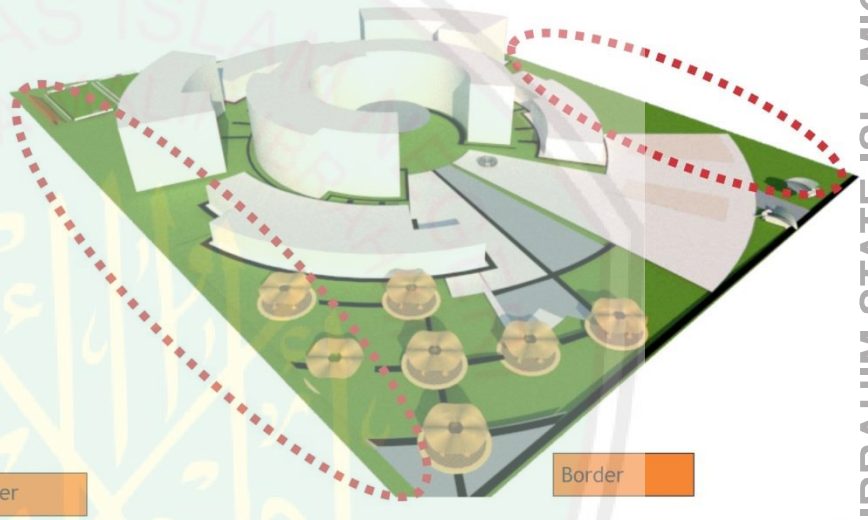
Since the noise is coming from the main road, installing and applying a gate wall in the front yard of the design will also serve to reduce the noise that's been caused by the traffic and other aspects, since the wall gate will greatly serve as a block from the noise. the most noise comes from the main road in front of the site



Applying thick walls and very small openings will greatly help reduce the noise that's getting into the building, any design will have to minimize the noise coming from the outside and schools and learning place much more so



Acacia tortilis is one of the few plants that grow in somalia, since the country is dessert most of its plants are cactus or cactus related plants, thats's not usefull to decorate sites and its quite harmful for having many spikes, but the tortilis has no spikes and it can produce a good shadow to cool the place down and decorate as well.



The apple tree help differentiate the public area the design since growing it in the site is frequent

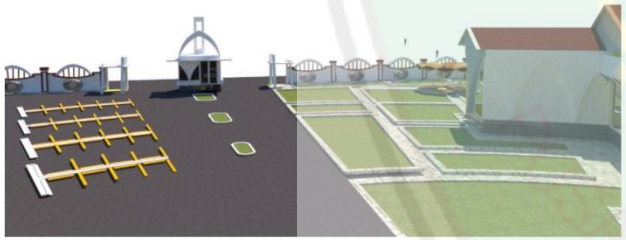
The acacia tortilis serves to separate the design from the surrounding borders to block any unnecessary noise or wind.

View in

What would make the design unique is that the building is not designed like the others around it and the viewers catch the glimpse from afar place since it stands up around the buildings around it, these people aren't familiar with type of design, since the architecture in Somalia is still in development.

What would make the design unique is that the building is not designed like the others around it and the viewers catch the glimpse from afar place since it stands up around the buildings around it, these people aren't familiar with type of design, since the architecture in Somalia is still in development.

View Out



So the user can view outside the site there are many openings like a window a balcony and an open garden where the user could view outside the site very easily.

The view of the balcony can be seen from the car parking and the exterior, it cope's with the other design and its built in a way that's very easy to access, and its easy for everyone to get up there

Chapter 5

5.1 Basic concept

The basic concept of designing objects with the theme extending tradition is the process continuing or seeking the continuity of a tradition by directly quoting forms and values in the past to be more developed and adjusted innovatively without losing the element of the past. There are several points that need to be considered in the design process with the approach of *extending tradition*.

- Covering the period,
- Looking for sustainability with local traditions,
- Quoting directly from the past forms not encompassed by the past but rather adding it in an innovative way our interpretations of the past are changed based on present and future perspective and needs.
- Innovating the interpretations of the past
- Seeking inspiration in unique forms and techniques of traditional building the concept of hut (Somali traditional house)

5.11 Concept tagline

Somalia architecture goes to the future, the concept tagline of the design as been explained in chapter 3 transcend the original somalia hut and as the approach explains its the combination of somalia hut with modern and futuristic design.

Protection / Shelter	The Somali hut is built to withstand the strong winds, floods and wild animals since the animal shelter is right next to it and wild animals will smell the animals
Physical aspects	The huts structure is entirely made out of wood, so that it could be easy to take it down since the Somali pastoralists move a lot in search of water and grass for animals.
Enjoyment	Somali people tend to be tall, so the height of the entrance of the Somali hut is quite long with 2,3 M.
Beauty	The house has a quite some ornaments hugely inspired by the peoples localities

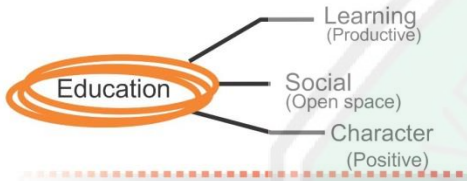
5.12 principles of designing extending tradition hut (Somalia traditional house)

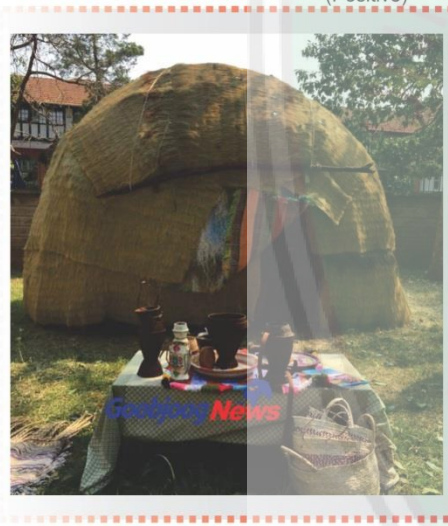
Principles of extending tradition	Applying it in the architectural language	The tradition that will be extended
Framing	• Material • Structure • Arrangement of space • Utility system	Framing: the Somali hut has wood frame structure to ease taking down the hut in case of moving.
Roofing	• Roof	The roof of the Somali hut is round shape and so its whole shape except the area of the animal shelter which is usually rectangular.
Ornaments	• Façade	The façade of the Somalia hut has often few ornaments, with the exterior decorated as a spear and shield, which the pastoralists use to defend themselves.

	Application in the object
	• Siting The Somalia hut a very simple zoning, the hut itself where the people take shelter and next to it is animal shelter, in the design circular building will be used as the main function where it occurs as the faculty classes, laboratory, administration, where the other works as library, football/basketball arena. • Entrance placement The circulation and the accessibility of the object is based on the Somalia hut, the main entrance of the faculty is located in the front area, where the parking is the forefront of the site to ease the accessibility. • Shape The shape of the object is meant to resemble the Somalia hut (Somalia traditional house) in its rounded shape while materials aren't necessarily the same since the materials used in the Somalia hut would not apply much in a big building.

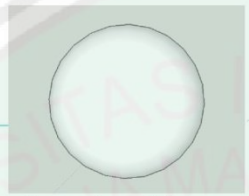
DESIGN OF FACUCLTY OF VETERINARY HEALTH IN HARGEISA-SOMALIA

BASIC CONCEPT



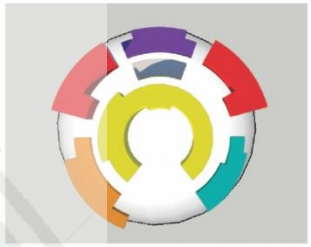


Extending Tradition, is the approach of the design, which means Extending or hold forth the tradition of that particular land, in this case the object that will be extended is the Somali traditional house or the Somali hut.



Upper view of the traditional house.

Zoning of the traditional house.
- kids playing area
- Praying area
- Storing
- The main function which is shelter
- Kids teaching area
- The kitchen



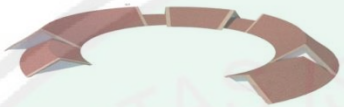
Formation of the buildings according to the zoning of the traditional house

1. The main building
2. Building A
3. Sport center
4. Building B
5. Mosque
6. Library
7. Canteen

DESIGN OF FACUCLTY OF VETERINARY HEALTH IN HARGEISA-SOMALIA

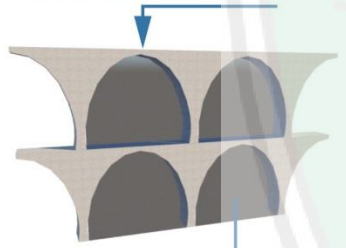
STRUCTURE CONCEPT

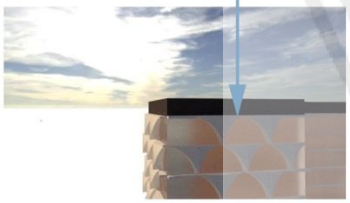
Upper Structure



Mid Structure

The roof of the buildings is depicted and taken the inspiration from the original Somali traditional house covering each side of the building, without compelling and making it too oval.

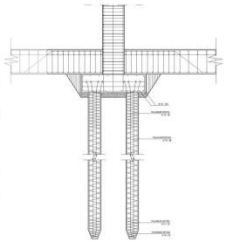




Regional perspective

Low Structure

plate foundation

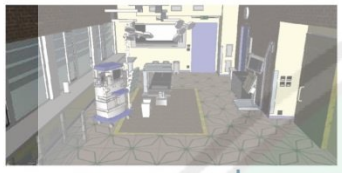


Deep pile foundation

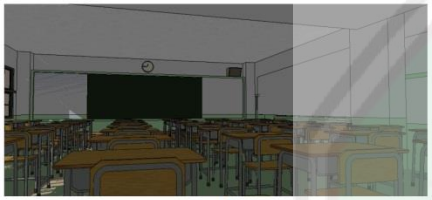
The front facade of the building is shaped like the entrance of the traditional house
The front Facade of the building is the depiction of the Somali traditional house

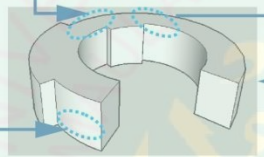
DESIGN OF FACUCLTY OF VETERINARY HEALTH IN HARGEISA-SOMALIA

SPACE CONCEPT

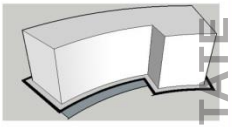


The office of the dean

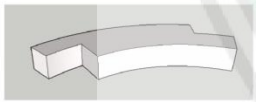




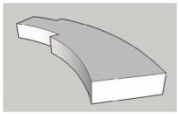
The secondary studying building



Book shelves in library depicted as the interior of traditional house



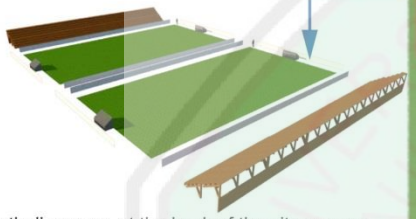
The canteen, close to the parking area.



