EVALUATING USER NEEDS IN THE DESIGN OF PUBLIC LIBRARY, KADUNA:

INTEGRATING CYBER COMMUNITY.

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MSC/ENV-DES/6074/2010-2011

DEPARTMENT OF ARCHITECTURE,

AHMADU BELLO UNIVERSITY, ZARIA,

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DECEMBER, 2014

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AHMADU BELLO UNIVERSITY, ZARIA,

NIGERIA.

DECEMBER, 2014

DECLARATION

I declare that this thesis entitled ‘‘EVALUATING USER NEEDS IN THE DESIGN OF PUBLIC LIBRARY, KADUNA: INTERGRATING CYBER COMMUNITY’’ is the outcome of my research work and has been written by me in the Department of Architecture under the supervision of Dr. M. D. Ahmed and Dr. M.L. Sagada. The information derived from the literature has been duly acknowledged in the text and a list of references provided. No part of this project thesis was previously presented for another degree or diploma at this or any other university.

Muhammad Kabir BALARABE,		December, 2014
Name of student	Signature	Date

CERTIFICATION

This thesis entitled ‘‘EVALUATING USER NEEDS IN THE DESIGN OF PUBLIC LIBRARY, KADUNA: INTERGRATING CYBER COMMUNITY’’ by Muhammad Kabir BALARABE meets the regulations governing the award of the Master of Science degree of Ahmadu Bello University, and is approved for its contribution to knowledge and literary presentation.

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DEDICATION

This research is dedicated to all those that helped me reach where I am today especially my parents. Thanks for everything

ACKNOWLEDGEMENT

All praise is due to Almighty Allah Lord of the worlds, the most gracious and most merciful for His nonstop Guidance.

My profound appreciation goes to Dr. M.D. Ahmed and Dr. M.L.Sagada for their mentoring and the guidance they provided to me at all times to make sure they see me through. I am also very grateful to my committee members, Arc A.O. Eneh, Dr. J.J Maina and Dr. Abdullahi for their valuable insight, ready assistance, and standards of excellence.

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ABSTRACT

Public libraries are institutions that have great impact on the development of knowledge base of the society. This is because they are the information hub available and open to the general public. This information has over the years been stored traditionally in print format. Here is where the problem lies today. The users (study area, North-Western Nigeria) of these institutions have gained the advantage of new Information and Communication Technologies, they are now able to access information on computers, audio and films format, phones and other gadgets. Performances, discussions and campaigns have also now been adopted by the society as a way of accessing and providing valuable information to the society. Hence, where does the library stand in respect to these changes in the demands? This research focuses on how these changes in needs of the user affect the public library as an institution. A case study methodology was adopted and instruments of data collection such as questionnaire, check list, photographs, sketches were employed. It was established that the spaces and facilities provided by the library was no more efficient in serving the needs of the user. This is presented in a chart showing the usage pattern of facilities and the nature of activity users are developing in the library. The proposed design is an idea by the research of what a new public library should look like. The provision of a more vast outdoor space for reading, recreation and social activities shows the difference between the old or traditional library and that of a new one when user needs are brought into the equation. Also the freeness, openness, and continuity of the spaces also reflect the nature of new technology usage within these spaces. Among the recommendations made were that designers should based their design principles more around the user than the content, new Inforomation and Communication Technologies used by the public should be studied to understand how it affects the library etc. These will improve the standards of the public libraries so as to serve more members of the general public.

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Chapter 1: Introduction

1.0 BACKGROUND TO THE STUDY

Mastery of technology has always been a part of human endeavour, and has always been conquered in all ages. This is no different from the Digital age. Information and Communication Technology revolution has brought about different ways through which man can access and/or share information. This has made the quest for knowledge easy, interesting and local. As a result of this advancement and common shared interest, Cyber/Online communities have sprung up all over the world (Jankowski, 2002).

Due to the complexity of online communities, there is no approved standard definition of cyber communities (Preece, 2004). However, attempts have been made in trying to bring an understanding out of it. Stanoevska and Schmid (2000) defined cyber communities as associations of agents, who share a common language, world, values and interests and which are connected by electronic media, i.e. communicate and cooperate ubiquitously and possibly through avatars. The figures below show an abstract concept of cyber community interaction.



Fig: 1.1: Online Communities

Source: http://rydermedia.files.wordpress.com



Fig: 1.2: Online Communities

Source: http://blog.lib.umn.edu

Another definition given by Sproull and Arriaga (2007) echoes the characteristics of a group(s) interaction, shared interest and communication through the web, with the addition of interest in collective and member welfare.

The aforementioned definitions show the nature of such a community. The purity in its digital nature makes its requirement differ to a certain extent from that of a physical gathering. Its dynamism is in its ability to bring people of different scholarly level, accessing information and interacting on different media.

Public libraries as information hub of the society offers a great place that will aid such a social and intellectual gathering. They occur in a variety of societies, in differing cultures and at different stages of development. This made public libraries a worldwide phenomenon.

A public library, the local gateway to knowledge, provides a basic condition for lifelong learning, independent decision.making and cultural development of the individual and social groups. (*IFLA/UNESCO Public Library Manifesto*, 1994). Figure 1.3 shows a typical public library

> *"A public library is an organization established, supported and funded by the community.... It provides access to knowledge, information and works of the imagination through a range of resources and services and is equally available to all members of the community regardless of race, nationality, age, gender, religion, language, disability, economic and employment status and educational attainment"*. (Saur,2001)



Fig: 1.3: Edmonton Public Library
Source: http://ad009cdnb.archdaily.net

Carlson (2010) gave a three point definition of a public library as enshrined in the Colorado's public office manual as means of administrative entity that is:

(I) Operated and maintained for the free use of the public residing within its legal service area:

(II) Operated and maintained in whole or in part with money derived from local taxation: and

(III) Open to the public a minimum number of hours per week in accordance with rules established by the state library.

These basic definitions of the public library show that it is a building that addresses the information and social challenges within a community. How these challenges are addressed is a matter of concern if the libraries are to function more effectively. Studies have shown that paying greater attention to how the users of such facilities interact with the environment and catering for their needs, is the statistically evident way of increasing the number of the users of such facilities.

1.1 PROBLEM STATEMENT.

Libraries, over the years, have been designed primarily as places to collect, access, and preserve print collections (Freeman, 2005). This concept has failed to incorporate the dynamics of the current library users. The planning and design had always been centered towards the efficiency of library services rather than the information inquisitive paradigm of the user (Freeman, 2005).

These phenomena notwithstanding, it is no surprise that the traditional library of today is not that of the future. To cater for the information and learning needs of today and the foreseeable future, the library must acknowledge the values and goals of the user and at the same time address the way new learning (both social and academic ways) and information technologies are being

accessed and used. This is very critical if cyber community members are to be incoporated into our public libraries.

Cyber communities' specific mode of interaction and sourcing of information is largely aided with the advancement of Information and Communication Technology. Most of the educational and self development materials can be accessed on the internet. Voice communications and other forms of multimedia interactions, in groups or at individual level; have been made easy by the revolution.

This shift from the traditional form of sourcing information in the library to a more digital one, in the case of cyber community, needs to be addressed in library architecture if it is to service and function more appropriately in its rapid changing environment. The social aspect of learning also needs to be addressed and incorporated into the library to cater for informal ways of learning. (Hartman, 2000) suggested that the task before designers is getting to achieve such a library due to the lack of standard principle for it.

Library designs that fail to do this as opined by Bennett (2005), may achieve little more than making library operations convenient and efficient for readers and staff alike. He continues to say that, this paradigm mistakes the library's core responsibilities, which is in the effectiveness of learning rather than in the efficiency of its operation.

1.2 AIM AND OBJECTIVES

1.2.1 AIM

The aim of this research is to investigate the space requirements and space design that are appropriate to Cyber community members that will enhance their learning and productivity ithin the Public Libraries.

1.2.2 OBJECTIVES

The objectives set out for this research are;

- To identify the mode of sourcing information and the tools required in undertaking such an activity.
- To identify the behavior of cyber community members with respect to information sourcing and learning.
- To indentify the key changes that this community will bring to the operational system of a typical library.

1.3 RESEARCH QUESTION

I. How does the use of electronic/digital gadgets affect the use of spaces in a public library?

II. Does the use of such gadgets uphold the relevance of key traditional library processes?

1.4 SIGNIFICANCE OF THE STUDY

The research questions the performance of the public libraries with regards to the current user needs and tried to identify the gaps if any or confirms the position of the library today.

To the users: the users of the product of the research would be exposed to a more conducive environment that enables learning, self development and access to information in the 21st century.

To the government: the research would provide the government with information on the challenges facing the public libraries in the country, and the trends to which these libraries should be looking towards.

To the general public: the research could be a source of information on library challenges daring us today in our society and be a base for further research or criticism. The product of the research could be a reference point in solving such challenges.

To the researcher: the researcher will in the course of this research be more acquainted with Cyber community dynamics and the future of libraries in the country. Also there researcher will be able to use the knowledge acquired in future, be it in professional life, personal or otherwise.