The library is extremely close to the faculty building, so student users could have easy accessability

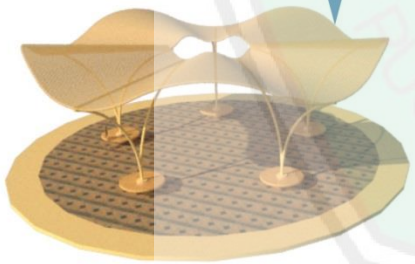
DESIGN OF FACUCLTY OF VETERINARY HEALTH IN HARGEISA-SOMALIA

SITE CONCEPT



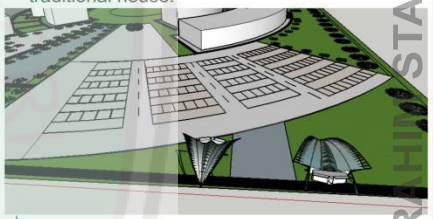
Football arenas, at the back of the site, a very popular sport in that part of the city

The sculpture in the middle of the whole symbolizes the round shape and aspect of each building.

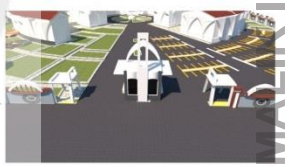


Gazebo resting areas, in the open space of the site, surrounded be shading trees

The fence surrounding the buildings, is inspired by the ornaments in the Somali traditional house.



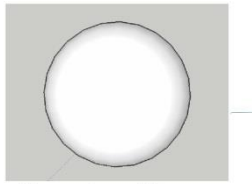
Parking, right infront of the main enterance, to ease accessability and circulation of both users and vehicles



Security at the entrance of the site

DESIGN OF FACUCLTY OF VETERINARY HEALTH IN HARGEISA-SOMALIA

FORM CONCEPT

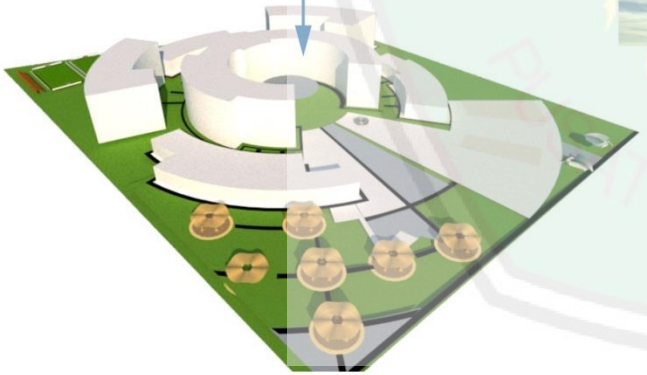


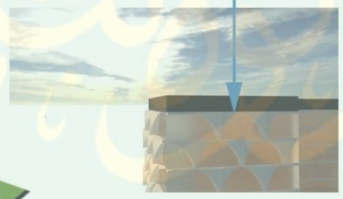
Upper view of the traditional house.

- kids playing area
- Praying area
- Storing
- The main function which is shelter
- Kids teaching area
- The kitchen

Zoning of the traditional house.

The fully formed forms of the buildings.



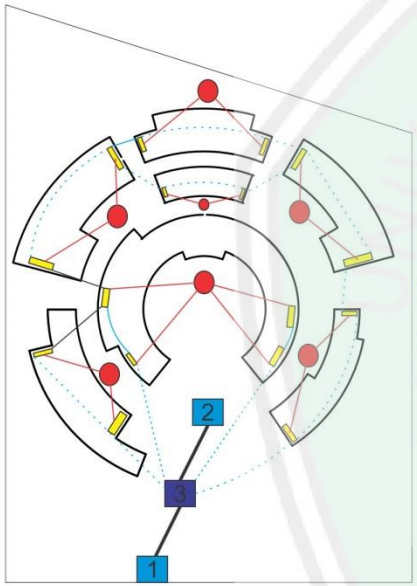


The front facade of the building is shaped like the entrance of the traditional house
The front Facade of the building is the depiction of the Somali traditional house

The Somali traditional house is entirely shaped as a round object and easy to shape it, the design has a facade made out of and shaped by the overall depiction of the object.

DESIGN OF FACUCLTY OF VETERINARY HEALTH IN HARGEISA-SOMALIA

UTILITY CONCEPT



Septic tank

Clean water drains out

Waste water

Toilet

1 Clean water pump

2 Filtration tank

3 Clean water reservoir

Electricity distribution system

Chapter 6

Draft Results

Design of faculty of veterinary in Hargeisa Somalia with the approach of extendin tradition, and a concept taken from the somali traditional house, and applied into the design of veterinarty, the concept take from the somali traditional house is the overall shape of the traditional house and the main principles of the traditional house.

6.1 Design results

The main aspect take from the concept is the depiction and the shape of the traditional house itself, the facede and the other aspects of the concept has been extended to fit the design of the veterinary faculty e.g.

1. How the shape of the concept will be extended using the approach in order for it to be applied.
2. Extending the façade of the concept being the taditional house, and how it will tranform into something that fits the design because the two objects has very different functions and uses.
3. The relationship between the concept idea and the final product, and the process of each step it goes before it becomes the design results.

6.2 Results of collective design

The site is 4.89 hec in total area, the design makes it suitable and enough for each and every building in addition to enough open space and resting area, and parking enough for cars. Each one of the building is located in the area that's the most accessible to the user, with the open space and the car parking at the foremost front area.

Figure 6.1: Site plan

Source: self prepared

Figure 6.1.2: Layout plan

Source: self-prepared

SITE FRONT VIEW
SCALE

SITE SIDE VIEW
SCALE

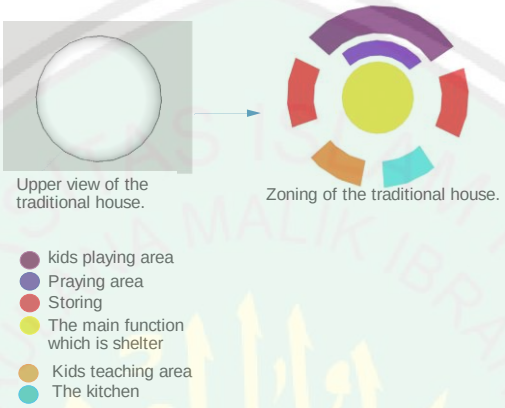
SITE FRONT SECTION
SCALE

SITE SIDE SECTION
SCALE

The buildings are in rounded shape, so some of the buildings In the center won't be visible at the section and elevation, from the front view elevation and section, the main faculty, library and the canteen could be observed, the left side of the site can be seen the side view and elevation of the main faculty and the library.

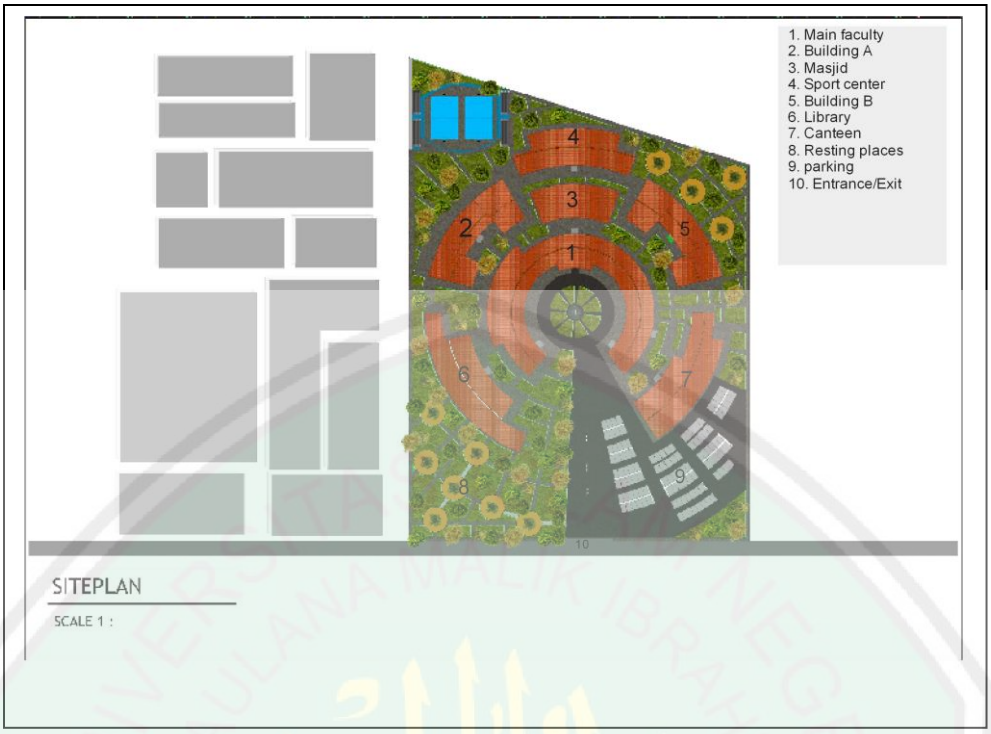
6.3 The building structure pattern

The pattern of the building is that of a circle, taken and extended from the original shape of the concept which is the Somali traditional house,



6.4 Circulation pattern

The circulation pattern of the design is as follows, with one gate system, the parking is upfront, the same with the resting areas for the user and the most pedestrian ways.



The design is shaped in a way not to confuse the accessibility and the circulation and not make it complex for the user, since it's a public facility that's open for all kind of the society, it's all straightforward, the parking, the entrance and the exit, and so is each building, with the public ones at the front and the private ones are at the back, like the classrooms and offices.

6.5.1 building plans

This is builng is the main one, and it has the primary function among all the buildings, it's the faculty, and where the most classes and labs and teachers offices are located.