1.5 SCOPE AND DELIMITATIONS

This research will limits itself to the spaces mostly within the reading and multimedia area. This will make the research do justice to the areas where ICT gadgets are mostly used by the general public.

Chapter 2: Literature Review

2.0 Introduction

The development of network technologies has, since its earliest days, changed the nature of business, the role of the individual in the workplace and at a higher level, how society functions as a whole (Plant, 2004). The speed of this change continues to increase with advancement on internet.based broadband and wireless technologies. These rapid change and the technological advancement has allowed for both inter.organizational and inter.personal connectivity, allowing users of the Internet to reach out to other users in a manner unimaginable only a decade ago. By interacting and reaching out to other users of the internet, the users are becoming part of a *cyber community*.

In the book *The Virtual Communities* by Rheingold (1993:3), perhaps more responsible than anyone else for generating interest in and enthusiasm for virtual communities (Jankowski, 2002), defined virtual/cyber communities as social aggregations that emerge from the Net when enough people carry on those public discussions long enough, with sufficient human feeling to form personal relationships in cyber space.

Also, Stanoevska and Schmid (2000) defined cyber communities as associations of agents, who share a common language, world, values and interests and which are connected by electronic media. Plant (2004), defined cyber comminities as a collective group of entities, individuals or organizations that come together either temporarily or permanently through an electronic medium to interact in a common problem or interest space.

The question then arises; are all online groups cyber/virtual communities?. Feenberg, A and Bakardjieva, M said that the answer is dependent on the definition of a community. If a

community is defined by a face to face contact, they said, then, there can not be a community on the Net since it poses a physical barrier. However, they said looking at it from Anderson's perspective, 'All communities larger than primordial villages of face to face contact (and perhaps even cyber communities) are imagined'. He continues to argue that medium on which a community relied should not be in its classification criteria. Thus, some sort of virtuality is a normal aspect of community life.

Communication media play a central role in determining the different styles in which communities have been imagined throughout history (Feenberg, and Bakardjieva, 2004). The great sacred communities of the past (Christendom, the Islamic Ummah, the Middle Kingdom) were imagined through the medium of a sacred language and script.

Cyber communities grew, at first, out of existing professional networks, but they eventually surpassed these origins to offer a new social space for people, strangers and almost.strangers, with diverse backgrounds and interests to come together as equals, as generators of ideas, to deliberate and act collectively, and in some cases to remain together in long.term association.

2.1 HISTORY OF CYBERCOMMUNITIES

Cyber communities have been in exsistence since the late 1960s (Sproull. and Arriaga. 2007). Debates of whether it was first of a social dimension or a more technical one are still yet to be resolved. But both came into being with the design and development of networked computing.

The creation of more networks especially during the 1970s and 1980s led to people writing e.mail and bulletin board software. This represented technical innovations and made networked computing to supporting human communication.

This innovation and development can be seen in electronic data interchange (EDI) and inter.organizational systems. The EDI concept was originally captured by Kauffman in his 1966

article, in which he urged organizations to ‘think beyond [their] organizational boundaries (an automated information system shared by two or more companies) . extra corporate systems,’ this led to the concept of data and information exchange within a ‘business community.’ (Plant, R. 2004).

The second branch of development was from the work of Roy Trubshaw in 1978 at Essex University. He developed an online virtual world called Multi User Dungeon (MUD) (Pal, A. 2012). This MUD was a multiplayer virtual world, real time, game that brought together gaming and online chatting. The history of Massively Multiplayer Online Role.Playing Games (MMORPGs) traces directly back to MUD (Castronova, 2006)

The online community movement was fueled further by the community The Whole Earth 'Lectronic Link (The Well) [Rheingold, 1994] an early online community developed in the San Francisco Bay area (Preece, J. 2004). The Well, started in 1984 by Stewart Brand and Larry Brilliant, allowed its users to share their stories and knowledge in general subject areas known as conferences. The conferences reected member interest and allowed them to collaborate by creating conversational threads. Over the last two and a half decades, it's been described as having once been the world's most influential online community. The modern day discussion forums and question answering communities are inspired from the concepts proposed in The Well.

Figure 2.1 shows different examples of cyber communities. From those of social based nature, to gaming, to academic journals communities etc.



Fig: 2.1 Examples of Online Communities according to Jonathan, Xian, Ximin, Bryan, Mahfudz, Thara

Source: Online communities by Xian et al (2012)

2.2 ELEMENTS OF CYBERCOMMUNITIES

The elements of cyber/virtual communities are twelve as stipulated by Typaldos (2000). These principles function in a chronological order. The most important of them all is Purpose and is braced by the rest.

I. Purpose: Members within the community share this same purpose and are collectively pursuing its accomplishment.

II. Identity: Members can identify each other and build relationships.

III. Reputation: Members build a reputation based on the expressed opinion of others.

IV. Governance: The facilitators and members of the community assign management duties to each other. Allowing the community to grow.

V. Communication: Interaction between members is made easy

VI. Groups: Interest, duty and task groups can be formed within the community by members.

VII. Environment. A synergistic environment enables community members to achieve their purpose

VIII. Boundaries: A clear and well defined boundary established to identify members

IX. Trust: Building trust between members and with community facilitators increases groups efficiency and enables conflict resolution.

X. Exchange: Recognition of forms of exchange values

XI. Expression: The community itself has a “soul” or “personality”. Members are aware of what other community members are doing.

XII. History: Keeping track of previous activities and reacting and adapting to its consequences.

2.3 CLASSIFICATION OF CYBER COMMUNITY.

Based on the study by Äkkinen 2005 at the Helsinki School of Economics, cyber communities could be classified in to three categories, namely;

a) Content Based Classification,
b) Revenue based classification,
c) Classification of members.

2.3.1 CONTENT BASED CLASSIFICATION

Stanoevska.Slabeva and Schmid (2001), in their paper subdivided this group in to four. The are discussion, task/goal oriented, virtual and hybrid.

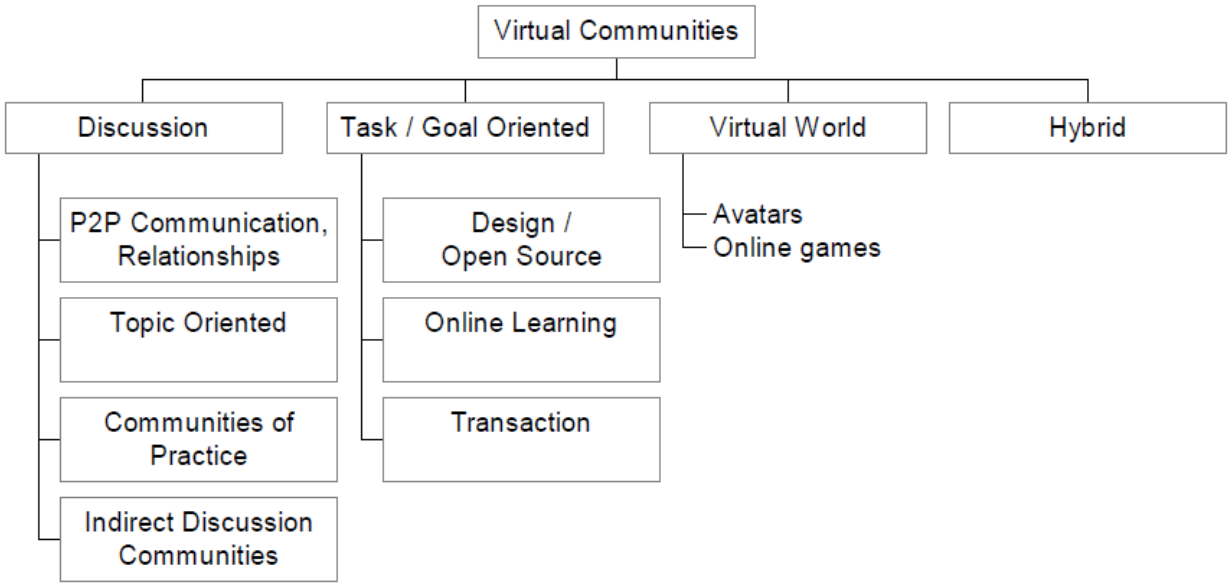


Fig: 2.2 Classification of Cyber/virtual community according to Stanoevska.Slabeva and Schmid (2001)

Source: Conceptual Foundation of Online communities by Äkkinen (2005).

Discussion communities are entirely based on information exchange on a clear topic. **i)** Example of person to person communication community are the social networks and relationship sites. Here, the topic is determined by those in conversation and it may sway from time to time. **ii)** Topic oriented communities have specific topic of discussion with them. The topic is determined by the community's interest. Such topic may include but are not limited to; sporting activities, fashion, enviromental issues etc. **iii)** Community of practice revolves around a particular trade, profession or skill. Example may include photography billboards. The topic of discussion is determined by a common specialty. **iv)** The indirect discussion community are mostly of review nature. Members communicate indirectly. Example the Alibaba review board community and other service provider review boards (Äkkinen, 2005).