a) The floor plan, which is 3 typical floors

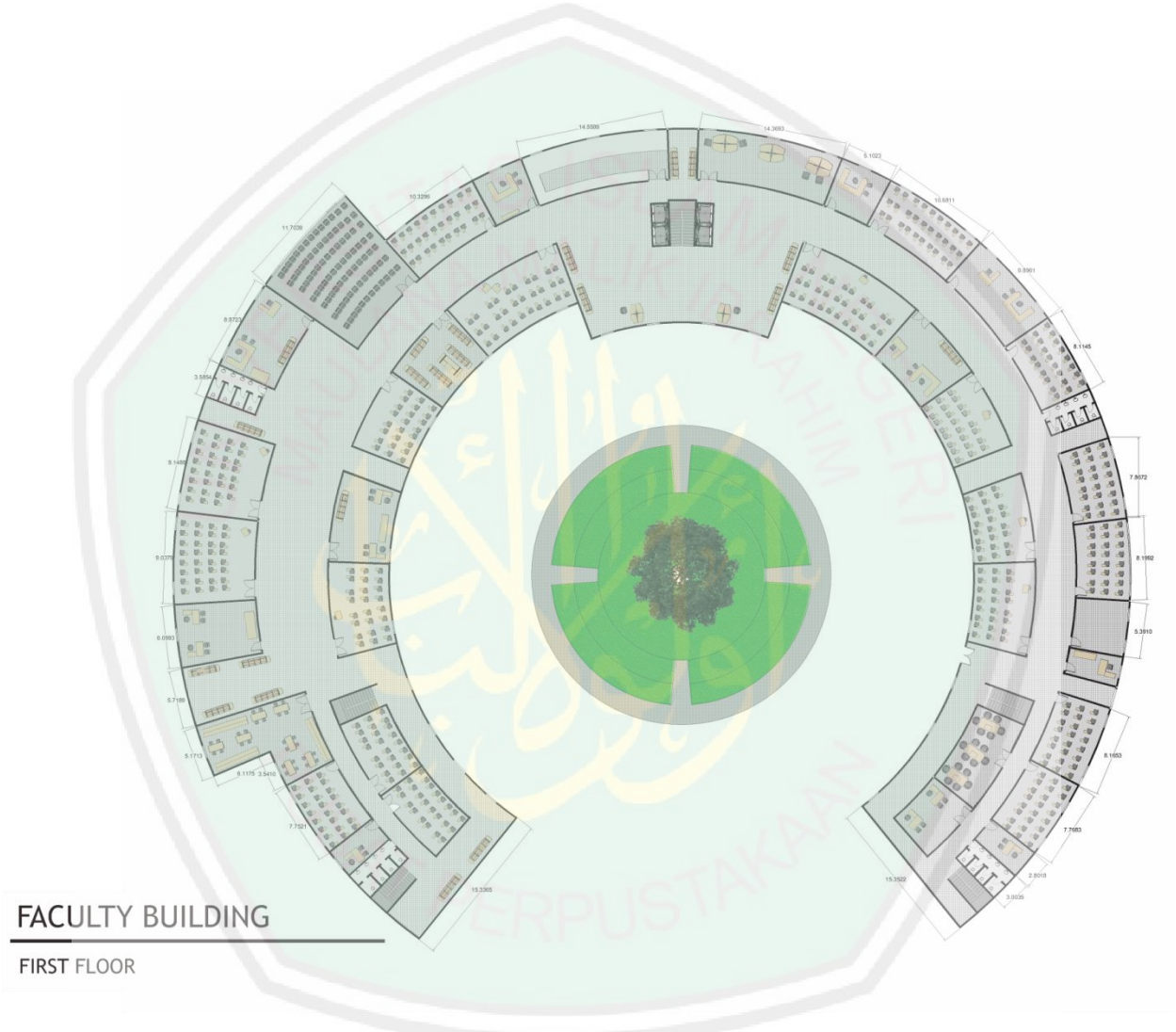


Figure 6.1.3:Faculty 1st floor plan

Source: self-prepared

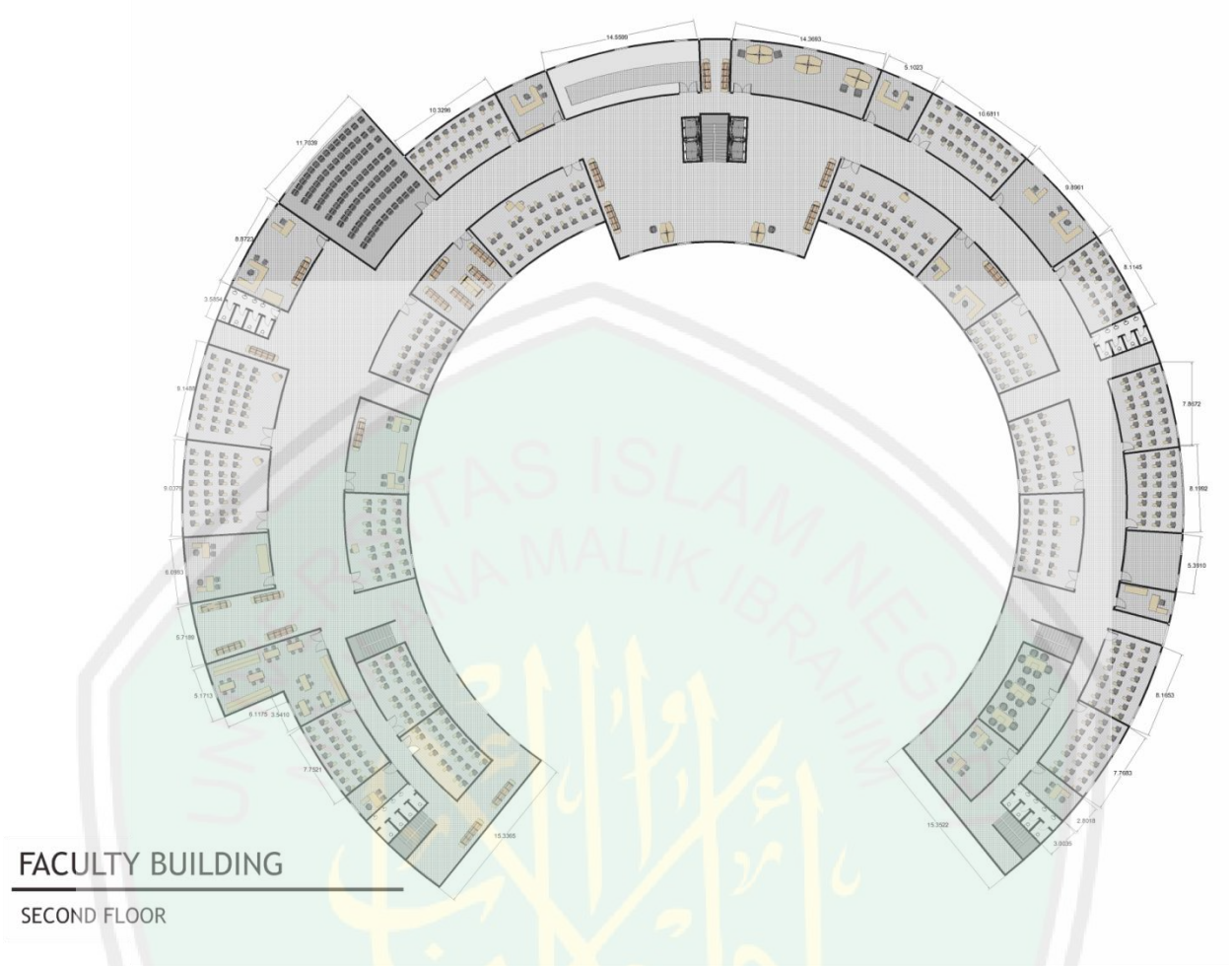


Figure 6.1.4:Faculty2nd floor plan

Source: self-prepared

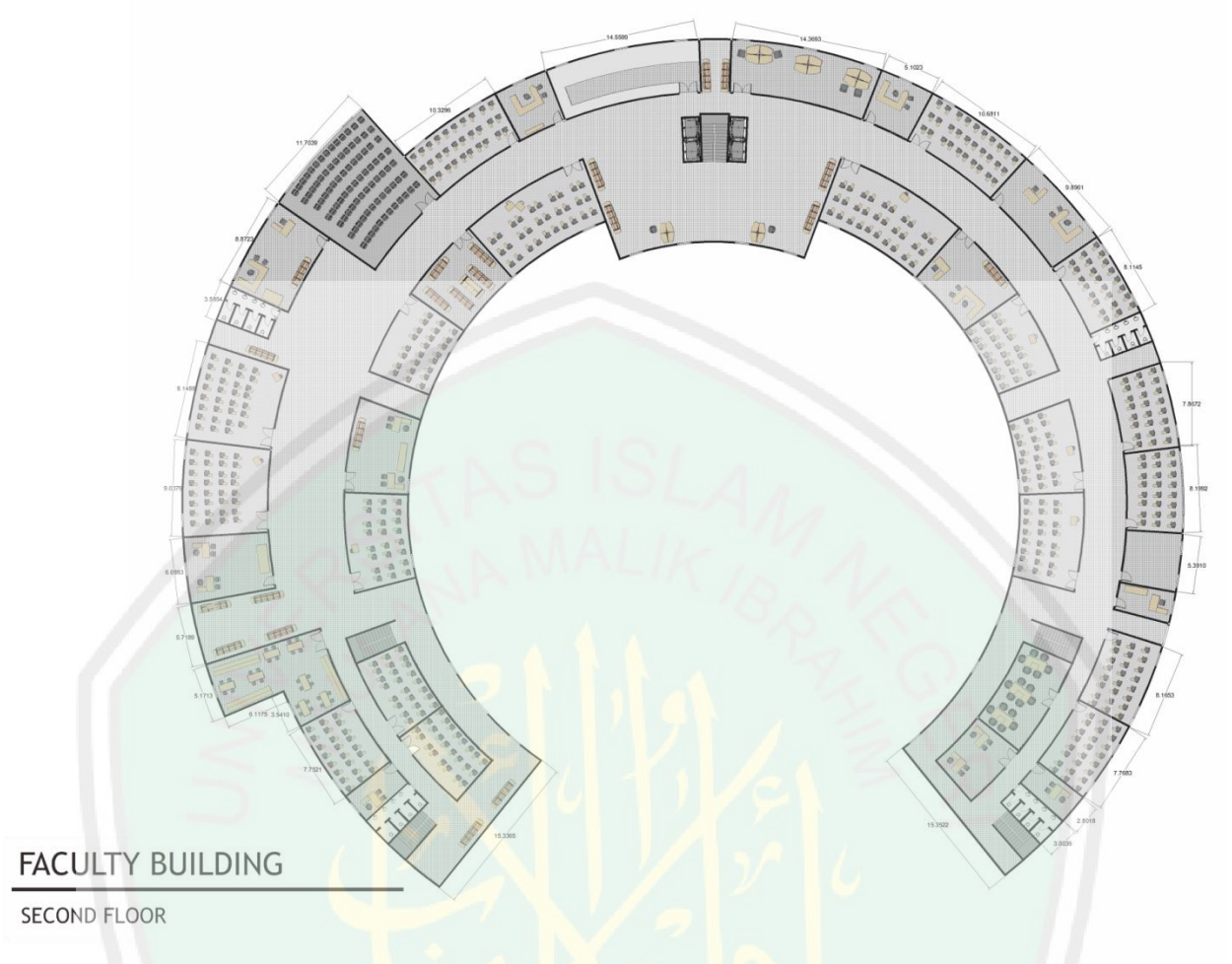
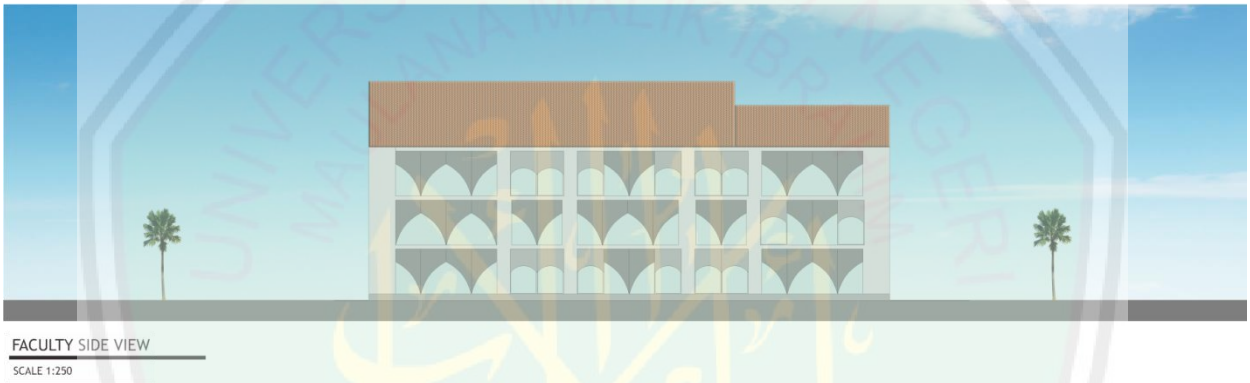


Figure 6.1.5: Faculty 3rd floor plan

Source: self-prepared

b) The front and side elevation



c) The front and side section

Figure 6.1.6:Faculty elevation view

Source: self-prepared

FACULTY FRONT SECTION
SCALE 1:250

FACULTY SIDE SECTION
SCALE 1:250

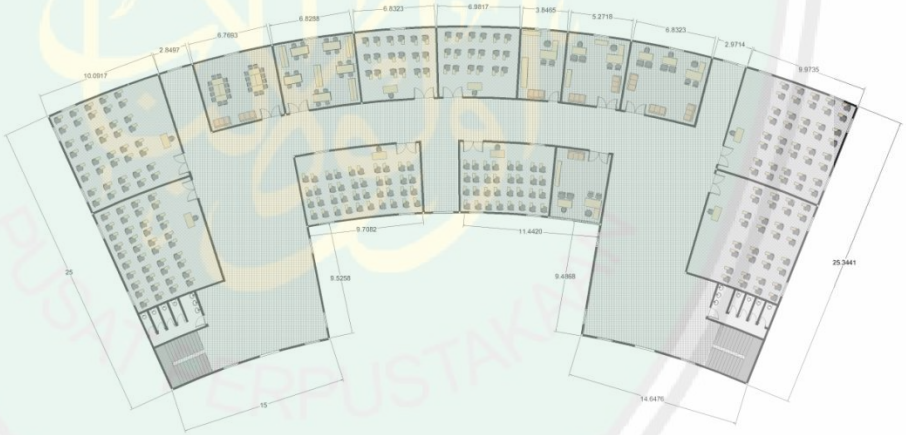
Figure 6.1.7:Faculty section view

Source: self-prepared

d) The next one is one of two typical buildings, one for the boys and one for the girls, since it's not mainstream to combine both girls and boys in one classroom in that part of the world; it's mainly classes and offices, with three typical floors.

A BUILDING

FIRST FLOOR



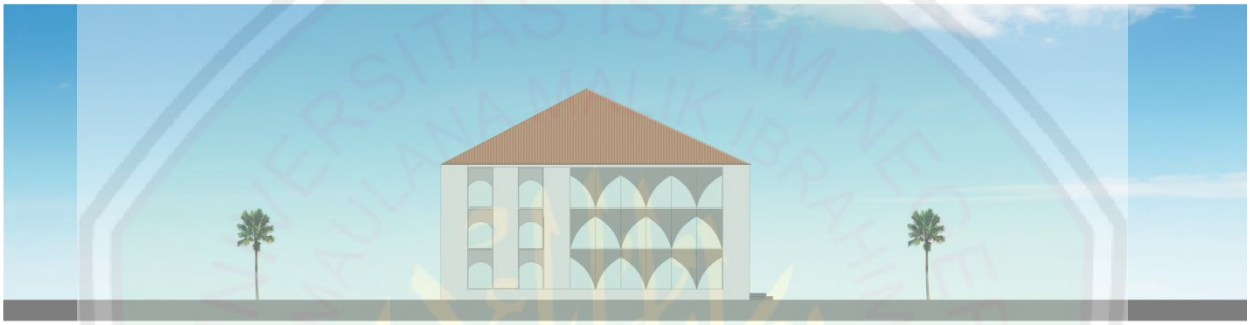
A BUILDING

SECOND FLOOR

Figure 6.1.8: builng A floor plan

Source: self-prepared

A BUILDING FRONT VIEW
SCALE 1:250



A BUILDING SIDE VIEW
SCALE 1:250

Figure 6.1.9: Building A elevation view

Source: self-prepared

A BUILDING FRONT SECTION

SCALE 1:250

A BUILDING SIDE SECTION

SCALE 1:250

Figure 6.11:building A section view

Source: self-prepared

e) Its very essential for an educational facility to have a library, as it serves one of the main purposes, the library in this design is one floor, with enough space for the users.

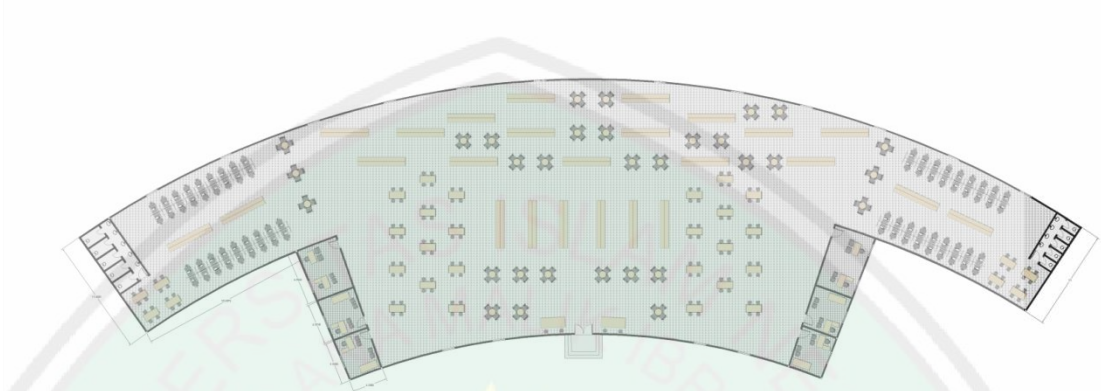


Figure 6.12: Library floor plan

Source: self-prepared

With the security post at the front to secure its containments, and two symmetrical sides, helps for the both genders to read separately, it's not forbidden for the two genders to use one library together, that's why it has one floor without separating them, but each gender has its side, toilet, and exit.

LIBRARY FRONT VIEW
SCALE 1:250

LIBRARY SIDE VIEW
SCALE 1:250

Figure 6.13: Library elevation view

Source: self-prepared

LIBRARY FRONT SECTION
SCALE 1:250

LIBRARY SIDE SECTION
SCALE 1:250

Figure 6.14: Library section view

Source: self-prepared

f) The sport is what keeps many youths going, it makes them focused and gives them the space they need after all the classes, not many educational facility out there who don't have a sport center, it's a must for a place filled with teens and youths to have sport center, the most popular sport in Somalia is the football, and basketball.

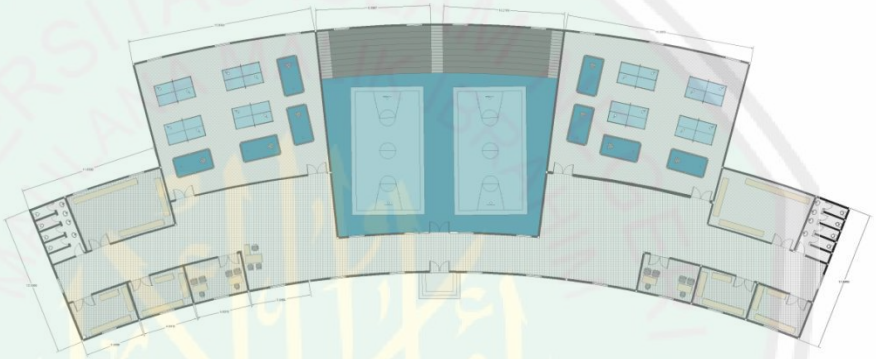


Figure 6.15: sport center floor plan

Source: self-prepared

SPORT CENTER FRONT VIEW

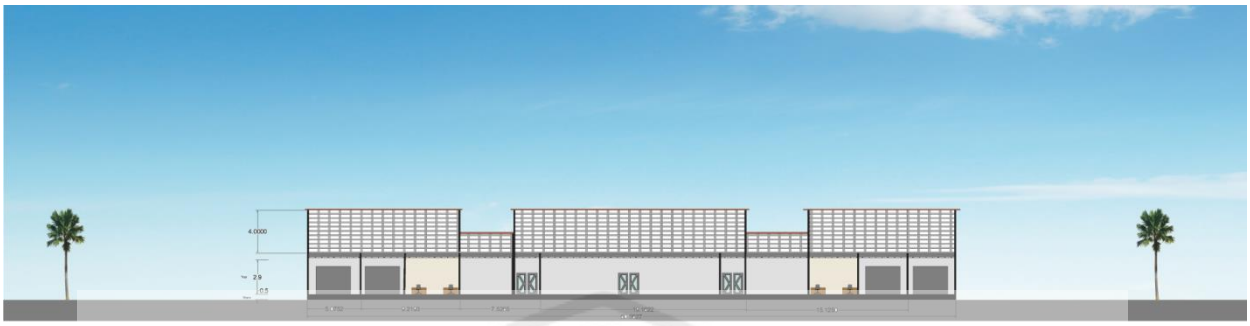
SCALE 1:250

SPORT CENTER SIDE VIEW

SCALE 1:250

Figure 6.16: sport center elevation view

Source: self-prepared



SPORT CENTER FRONT SECTION

SCALE 1:250

SPORT CENTER SIDE SECTION

SCALE 1:250

Figure 6.17: sport center section view

Source: self-prepared

g) Somalia is a Muslim majority country; the population of people with other religion Is insignificant, there's a mosque in every corner of the city Hargeisa, and it's one of the most important aspects to have a mosque in the design, as every user will require it, the mosque in the design has two floors, and compared with the other buildings it may seem smaller in size, but that's because in Fridays which is the biggest gathering of Muslims its closed, as in the weekend of that part of the world, so the only time a user might require to use it is, the normal prayers of the day.