The task/goal oriented communities are fixated on the conquest of a particular aim through collaborative effort. The design/open source community includes the likes of Habitat for Humanity where the goal is to propose shelter facilities for humanitarian purpose over the web

with contribution from anywhere around the world. This goes the same for the design of any product or program.

The virtual world is sometimes a representation of the real world online, with sophisticated human and physical interaction. But a lot of the times are a fantasy world with participation through avatars. They are mostly found in the gaming world and research simulation hub.

The hybrid world can contain different communities within it.

A less broad classification is given by Lechner and Hummel (2002) as;

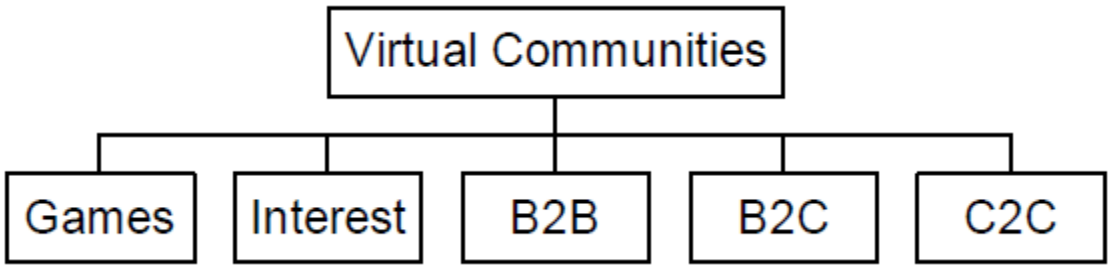


Fig: 2.3 Classification of Cyber/virtual community according to Lechner and Hummel (2002)

Source: Conceptual Foundation of Online communities by Äkkinen (2005).

B2B: business to business

B2C: business to customer

C2C: customer to customer

Portar (2004), has developed a two tier of virtual communities. These tiers are based on establishment and relationship orientation.

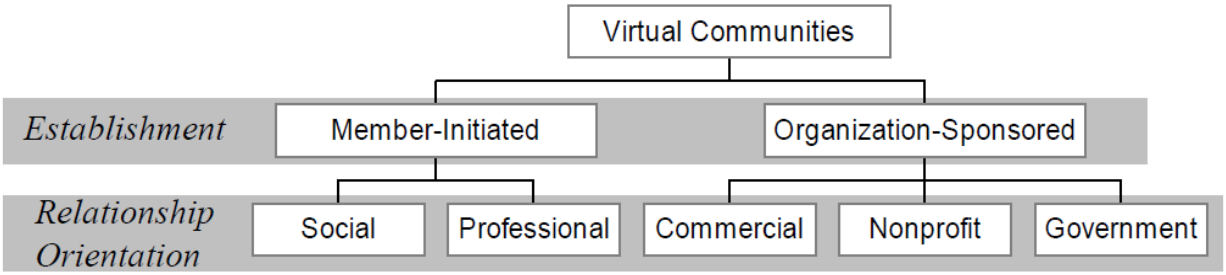


Fig: 2.4 Classification of Cyber/virtual community

Source: Conceptual Foundation of Online communities by Äkkinen (2005).

2.3.2 REVENUE BASED CLASSIFICATION

Plant, R. (2004) in his research paper titled *Online communities* identified the dimensional model of online spaces as three;

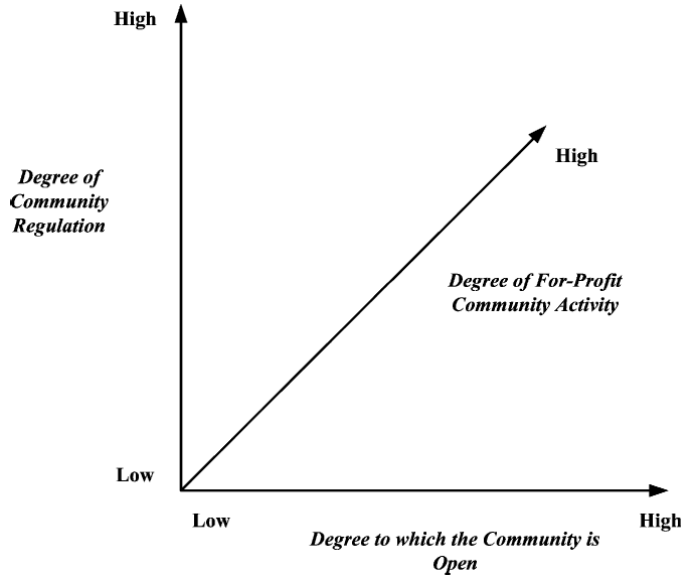


Fig: 2.5 A three.dimensional taxonomy of the online community

Source: Online communities by Plant (2004)

I. the degree of openness to membership i.e is the community open or closed to all or to a specific people

II. the degree of community regulation i.e. does the community set rules for its members in terms of usage or is it free

III. the degree to which the community is involved in for profit activities. Is the community for profit purpose or not.

He used these three models to identify different types of online communities based on revenue.

These communities identified are;

a) Unregulated communities
b) Regulated communities
c) For.profit, open and regulated communities
d) For.profit, private and regulated community
e) Not.for.profit, open and regulated community
f) Not.for profit, private and regulated communities
g) Communities that overlap the for.profit and the not.for.profit regulated spaces

2.3.3 CLASSIFICATION OF MEMBERS

Reasons for joining a cyber/online community may differ from one person to another. This brings the classification of members. The main focus first is at the membership itself i.e. whether a person is a member or not (Äkkinen, 2005). The second tier focuses on what type of a member is a particular person and it is based on participation

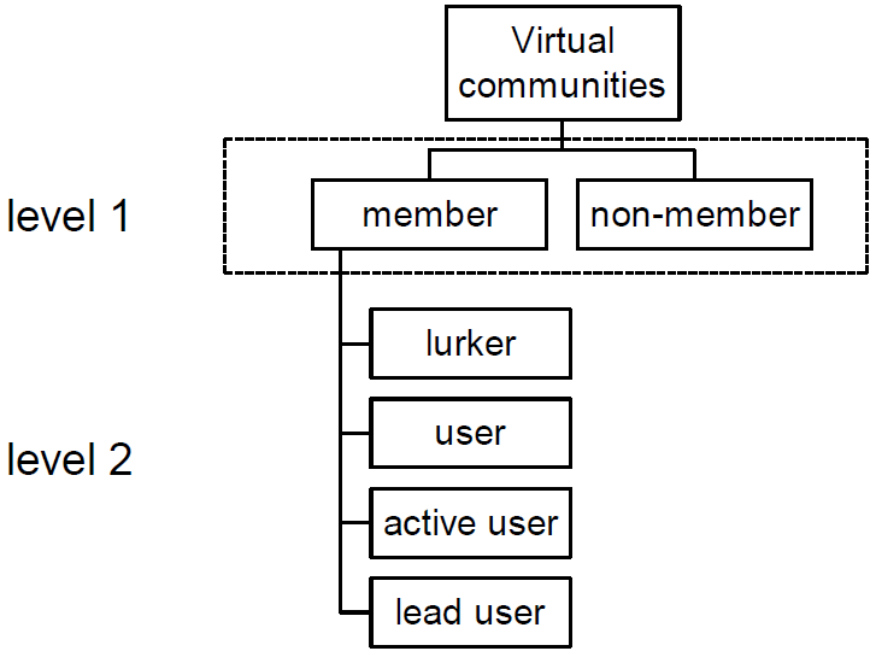


Fig: 2.6 Classification of members in Cyber/virtual community

Source: Conceptual Foundation of Online communities by Äkkinen (2005).

Lurker members are members that just glance through already posted comments to get answers or information about a particular subject without necessary posting the question. A user can be characterised as a new member who is just trying to get settled in while an active user is a member that provides valuable information to other member. These active users are sometimes rewarded by the hosts of the community. Lead users according to Wolkinger and Franz (2004) are those so enthusiastic to pay for "typical community tools and services".

2.4 EFFECTS OF CYBER/ONLINE COMMUNITIES

Online communities just like any other comminuty are destined to have some effects on the community. These effects could be positive or negative and will definitely have consequences on the offline community (the physical world). The effect cuts across different industries; from educational to technological, from business to the medical industries etc.

2.4.1 Positive effects

In the research paper on *Online Communities by* Sproull and Arriaga (2007), they brought forward the benefit of being in an online community. These benefits vary one cyber community to another. They said members with medical issues and emotional distress "gain actual health benefit" by simply engaging themselves in a support group like community. The gains are not limited to health benefit alone but cut across to emotional and information benefits. They continue to say that these benefit are dependent on the frequency of visits and participation within the community.

Because of the development of the internet, (Plant, 2004) concluded, it is now possible for a user to be connected with hundreds of millions of people in real time and it is likely to grow in the near future he said, as a result of low cost of computing, advancement in digital voice and data programs. This cannot be possible in the case of face to face (physical) community. Another benefit is the possibility of communicating at the lowest cost ever.