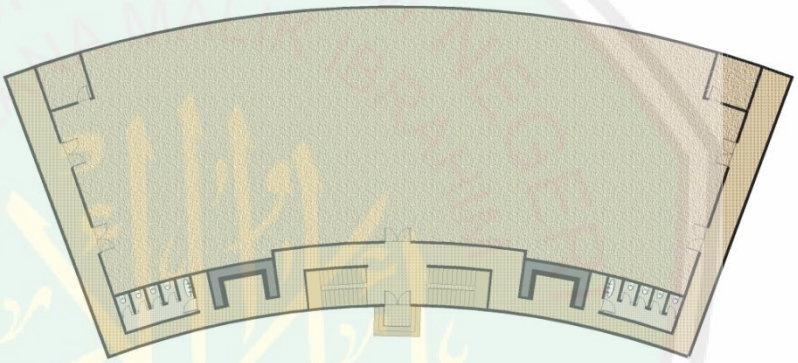


Figure 6.17: Mosque first floor

Source: self-prepared

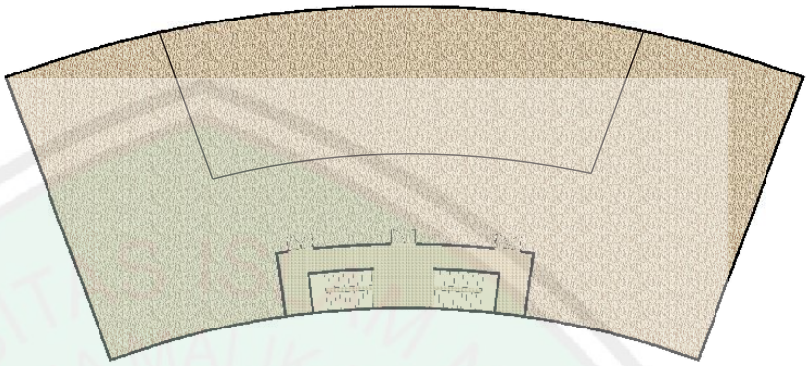
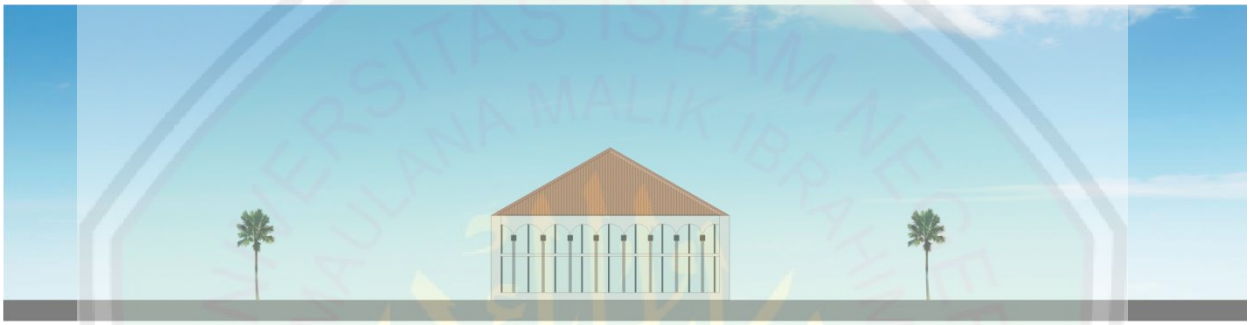


Figure 6.19: Mosque second floor

Source: self-prepared

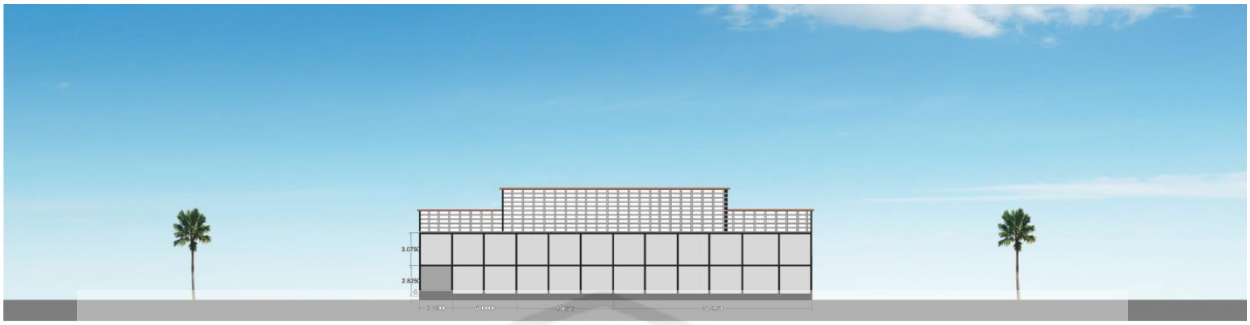
MOSQUE FRONT VIEW
SCALE 1:250



MOSQUE SIDE VIEW
SCALE 1:250

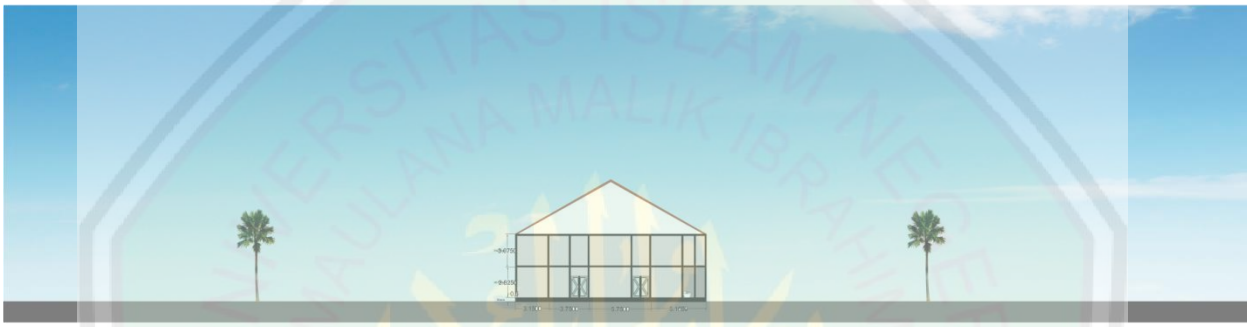
Figure 6.20: Mosque elevation view

Source: self-prepared



MOSQUE FRONT SECTION

SCALE 1:250



MOSQUE SIDE SECTION

SCALE 1:250

Figure 6.21: Mosque section view

Source: self-prepared

a) The next one is one of two typical buildings, one for the boys and one for the girls, since it's not mainstream to combine both girls and boys in one classroom in that part of the world, it's mainly classes and offices, with three typical floors.