In the paper *A Technological Revolution: Social Implications of E.Learning,* (Thoms, 2008) pointed out some of the advantages of e.learning. Sharing of culture could be achieved but only if the members wish to. Also the issue of discrimination is reduced to bear minimum as gender and race could all be obscured. She also said that disability can and is easily obscured.

The study by Yeslam Al.Saggaf on *The Effect of Online Community on Offline Community in Saudi Arabia* pointed out four key positive effects. The subjects of the research were reported to be more open minded in their discussions and accepting others point of view. The subject were also said to be more aware (not been naive) in the personality of different people. This was more

common among the female candidates of the research. The result also showed the participant becoming more self-confident and appreciative of the opposite gender.

As of the business world, online communities are changing the modalities of business. A study by Madeline Kriescher (2009) on the *Professional Benefits of Online Social Networking*, shows that 88% of business (Law Firms) in the UK and USA are very much eager to incorporate social networking to improve their business functionality. Also 69% of the business surveyed will want to use it to foster relationship with colleagues they do not already know. The real world functionality was suggested that the networks could be used internally to house information on form polices which could have been hard to find. Internal social networks could be used to source immediate answers reducing time in answering and deleting e.mails. These systems could be used to keep notes on works need to be done and to check "online persona" by the HR department in trying to recruit staffs. In industries like that of the software, cyber/online communities have been providing technical support and have been officially recognised (Sproull. and Arriaga. 2007). This shows how strong and important these communities are to the software industry.

2.4.2 Negetive effects

With social networking sites, posts made in error, or malicious and damaging information made by another member could have potential impact (Sproull, L. Arriaga, M. 2007). This information could be used by employers as a basis not to hire of fire a particular member.

The amount of misleading information on discussion communities is alarming. A Study by Giles (2005), stated that Wikipedia and Encyclopedia Britannica articles on scientific subjects were full of error.

Dangerous relationships could be formed on the cyber community due to the possibility of hiding criminal intent in an online persona. These relationships can then manifest in the physical world and mostly the predators target the vulnerable, minors. Other studies found ou that, prolong time spent by new users in an online community reduces their social involvement and psychological well.being (Kraut et al. 1998).

As for its impact on business and operations, complaints about a product or service can easily be shared on the community and mobilise a group of boycotters or even protesters. Infringement on interllectual properties occurs much more easily on such communities. Copyright book online books and other material are easily transferrable and not always detectable. Coperations have taken a hit for such kind of activities (Sproull. and Arriaga. 2007).

Negative results can also be felt on educational grounds. Some students on an e.learning community may not be able to contribute to the discussion fully. This is as a result of not mastering the technological tools required for the learning process (Thoms, 2008). Thoms also pointed out that students whom english is not their mother tongue face difficulty in expressing themselves clearly. Also the inability of e.learning discussion to have more effect than class discssions will leave some of the pupils with few points of view on a particular point. In a physical class these points would have been extensively dealt with by the teacher and the students within the class.

The negetive effect found by (Al.Saggaf, Y. 2004) showed participants family commitments reduced significantly up to the point of affecting their studying time and extra reading. In the context of the place of research, participants becoming less shy were categorised as a negative effect. This was brought about due the communication through avatars. The results also identified intellectual confusion as a negative. The participants found that their religious and

cultural values were in direct collision with the values of others. This brought about some misunderstandings and confusion about many thing in life, said one of the participants.

2.5 PUBLIC LIBRARY

2.5.1 INTRODUCTION

"Public libraries are being reinvented. They are increasingly seen as the shared ground in an increasingly diverse society, a place where the whole community can feel a connection. They also provide the vital link to our digital future.' Lord McIntosh, Better Public Library pp2

Libraries act as a centre to the community; they also serve as a learning beacon to the community (Wood. and Lipton. et al 2012). This dual functionality forces rapid changes in the social and technical arena. Hence, the quality of the environment from which libraries deliver their services will have a major impact on how well the challenges are met.

According to Saliu (1998), A public library (layman's library or university) is a library that offers services to the public free of charge and also provides educational, social and political information to people in a particular community. The provision of these services must be, according to IFLA/UNESCO guidelines for development, in different media to meet the needs of individuals and groups.

With wide access to digital information on the rise, Pruett (2008) said, it is logical to think that the printed document, while not eliminated, will be accessed less frequently. In his calculation in ten to twenty years, libraries will no longer be measured by their volumes but rather by the measurement of access to information (Pruett, 2008).

2.5.2 A BRIEF HISTORY OF PUBLIC LIBRARIES IN NIGERIA

The Public libraries in Nigeria reflects the library system of our colonizing nation. This is largely due to their influence in setting the libraries up (Salisu. and Olanlukun. 1993).The first so called

public library was that of Mr. Tom Jones which was a library founded from his estate. The oldest library is the Lagos library, established on 1932, as a result of the donation of $6000 by Carnegie Corporation (Olanrewaju. and Adebayor. 2009). The library was located within the Government House and as such made it inaccessible to the general public. This was also a subscription library together with that of the then Federal Ministry of Justice, both lunched around the same period (Saliu, 2006).

The 1944 British Council Reading Room in Lagos provided a better environment, one that inspires, is of vitality and stuffed with future hopes (Okorie, K. 1953). This hope was realised in 1946, with the library jointly owned by British Council and the Lagos town, replacing the Lagos Library (Saliu, 2006).

The establishments of other public libraries such as those of the regions were created to the steps taken and the formulated framework of the public library system (Okorie, 1953). However, (Olanrewaju. and Adebayor. 2009) accredited the establishment of those libraries to the need for information and propaganda to spread around to the general public easily and free during the Second World War.

The libraries of the Eastern and Western regions were ungainly reading rooms. The only libraries in Lagos and Calarbar were of reputable standard. Also in the Northern region, the Kano Emirate library is said function well and contains literature in English, Arabic and Hausa. The Kaduna Regional Library is also at the time meeting the needs of the gradually increasing general public (Okorie, 1953).

Libraries received so much attention after the Independence like that given to schools and hospitals. This was due to the necessity of educating the general public on the matters of Independence importance and is maintenance (Olanrewaju. and Adebayor. 2009)

Other major factors in the increase in the number of public libraries within the country, as given by Saliu (2006), were the creation of states by the established regional governments and the increase in the number of student's enrolment in schools.

The political and economic hindrances within the country have affected the development of Public library services in Nigeria significantly over the past ten years. The strongly affected activities within the public libraries are the content supposed to be provided. The main function that these libraries provide is simply a reading area for students who, in the majority of cases, use their own materials and do not consult the library collection (Issak, 2000).

2.5.3 ROLES OF PUBLIC LIBRARIES

Libraries over the decades have played a significant role in the development of the human intellect and mind. Where the Public library differs from the others is; in its wide range of coverage in subject matter and its level of openness to the general public. Some of the roles and/or functions it provides includes, but are not limited to

2.5.3.1 INFORMATION HUB

The 1997 IFLA/UNESCO for development had a manifesto that reads 'The public library is the local centre of information making all kinds of knowledge and information readily available to its users.' (P.18). It also stresses that amongst its priority, is to provide alternatives to information sources and to the ways materials are been accessed. This is to offer different perspectives on every societal issue that caters for all. This Narrows the gap between the information rich and information poor.

2.5.3.2 EDUCATIONAL ROLE.

The role of Public libraries cannot be exaggerated in education which consequently drives national development (Saliu, 2006). Its ability to support lifelong learning to each member of the

community makes it sometimes known as a “Public university”. It instills reading habits among children and puts forward a platform for adult education (Gupta, 2002). This has been the reason on which most libraries have been founded. The development in education consists of both the formal and the informal i.e. from both the schooling and the employment development (Saur, 2001).

2.5.3.3 CULTURAL DEVELOPMENT

By staging different cultural activities and promoting heritage awareness, the public library is considered and works as a cultural centre. Saur believes that the library should represent the variety of cultures and contains materials in the languages spoken in the area. Also materials should be provided concerning the history and culture of its area where people can understand their roots (Gupta, 2002. Issak, 2000).

2.5.3.4 INSTRUMENT OF SOCIAL CHANGE

Pienaar sees that libraries can change the quality of lives in disadvantaged communities where there is high level of illiteracy. This could be achieved through the help of the library sieving out the priorities of the community and distributing this information since it is regarded as a public relations organisation. Television station and radio are the only bigger means of reaching out to this populace, so the public library helps in simplifying the rather complex political world, views and toughs to them (Saliu, 2006). To the elite world, it serves as a meeting place for researchers. This brings people into contact with other members of the society in an informal way (Saur, 2001).

2.5.3.5 ECONOMIC ROLE.

By its provision of information on access to goods and services, the public library is plays an active role in the economy of the society. The library also distributes books and video contents

and provides necessary information on income generating ideas, entrepreneur's skills and cash lending services (Saliu, 2006).

2.5.3.6 RESEARCH ROLE

The library serves as a repository of knowledge. It houses materials of research values in the modern society. Public library serves as a stock to the society and it compiles bibliographies, on various aspects such as subjects, authors, and title.