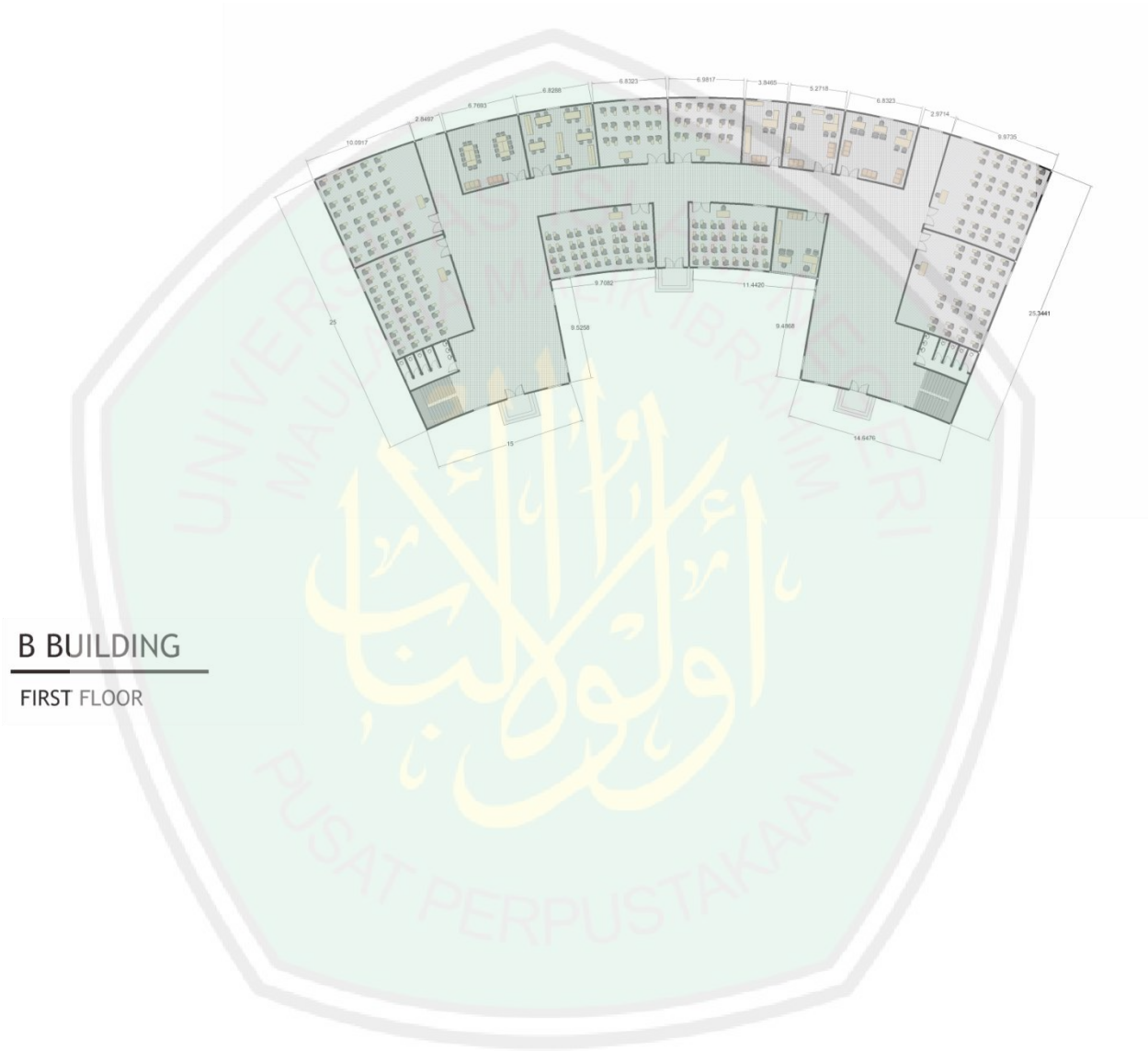


Figure 6.22: building B 1st floor

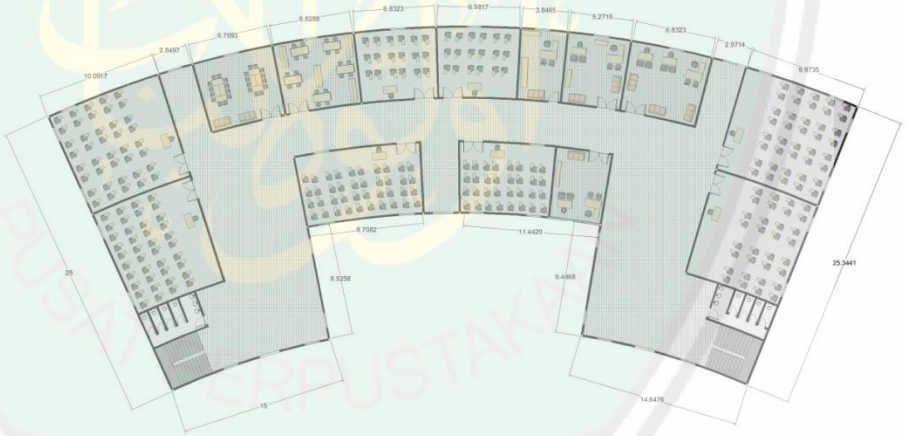
Source: self-prepared

Figure 6.21: building B 3rd floor

Source: self-prepared

B BUILDING

THIRD FLOOR



B BUILDING

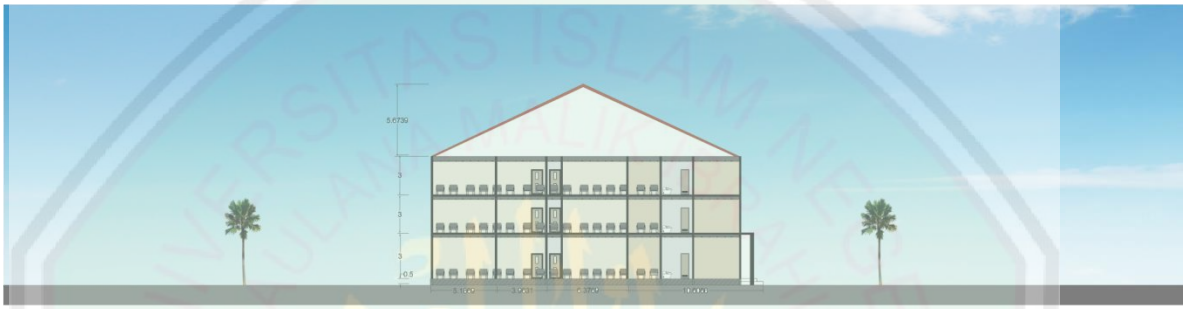
SECOND FLOOR

Figure 6.24: building B 2nd floor

Source: self-prepared

B BUILDING FRONT SECTION

SCALE 1:250

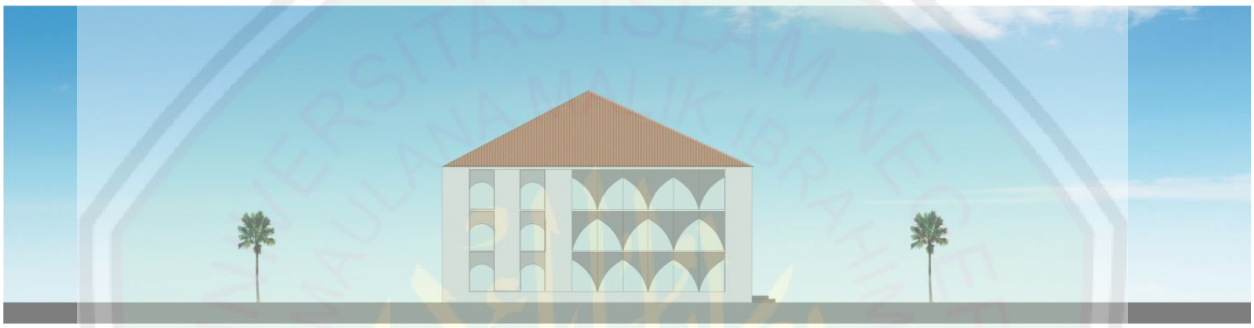


B BUILDING SIDE SECTION

SCALE 1:250

B BUILDING FRONT VIEW

SCALE 1:250



B BUILDING SIDE VIEW

SCALE 1:250

6.6 The exterior design results

As figured down below, the exterior design of the buildings is bringing life to the 2 dimensional figures above, the exterior farther details the materials used, how the building will look like in 3d form.

Figure 6.23: collective buildings perspective 1

Source: self-prepared

Figure 6.24: collective buildings perspective 2

Source: self-prepared

Figure 6.25: Faculty building perspective 2

Source: self-prepared

II. The main faculty, the primary function of the building, is typical 3 floored rounded building, the largest building among the design by far, since it serves as the center building and it has the classrooms and the teachers gathering places and the office.
From the 3d form of the faculty vertical garden can be seen above the geometrical façade, which is based on the entrance of the Somali traditional architecture, it can be seen from here that the drop off area is located at main entrance. The building has 3 entrances to access, with the main and only car accessible road right at front it, since the lecturers usually work in this facility more than the rest, it has the drop off at the front door.

Figure 6.26: buildings B perspective

Source: self-prepared

Figure 6.27: buildings B perspective

Source: self-prepared

I. The two typical buildings that are the left and the right side of the site, serve as an equal purpose, the secondary educational facility, with three typical floors each and symmetrical façade building taken from the concept, they're right next to the main facility, easy accessibility to it and not very far from the rest.

Figure 6.28: Library

Source: self-prepared

6.6.2 Interior design results

The interior part of any design showcases what's inside the building, will help coordinate the **Interiors** with the Architect and the project that's been designed, it specialize in choosing color schemes, as well as selecting furnishings, fixtures and finishes.

Figure 6.29: Mosque Interior perspective

Source: self-prepared

The interior of the mosque can be seen at the image above, showcasing what it looks inside the mosque, with two floors, with the second one smaller than the first, to open an space where the praying users can coordinate their prayer with the imam and the rest of the prayers on the first floor, the bordering of the second floor is inspired by Somalia traditional house ornament and Islamic calligraphy combined, since the place is a mosque.

Figure 6.30: Classroom Interior perspective

Source: self-prepared

One of the regular classrooms in the faculty building, from the windows side there is curtains, since it's a classroom it blocks out the extra lighting that's entering the classroom.

Figure 6.31: Auditorium Interior perspective

Source: self-prepared

The auditorium is where the collective classes, events, graduations occur, its one of the most important aspect of this educational facility,

Figure 6.32: Office Interior perspective

Source: self-prepared

The normal office of a teacher or a headmaster, has its waiting area, and shares the same wall decorations as the other interior classes and halls.

6.7 landscape details

The landscapes features is extremely important for a design to have, it promotes openness, togetherness, less space wasted, and it highly contributes to the view of the design, the below images figure out how significantly important the landscape of a design is, the vegetation that grows there is mainly consisted of acacia because of the less rainfall it gets, the place developed a vegetation that needs not a lot of water.

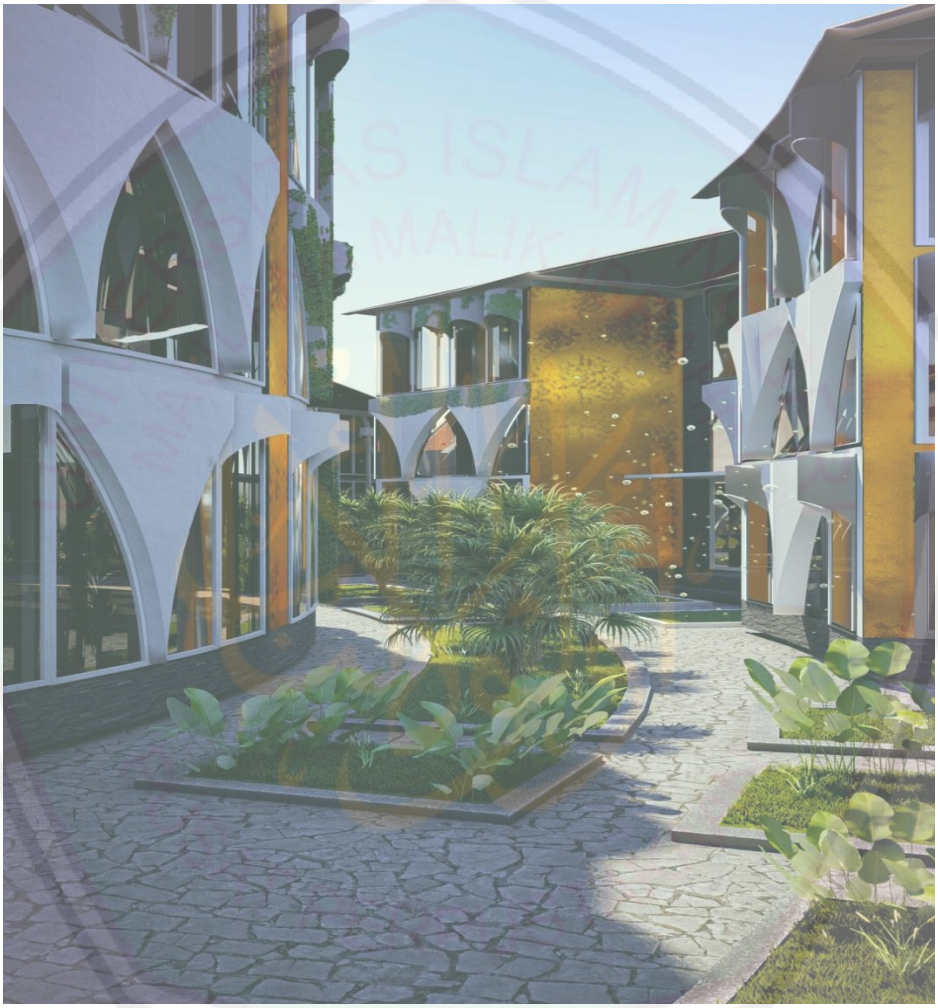


Figure 6.33: Landscape perspective 1

Source: self-prepared

Figure 6.33: Landscape perspective 2

Source: self-prepared

Figure 6.34: Landscape perspective 3

Source: self-prepared

Chapter 7

7.1 conclusions

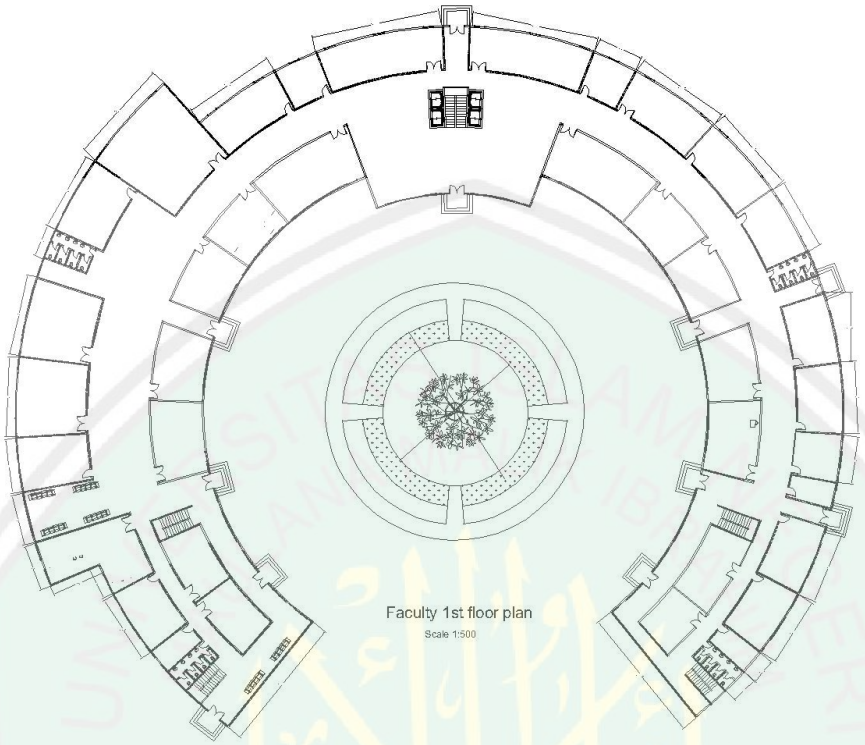
The conclusion serves as a trial from the first chapter till the end, and it highlights the further development the project might need and from the result's and the experiment can be drawn quite several conclusions namely.

a) The need for such a facility in that part of the world, it highlights how desperately this design is needed in Hargeisa city, how a conflict took down one of the greatest heritage that veterinary interested students could have had and how this design could benefit them.
b) How the lives of the livestock are important and how Allah S.W.T has great rewards for those who save the lives of the animals.