2.6 LIBRARY SECTIONS AND UNITS

Different sections within the public library play a different role from one another. In other to understand how they will operate to cyber communities, we first have to understand how they operate to the traditional user

2.6.1 ACQUISITION SECTION



Fig: 2.7 Acquisition Section IIT Kharagpur, Central Library
Source: http://api.ning.com

This is the unit concerned with the acquiring of reading materials in the media required (http://www.pulibrary.edu.pk). This purchase is mostly done at the request of the general public, universities, publishers, the library board etc. In (http://210.212.230.223/sections.html), books

received from donors, publishers and others are physically processed, screened and accessioned in this section.

2.6.2 Cataloguing Section

The main purpose of this section is to classify reading materials. This classification will serve as the address to that particular material. Details such as Author, title, subject, year of publication, edition etc is entered in this section and can be accessed for swift retrieval of materials.

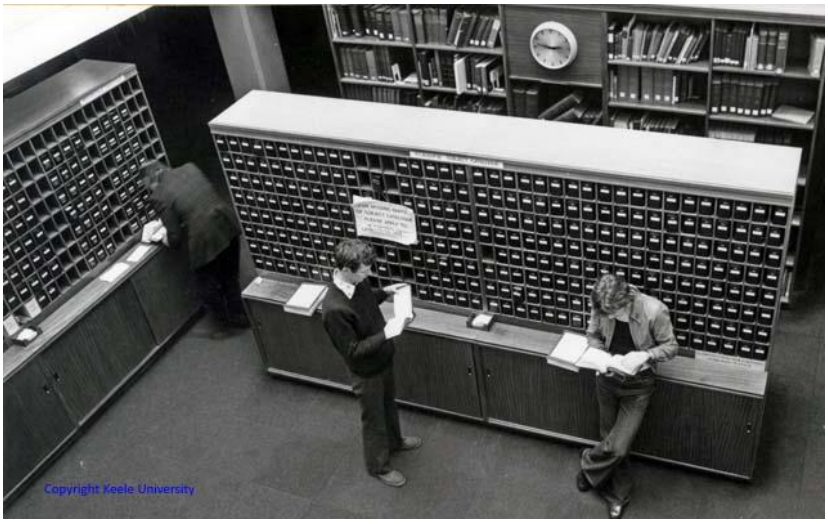


Fig: 2.8 Library catalogue section at keene university
Source: http://www.keele.ac.uk

2.6.3 CIRCULATION SECTION

The Circulation Section is the backbone of the Library. Situated at the entrance, it is divided in to three parts; the property counter which is where all personal belongings are kept, the circulation counter which is centered on issuance and return of materials, and the security post. The circulation section performs different functions amongst them include but are not limited to; Issue and receipt of reading material, to and from the members only, Informs the members about the reading material reservation, Checks incoming and outgoing materials thoroughly, Keeps statistics of daily transactions etc



Fig: 2.9 Circulation section at Dayananda Sagar College of Engineering
Source: http://www.dscengineering.org

2.6.4 REFERENCE SECTION

Books from this section are not issued, but may be checked out by readers within the library. This separate entity holds a reference tool that includes encyclopedias, yearbooks, biographical dictionaries, handbook, indexes, quotation books etc.



Fig: 2.10: General Reference Section

Source: http://library.upmin.edu.ph

2.6.5 MULTIMEDIA AND MICROFILMING

This section holds different types of audio and visual materials on different media to fulfill the information needs of the general public. Subjects covered by the microfilms includes, social sciences, humanities, politics etc.

2.6.6 STACK SECTION

This is the most important section of the Library (http://210.212.230.223/sections.html). The books that are on display here are those that could be issued out. This section is mostly found on every level of the library. Materials on these shelves are displayed according to Dewey Decimal Classification Scheme. Books are given class and book number which could be accessed. Books of the same subjects are kept together.



Fig: 2.11: Open stack arrangement

Source: http://www.openstack.org

2.6.7 INFORMATION AND TECHNOLOGY SECTION

All automated services are provided from this section. Some computers equipped with internet access are also provided in this section to aid students, researchers and other members of public that wish do so.

2.7 TECHNOLOGY USE and PUBLIC LIBRARY

According to Partnership for 21st century skills (2009), exploring, learning, understanding and expressing oneself in the world today and that of the future, people need access to latest technology, digital tools and media.rich resources. Educators, administrators, students and members of the general public need these tools to share knowledge with other professionals, study, interact with communities and families as well as manage other operations. The essential goal of technology is to support such activities. These technology should be seem less (Partnership for 21st century skills, 2009), blending the physical (library) and the digital infrastructure (ICT equipments) in harmony to aid learning and self development.

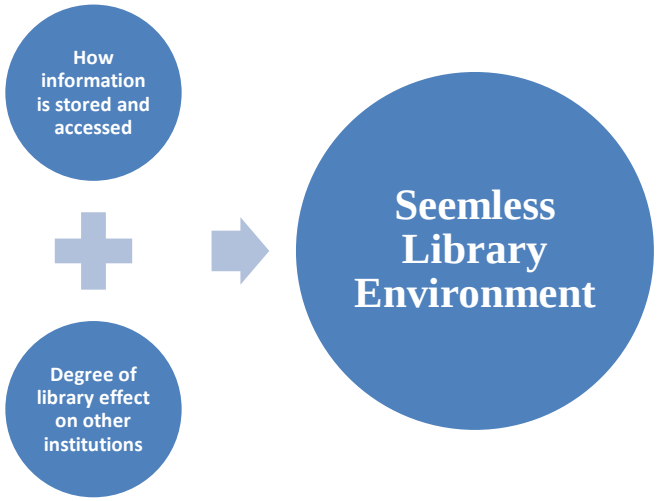


Fig: 2.1: Proponents of seem less library environment

Source: Partnership for 21st century skills,(2009)

The attractive features of the library in the digital age while they remain the services it provide, such as the digital theater, advanced equipments, Wi-Fi transmission and other services, the effect of the architectural composition and components cannot be over stated (Frischer, 2005). Spaces designed that are functional and inspirational are a testament to the need for good architectural design. Entirely new spaces to the library can play a significant role in learning

environments. Requirements and standards on sitting, orientation, decoration and design "matters even more" in the digital age (Frischer, 2005). Studies show that users will want to come for the experience of something that is missing in office spaces and/or homes. This could be in terms of a grand entrance and/or a more informal sitting unlike the perimeter sittings.

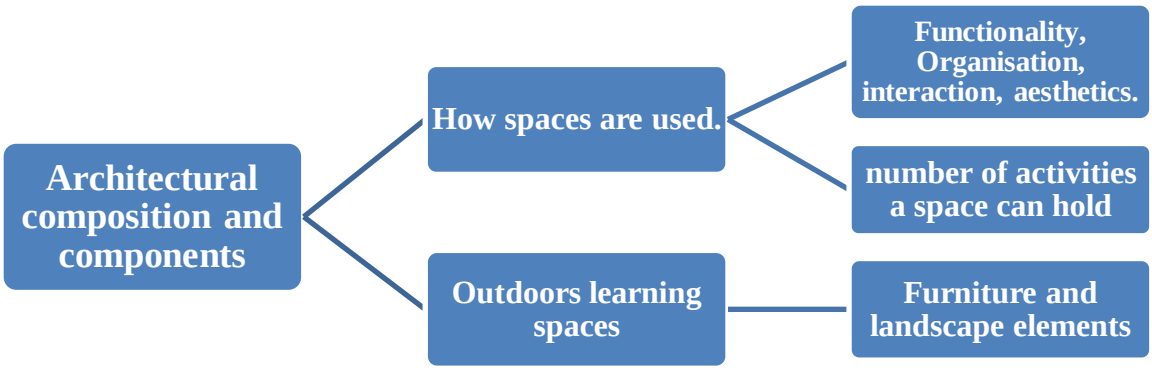


Fig 2.11: Proponents of Architectural composition

Source: The Ultimate Internet Café, Frischer (2009).

The "new" or modified requirements show the extent to which technology is having an impact on the library. The designers challenge of providing a different experience and evoke emotions new to the users should be the key principle to modern library design if the library are to serve optimally.

2.8 SUMMARY OF LITERATURE REVIEW.

Changes in the ways of accessing information will definitely have an effect on the ways the library is been used. It brings about some level of social interaction within the environs of the library. New technologies for storage and new media for accessing information such as servers, high broadband internet facilities, computers, multiple display screen and interactive/smart boards will have to be introduced. These technologies will help tie the libraries role as agent of

social change that the traditional library sections do not sufficiently support and cater for. Hence, a gap emerges.

The public library needs to accommodate for cyber community activities, and as well support the aspect of social learning within its environment as a public institution is of great importance within the community. Spaces that are flexible to different use and are easy to interact with should be prioritized. Considerations to outdoor spaces will also have to make. These spaces will services the need for communal activities, social interactions and casual users

Chapter 3: Research Methodology

3.1 INTRODUCTION

In explaining what a case is, Yin, (1993) suggests that the term refers to an event, an entity, an individual or even a unit of analysis. It is an empirical inquiry that investigates a contemporary phenomenon within its real life context using multiple sources of evidence.