The Somali architecture hasn't developed nearly as much as the Indonesian architecture, because of conflicts and lack of accessibility to that field; it's very common for a foreman to design the projects, because the community barely realize how important an architect is for their building, the result's of that is buildings with little to no creativity at all, this design might showcase and enlighten some people what an architect offers.

7.2 suggestions

As far as being aware, no one used the extending tradition approach for a Somali traditional house, the design might be filled with imperfections and mistakes; with the help of the great lecturer's the design is drastically different from what envision was at the beginning, which was far filled with imperfections and mistakes, but with their help, it's a little less filled with those imperfections. hopefully the next person that decides to use this approach for a traditional Somali object takes inspiration from the correct ones,



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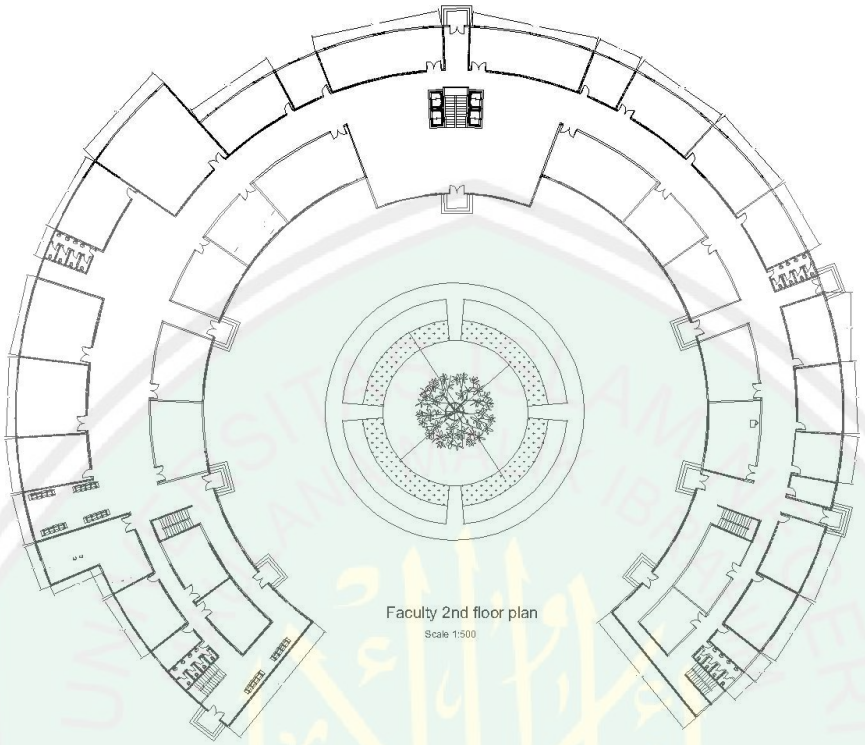

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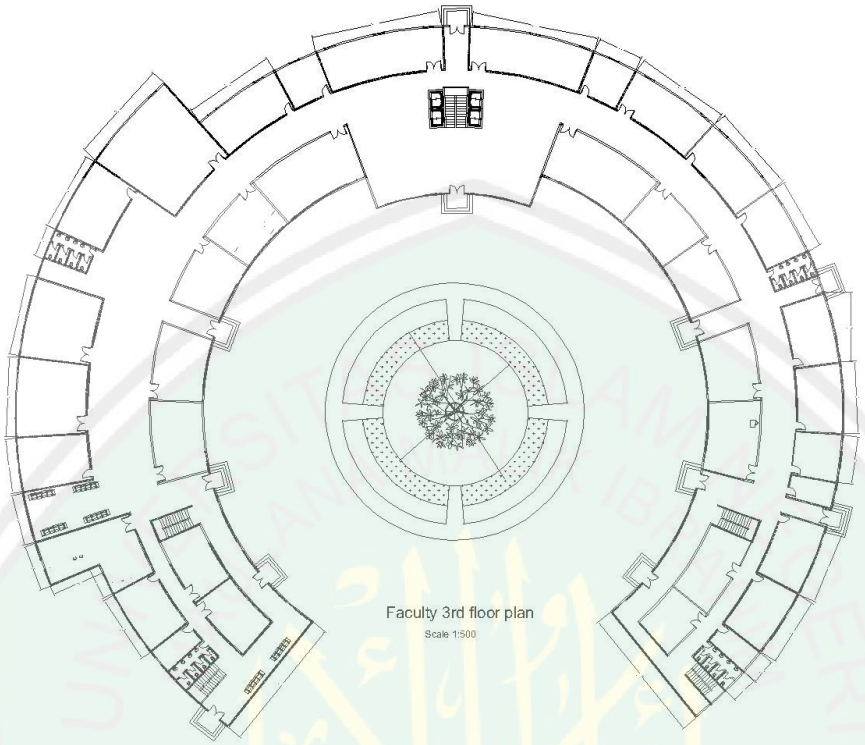

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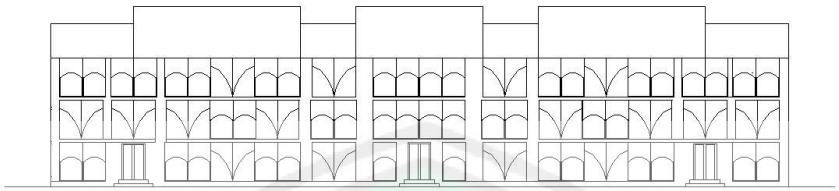
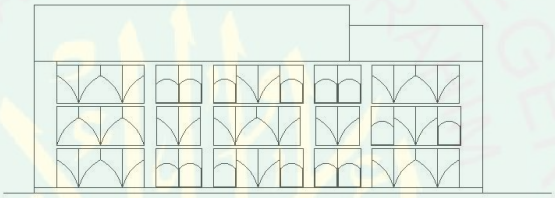


Faculty Building Front View

Scale 1:500



Faculty Building Side View

Scale 1:500

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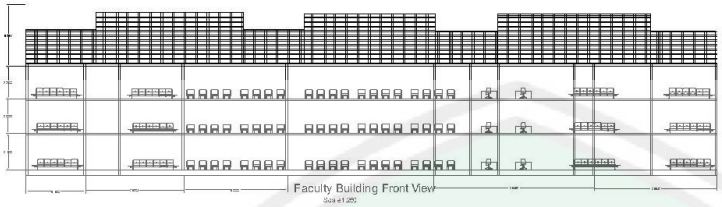

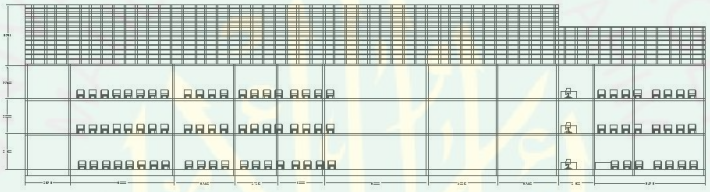

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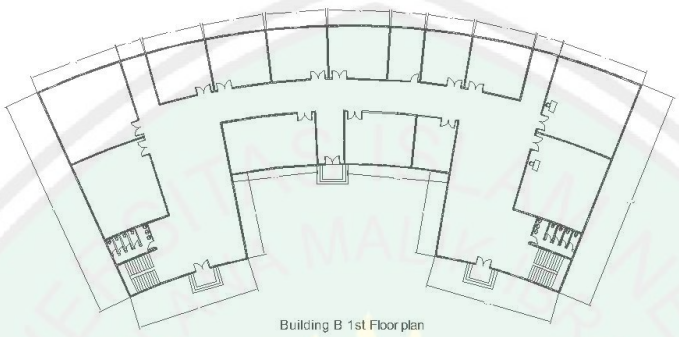

Building B 1st Floor plan

Scale 1:500

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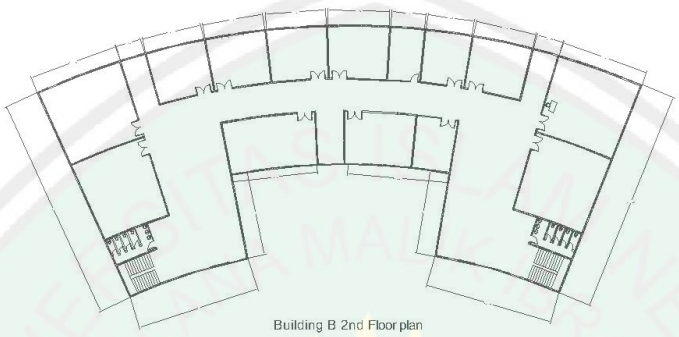

Building B 2nd Floor plan

Scale 1:500

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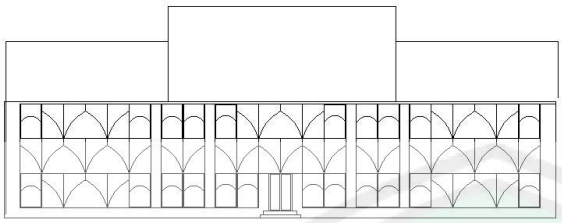
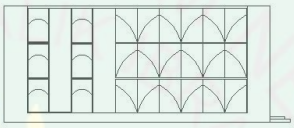


Building B Front View

Scale 1:250



Building B Side View

Scale 1:250

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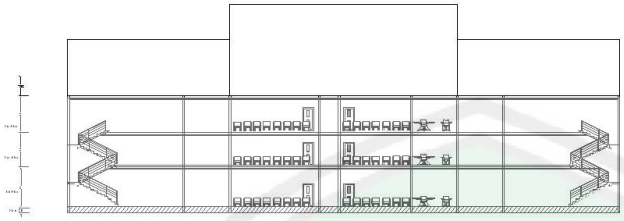

Building A Front section

Scale 1:250

Building A Side section

Scale 1:250

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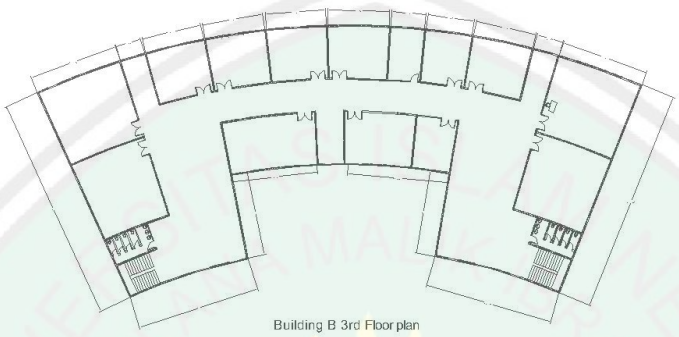

Building B 3rd Floor plan

Scale 1:500

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NAMA
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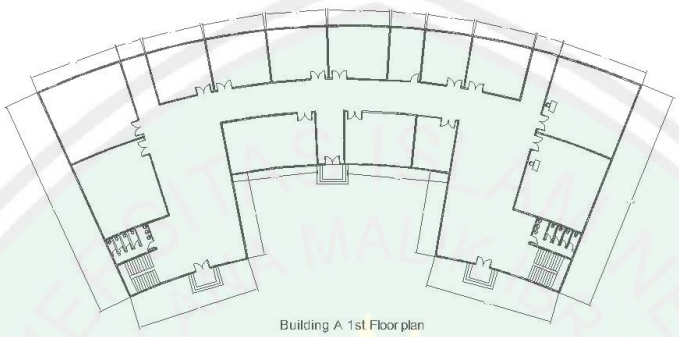
1566013
MATA KULIAH
TUGAS AKHIR
DOSEN PEMBIMBING 1
A. FARID NAZARUDDIN, M.T
DOSEN PEMBIMBING 2
LULUK MASLUCHA, M.T

TGL	CATATAN	



Building A 1st Floor plan

Scale 1:500

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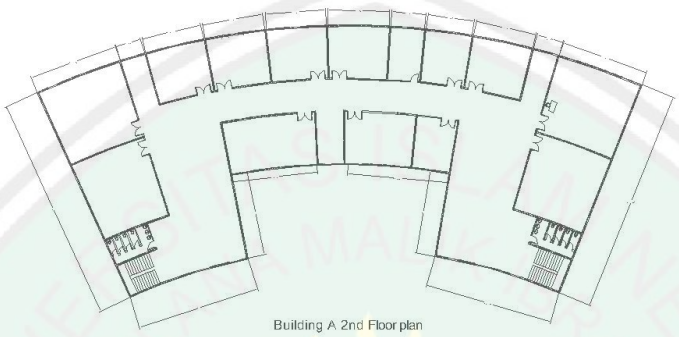
TGL	CATATAN	



Building A 2nd Floor plan

Scale 1:500

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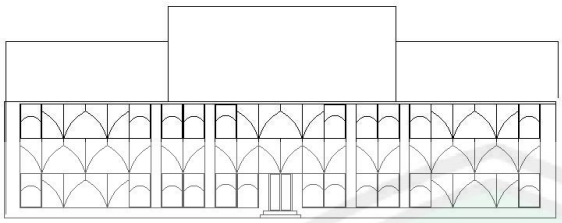
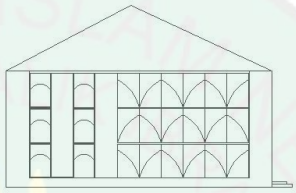
TGL	CATATAN	



Building A Front View

Scale 1:250



Building A Side View

Scale 1:250

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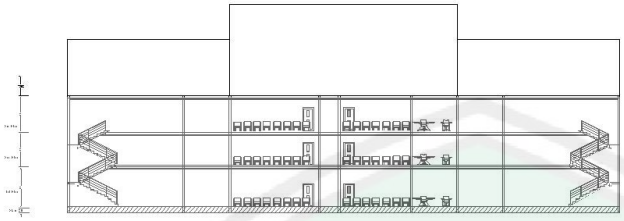
TGL	CATATAN	



Building B Front section

Scale 1:250

Building B Side section

Scale 1:250

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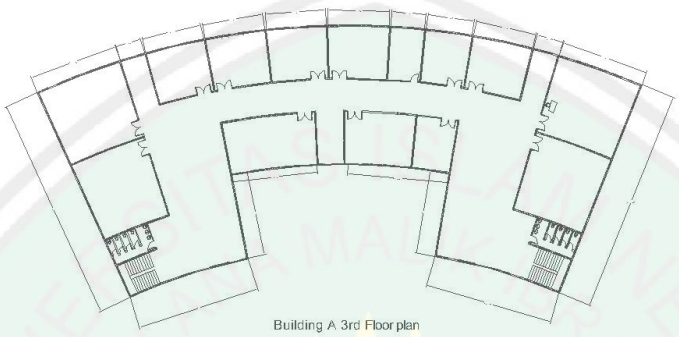
TGL	CATATAN



Building A 3rd Floor plan

Scale 1:500

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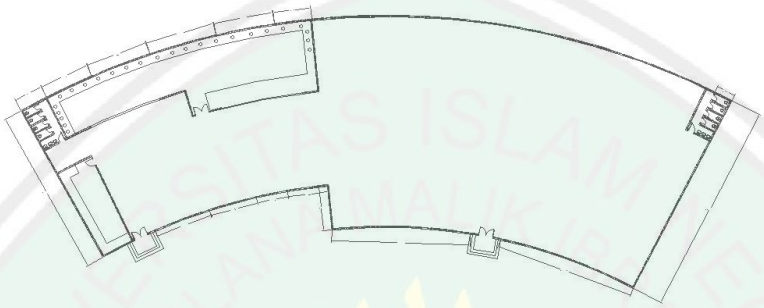
TGL	CATATAN	



Canteen
Scale 1:500

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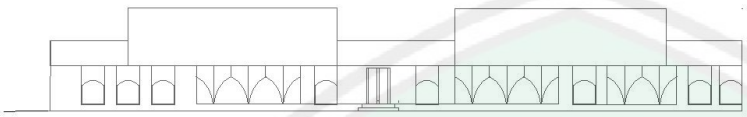

Canteen Front View

Scale 1:500

Canteen Side View

Scale 1:500

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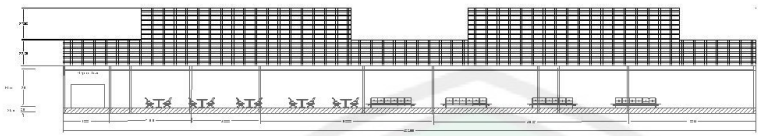
TGL	CATATAN	



Canteen Front section

Scale 1:500

Canteen Side section

Scale 1:500

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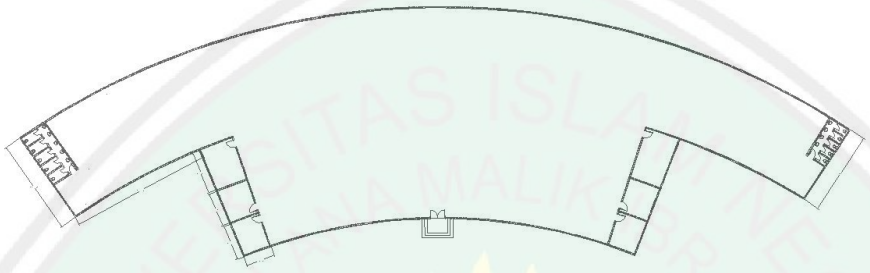
TGL	CATATAN	



Library Floor plan
Scale 1:500

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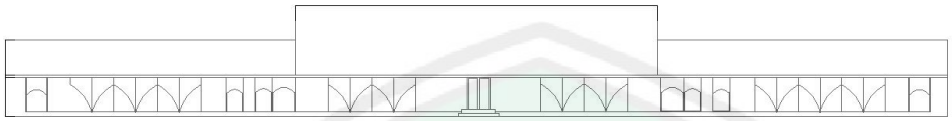
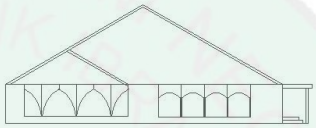
TGL	CATATAN	



Library Front view
Scale 1:500



Library Side view
Scale 1:500

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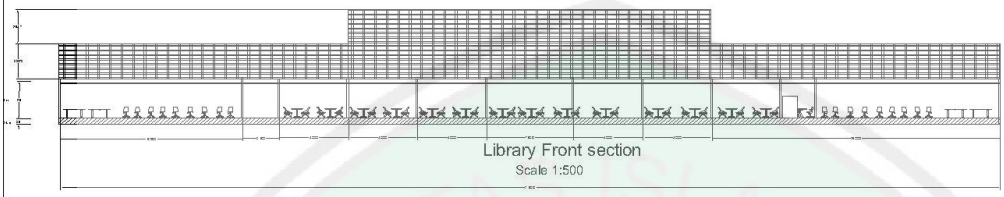

Library Front section
Scale 1:500

Library Side section
Scale 1:500

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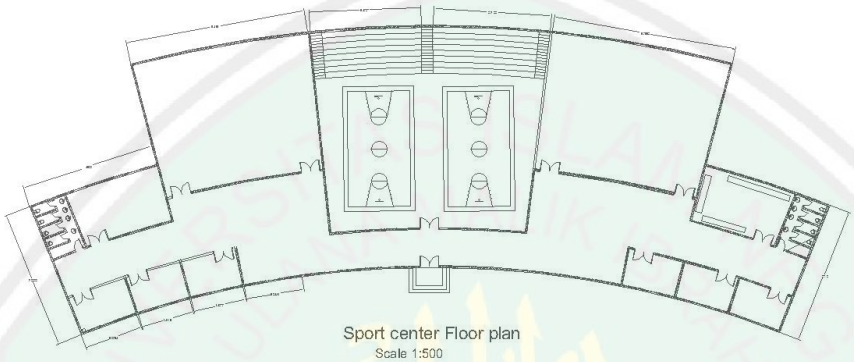

Sport center Floor plan
Scale 1:500

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TGL	CATATAN	

Sport Center Front View
Scale 1:250

Sport Center Side View
Scale 1:250

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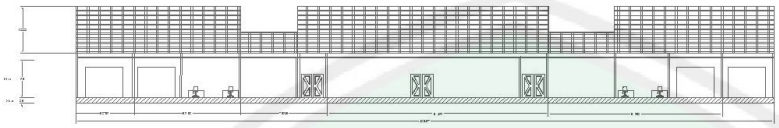
TGL	CATATAN	



Sport Center Front section

Scale 1:250

Sport Center Side section

Scale 1:250

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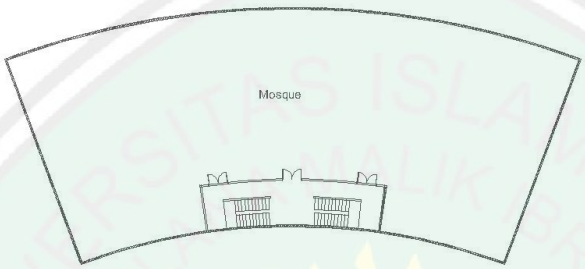

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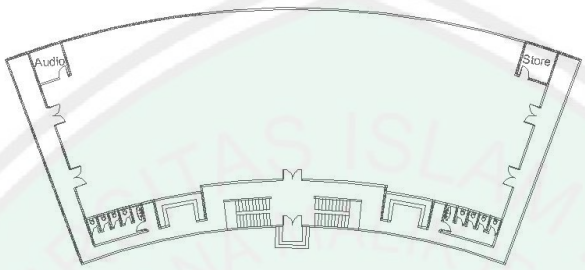

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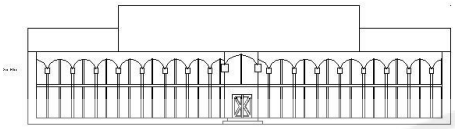

mosque Front section
Scale 1:250

mosque Side section
Scale 1:250

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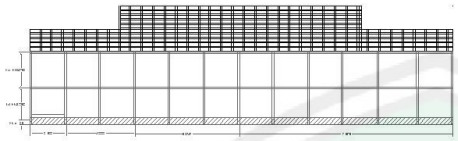
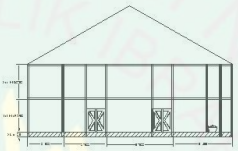


mosque Front section

Scale 1:250



mosque Side section

Scale 1:250

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