3.2 CASE STUDY METHODOLOGY.

The research adopted a case study methodology to find out to what extent the public library spaces have reservations for cyber community activities and to assess the library complex as a whole. The essence of the case study methodology, according to (Johansson, 2004), is to capture all the complexity of the study in question in a single case. Yin (2003) argues that a case study is an empirical inquiry that investigates a contemporary phenomenon within its real life context, especially when the boundaries are not clearly stated.

3.2.1 CASE SELECTION

The cases chosen for this research were selected based on various factors and careful assumption. The first factor is that the public libraries to be studied will come from the same geo.political zone. This is on the assumptions that the learning and self developing needs will on a broader scale be the same, and there will not be a great difference in the cultural behaviors and patterns. These factors and assumptions led to the choice of the North.West geo.political zone.

The researcher's choice of public libraries to be studied sprang up from the careful and analytical assumption that cyber community members are more likely to be in the urban centres. This is only logical as it requires some degree of knowledge of the internet which is likely to be higher

in the urban centers than in the rural areas. These factors led to the selection of libraries in the urban centers. Kaduna, Kano and Zaria, were the urban centers selected due to the fact that they are the bigger center with several public and private institutions and a large population in which the libraries can draw people of different background.

The number of libraries and "reading rooms" in these urban centers is very high. As such, the research categorised them according to their capabilities of providing strong internet facilities that will support cyber activities. Those at the top of the list were chosen.

In Kaduna, the Kaduna State Public Library was chosen. In Zaria, Abdullahi Muhammad Public Library was chosen and in Kano, Murtala Muhammad Library, was chosen.

3.2.2 PRELIMINARY ANALYSIS

The researcher visited all the three chosen public libraries and carried out preliminary survey. These survey was undertaking with the intention to find resourceful data that will help in the course of the study.

At Kaduna State Public library, the researcher was given access to the libraries registration book of the Reference section and the Adult section of the library. These books contain the details of registered members like name, address, library card number, serial number. The researcher used those data to generate the number of registrations for every week in the entire year. This sort of data was collected for the years; 2010, 2011 and 2012. The data was used to determine the sample size to be tested. Also, the duplicate registration cards were made available to the researcher for the same period of years to determine the different type of users of the library by their occupation. The data was presented on percentage bases. This data was used in allocating the questionnaires by percentage to the different users of the library.

Registration books were used here due to the fact that those that register have made a commitment to the library and enjoy certain services than others.

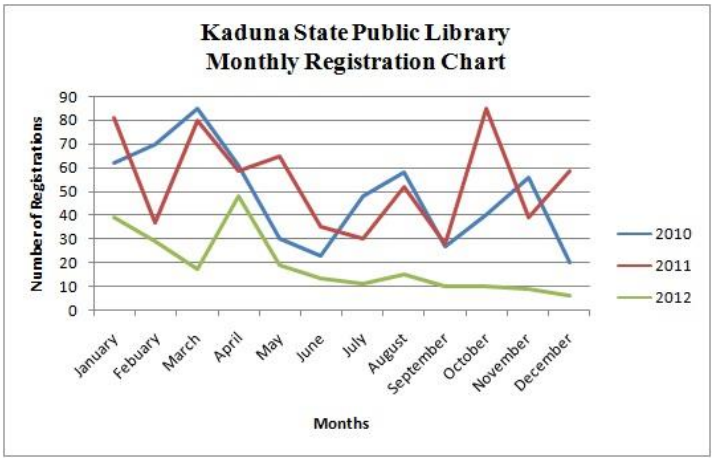


Fig 3.1: Monthly registration chart of Kaduna State Public library

Source: Field Survey

At Murtala Muhammad Library, the researcher was able to have access to the registration book of the Circulation section. It contained the details of the registered members. The researcher tallied the number of registrations of the period studied at previous libraries. The registered member's occupation was also recorded for use in the quota sampling. Attendance records were also gathered for the entire sections of the library.

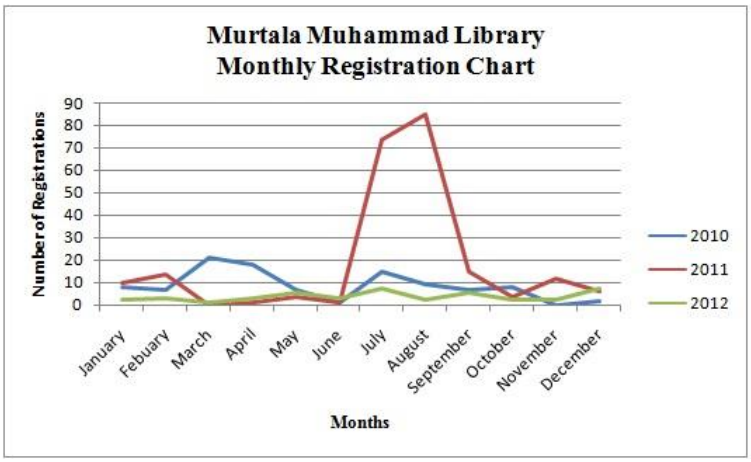


Fig3.2: Monthly registration chart of Murtala Muhammad Library, Kano

Source: Field Survey

So also was the same at Abdullahi Muhammad Public libraries. Their registration books were made available to the researcher from which deductions were made of the necessary data and formulated into charts.

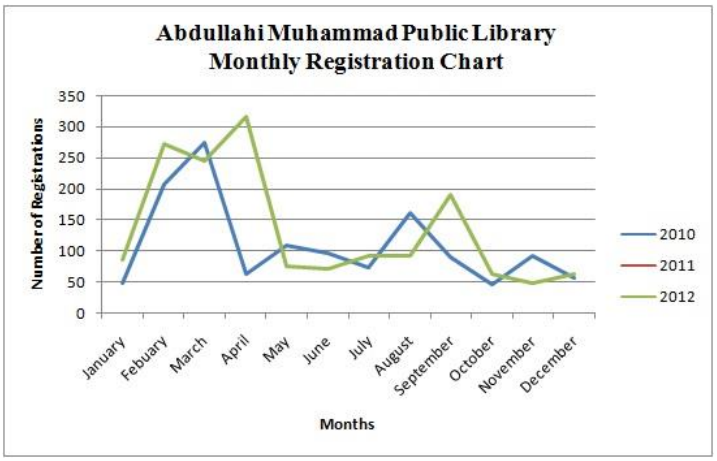


Plate 3.3: Monthly registration chart of Abdullahi Muhammad Public library, Zaria

Source: Field Survey

3.3 Quantitative Methodology

Quantitative research is also known as experimental, traditional, empiricist or positivist research (Clarke, 2005). It is more concerned with the measurement and counting of things (frequencies). It mostly produces its data estimates of averages and shows differences between groups (Ewings, Powell et al, 2004).

The quantitative research general framework seeks to confirm a theory or/hypotheses about a phenomena using instruments of a rigid style. It uses highly structured methods such as questionnaires, structured observations and surveys.

Its analytical objective seeks to describe the behavior and characteristics of a study group, predict causal relationship and ultimately quantify variations between what exist and the needs of the population.

The data collected for such a research is mainly numerical. Though the answers given the respondents may not be in numerical form, but they are obtained by assigning predefined numerical values to each possible answer the respondent can choose.

Such a method is inflexible by design. The design of such a study remains stable throughout, from the beginning to its end. The questions asked by the researcher are in no way influenced by the respondent or the circumstance in which the questions or questionnaire are been administered, and the research is subject to statistical assumptions and conditions. The advantage of this rigidity is that it allows for comparism between any member of the study group and different members of the same group.

3.3.1 Instruments of data collection

The research adopted the use of the questionnaire as an instrument of gathering Statistical data. Other instruments such as check list, photographs and sketches were also employed for the purpose of taking data.

3.3.1.1 Questionnaires

All surveys are designed to acquire information about the prevalence, distribution and interrelations of variables within a population (Brown, 2007).

Questionnaires are used for gathering information on facts, attitudes, knowledge, opinion and the behavior of an individual (Parahoo, 1997). It is amongst the instruments most used with large samples.

The questionnaire must be carefully planned if a more trusted and accurate data is to be obtained. This research make its standardised format type, in which it contains the same questions and in the same order for all respondents.

The questionnaire is designed in a close ended format, given the respondent only a predetermined answers to chose from. It has an advantage of comparisons between respondents, takes less time to complete and easy to process and analyse (Brown, 2007).

3.3.1.2 Sampling

"Sampling is a means of selecting a subset of units from a population for the purpose of collecting information for those units to draw inferences about the population as a whole." (Fellegi, 2003).

The research made use of non.probability sampling method with a quota sampling system/method. The preliminary study of the three libraries was conducted to find the number of registered members (those who have committed themselves to the library) and their occupation. The research used a tally system to identify the most frequent users (based on occupation) of each library and allocated quotas to each group based on percentage.

For the purpose of this research the sample population is set at 5% at all the libraries.

Table 3.1: Shows sample size in the researched public libraries

Libraries	2010	2011	2012	Average	Sample size 5%
Kaduna state public library	580	660	226	488.67	24.43
Murtala Muhammad public library	103	226	42	123.67	6.18
Abdullahi Muhammad Public library	1279	------	1626	1461.5	73.08

Source: Author Field Survey (2012)

The total number of questionnaire administered is 106. 25 were administered at Kaduna State Public Library, 7 at Murtala Muhammad Public library and 74 at Abdullahi Muhammad Public library. 100 of the 106 questionnaire were recovered and analyzed for frequency and comparative analysis This system assumes that the 106 members are an accurate representation of the entire group of the studied public library users.

The results will be analyzed to find the degree of technology use by the public in accessing information and its effect on public library design. Data from the results will show whether the public library design consideration will have to be reviewed and/or changed. These data will be compared to the data sourced during case studies field work to draw up conclusions

Chapter 4: Case Studies

4.1 CASE STUDY ASSESSMENT

In assessing the performance of a library, the International Federation of Library Association, IFLA guidelines set out the attributes a library must possess if it is to function adequately and satisfy other basic requirements. These attributes include;

i. functionality
ii. accessibility
iii. adaptabilily
iv. suitability for information technology
v. varied
vi. interactivity
vii. environmentally suitable
viii. conducive
ix. safe and secure
x. efficient

The study also used these parameters in order to assess the effectiveness of the public libraries environment as it relates to the users of such facilities. From these attributes, the following principles are deduced; Space and Space use, Information Storage and Retrieval, and Library Influence on Immediate Environment.

4.2 PRINCIPLES

These are the factors such as facilities and equipments, which greatly impact the effectiveness of the public libraries. These principles in themselves are broken down into particular subject matter or items. These are called variables. The degree to which these variables are met will determine the libraries successfulness or failure in achieving the particular principle and in turn that of the library.

4.2.1 INFORMATION STORAGE AND RETRIEVAL

This principle is the backbone of any library not just the public one. So is the same for Cyber communities. Their entire activities are centred towards information sharing on varying degree. These make it the corner stone of the principle in such study. This storage and retrieval is dependent on certain variables such as, presence of computers and its tools, presence of electronic storage facilities, multimedia facilities

I. COMPUTER AND OTHER COMPUTING TOOLS.

These are the most basic tools required in accessing information by the cyber community. If the library is to intergrate such a community, the computer, internet and their accessories are the first and basic priorities needed to be met. The other tools will include but are not limited to; Webcams, advanced computing programs and softwares, Scanners, printers, microphones systems, Projectors, well equipped classrooms for distance learning etc.

II. E.STORAGE FACILITIES

Due the special needs of cyber community, the library is expected to be able to store its documents on a central server and/or on cloud, if it is to fully integrate the community. This will allow users easy access to library materials and public documents

III. MULTIMEDIA FACILITIES

Due to the nature of the cyber community data sourcing, it is necessary that the library is well equipped with well advanced multimedia facilities. These might be in the form of smart boards, interactive TVs, readers etc. This will cater for the different needs of cyber community members. It will also aid greatly with the social aspect of the community.

4.2.2 SPACE AND SPACE USE.

Space has the tendency to alter the productivity of an individual or a group either for the better or worse. As for a library, the space has to be conducive and should be able to support the activities of the cyber community. A good library space should be able to foster learning activities and at same time support latest technologies. The effectiveness of a space is dependent on; flexibility, organization, suitability, continuity and ease of interaction.

I. FLEXIBILITY.

The library space should be able to be accommodating for different activities and be able to integrate to a certain degree new emerging technologies. The space should also be of ease in an event of expansion. These could be done in the initial phase by determining the possible growth rate of different sections within the library.

II. ORGANIZATION

The organizational system of the library should be done in such a way that places that complement one another are closely linked to aid effinciency of use. Disruptive activities should occur at the edges/perimeters. This will aid the users in attaining positive results.

III. SUITABILITY

The library space should be suitable for the activity it is to carry and should solely be the choice of the user. The spaces need to be user.friendly for all kinds and ages and should have visual supervision.

IV. CONTINUITY.

A good library space is one that maintain a series of activities from the indoors to outdoors. The dynamix of the cybercommunity in its ability to change from one sort of interaction to another. Example a purely academic to a much social one, the spaces needed to cater for such a transition should be continuous without disrupting the transitional method.

V. EASE OF INTERACTION.

The library space should allow for the ease of interaction of both user.user interaction and user.services interaction. This kind of interaction could range from intellectual basis to a more social one, springing up new ideas as a result. The interaction to services should be made easy by the design to encourage patronage and participation of the users.

4.2.3 LIBRARY INFLUENCE ON EXTERNAL ENVIRONMENT.

The libraries ability or inability to cater the needs of its users will definitely have effect on the immediate environment of is surrounding. The cyber communities need for adequately equipped ICT facilities in the library will determine the provision of such facilities around its environment. Likewise, interest group gathering and other social groups will require certain facilities and also will be determined by the libraries facilities.

I. CYBER COMMUNICATION.

The springing up of internet cafes and business centers around the libraries and other forms of facilities greatly shows the level of services provided within the libraries. With sufficient and provision and performance, less will be provided by members of the general public.

II. INTERACTION AND INTERCONNECTIVITY.

The library, been the hub for information in the society, should be able to be in virtual connection with institution around it for easy access to information. The level of such interaction will be an index of its level of integrating the cyber community.

4.2.4 SITE CONSIDERATIONS.

Like with any environment, the libraries surrounding needs to be conducive to fully support outdoor activities. Achieving this is hugely dependent on Hard and Soft Landscaping.

I. HARD LANDSCAPE.

These elements consist of furniture required for outdoor activities around the site and the beautification of the environment. They also determine the pattern of movement on the site.

II. SOFT LANDSCAPE

These elements aid in maintaining the comfort level of the environment, as well as the beautification of the environment. They provide a good external environment for the cyber community.

Table 4.1; this shows sample of variables used in assessing the case studies based on the current thinking on needs to be considered when planning and designing new library buildings in order to integrate the cyber community into the library.

Table 4.1: Case Study Variables

PRINCIPLE	REQUIREMENT	LEVEL OF REFLECTION				REMARK
		Absent	Lw	Med.	High	
INFORMATION STORAGE AND RETRIEVAL	***1 Computer and other Computing tools***					
	2 E.Storage Facilities					
	3 Multimedia Facilities					
Space and Space Use.	***4 Flexibility.***					
	5 Organisation					
	6 Suitability					
	7 Continuity.					
	8 Ease of Interaction.					
LIBRARY INFLUENCE ON EXTERNAL ENVIRONMENT	***9 Cyber Communication.***					
	10 Interaction and interconnectivity.					
SITE CONSIDERATION	***11 Hard Landscape.***					
	12 Soft Landscape					

Source: Field Survey

4.3 CASE STUDY ONE; KADUNA STATE PUBLIC LIBRARY

4.3.1 INTRODUCTION AND LOCATION

The Kaduna State Public Library was established in 1962 by the then northern regional government to provide the general public with an environment for learning and an easy access to information. It is located along Bida Road opposite the National Board For Technical Education (NBTE) and adjacent to the High Court.



Plate 4.1: Perspective view of Kaduna state library

Source: Field Survey 2013

4.3.2 STRUCTURE AND CONSTRUCTION.

The library structure is made up of concrete frame structure of about 5 by 7 meters grid at the reading areas and about 3.6 by 6 meters grid at the administrative section. At the first floor, the Adult section of the reading area is cantilevered to a distance of about 2meters to increase the provide more reading space and protect the lower western walls . There type of flooring used was mostly the Terrazzo floor finish both in the reading area and the admin section. Acoustics ceiling boards were used in the reading areas to absorb sound and reduce echo and reverberation.

The roofing system used at adult section of the library is the Space Deck roof to allow for easy covering of the large area without intermediary support. Shading devices were employed to protect the reading area from direct sunlight and glare effects on readers. The shading devices are aluminum and set at about an angle of 30.45 degrees.





Plates 4.2 and 4.3: Interior Perspective views showing the floor, ceiling and roofing system

Source: Field Survey, 2013

4.3.3 SPATIAL ORGANIZATION.

The library complex is made up of three separate buildings connected and linked together by corridors and walkways on the outside.

The first building visible upon entering the complex is the adult section, which occupies all of the first floor, and children section located on the ground floor, as the reading areas and some of the administrative offices. The open terrace here is made as an outdoor space for the children and is equipped with swings and other recreational facilities .This first block opposes the norm of building orientation and is located closet of all the three buildings to the main road.

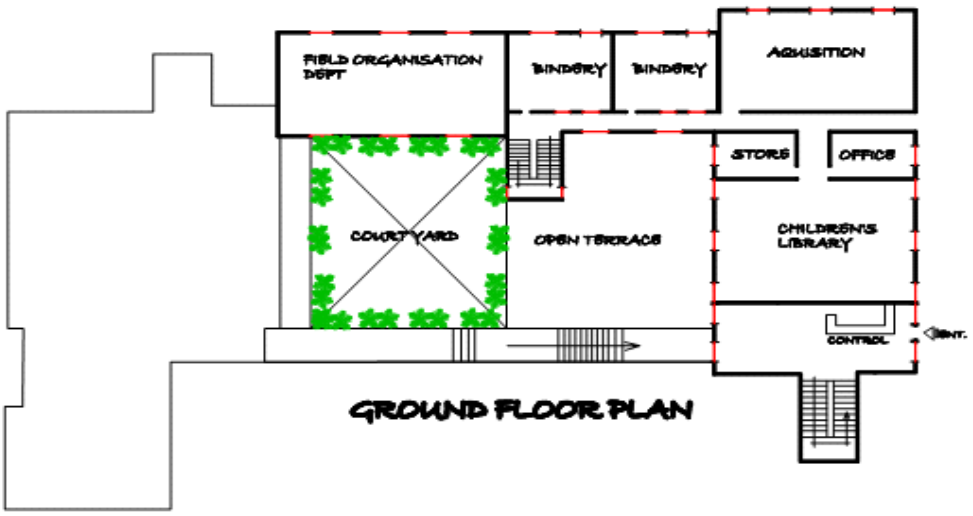


Fig 4.1 : Kaduna state library: Ground floor plan.

Source: Field Survey, 2013

The second block houses mostly the administrative facilities. The acquisition area, a place where books are sort out and from there distributed to their various areas, together with the Field Organization department and there bindery occupies the ground floor of the second building. This building is to some degree in conformity with the norm of solar orientation and requires little shading devices. The subsequent floors of this section occupy the offices of the management. This floor is connected to the reference section.

The third block houses the reference section. This section is made up of two floors with the central area having a double volume. The books arrangement are all by the edges and sitting arrangement taking the central position. There is a direct connection from the reference section to an adequate landscaped outdoor reading area. The E.library is also on the third block facing the main entrance where users can get access to electronic materials. It has a U.arrangement with the computers forming the U.

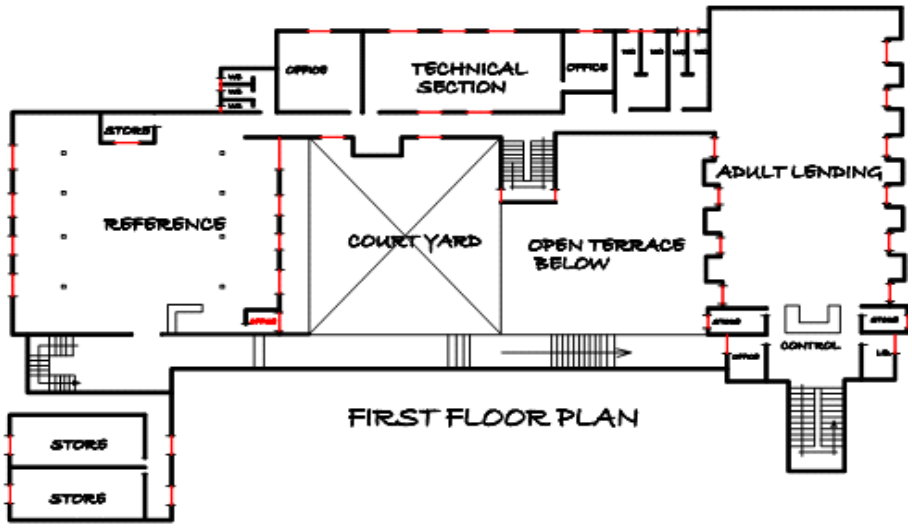


Fig 4.2: Kaduna state library: First floor plan

Source: Field Survey, 2013

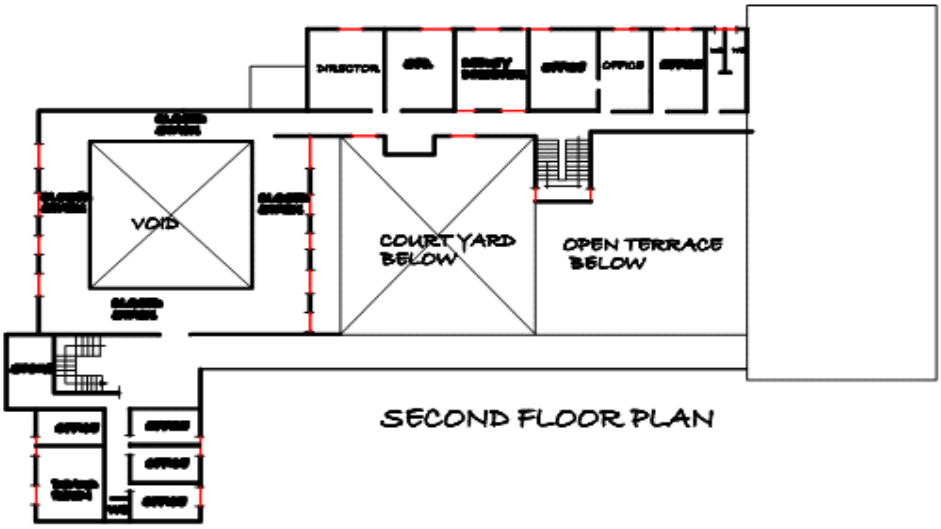


Fig 4.3: Kaduna state library: Second floor plan

Source: Field Survey, 2013



Plate 4.4: Children's play area, Kaduna state library

Source: Field Survey, 2013



Plate 4.5: children's section
Source: Field Survey, 2013



Plate 4.6: Reference outdoor area
Source: Field Survey, 2013



Plate 4.7: Reference section
Source: Field Survey, 2013



Plate 4.8: E.library
Source: Field Survey, 2013

4.3.4 SITE AND SURROUNDINGS

About 30% of the site, approximately, has been used for the development of the structures on site. The parking areas are restricted to about 30 meters from the sites boundary on both the staff entrance and the visitor's entrance. Landscape elements of shrubs and grasses are only present on a minimal scale along the main entrance of the library, leaving the natural ground exposed. However, on the southern most part of the site, large branched trees are in large number, enough to provide adequate shading of the area, while on other parts of the site, they are of minimal number.



Plate 4.9: Ariel View of Kaduna State Public Library
Source: Google earth, 2013

Table 4.2: Case Study Variables asessment of Kaduna State Public Library

PRINCIPLE	REQUIREMENT	LEVEL OF REFLECTION				REMARK
		Absent	Lw	Med.	High	
INFORMATION STORAGE AND RETRIEVAL	*1. Computer and other Computing tools*		●			*only present in the e.library section and not in the reference, adult and the children section.*
	2. E.Storage Facilities			●		*Some of the lib. Can be accessed online but are not on a secured storage network*
	3. Multimedia Facilities	●				*No provision for such facilities*
Space and Space Use.	*1. Flexibility.*		●			*the spaces are a bit rigid in terms of expansion but flexible for other usage.*
	2. Organization			●		*Adult section closer to children section instead of reference section*
	3. Suitability		●			*Space usage is much defined by the library most especially computers*
	4. Continuity.			●		*Great continuity from indoors to outdoor activities*
	5. Ease of Interaction.			●		*More user to user than user to service interaction*
LIBRARY INFLUENCE ON EXTERNAL ENVIRONMENT	*1. Cyber Communication.*			●		*High cyber communication activities and related services*
	2. Interaction and interconnectivity.	●				*lacks any form of interaction with organization, public institutions in such a manner*
SITE CONSIDERATION	*1. Hard Landscape.*			●		*A low presence of outdoor furniture but a good degree of adequate pavings*
	2. Soft Landscape		●			*Very low ground cover with a fair amount of large trees but to the rear of the admin block*

Source: Field Survey, 2013

4.4 CASE STUDY TWO; MURTALA MUHAMMAD PUBLIC LIBRARY

4.4.1 INTRODUCTION AND LOCATION

The library was first built in the mid seventies but was never completed to be operational until the early 2000s. During the period the library has been known as Kano state public library. It is currently located along the Ahmadu Bello Way in the Government Reserved Area.



Plate 4.10: Perspective view of Murtala Muhammad Public Library

Source: Field Survey, 2013

4.4.2 STRUCTURE AND CONSTRUCTION

The structure is predominantly of reinforced concrete frame work of grid system of about 6 by 7 meters with columns of rounded and squared shape. The floor finishing was made of Terrazzo floor finish due to the high use of the building. Acoustics boards were used in the conference hall, internet cafe as well as the Audio and Visual section, to clad the walls internally and provide god acoustics. The internal partitions around the bindery section are made up of stud partitions while the rest are made up of a combination of 230mm and 150mm sand screed blocks

4.4.3 SPATIAL ORGANISATION.

The library building is divided into 3 segments or wings with each wing different sections. The research has named these Wings; Right, left and the Rear wing.

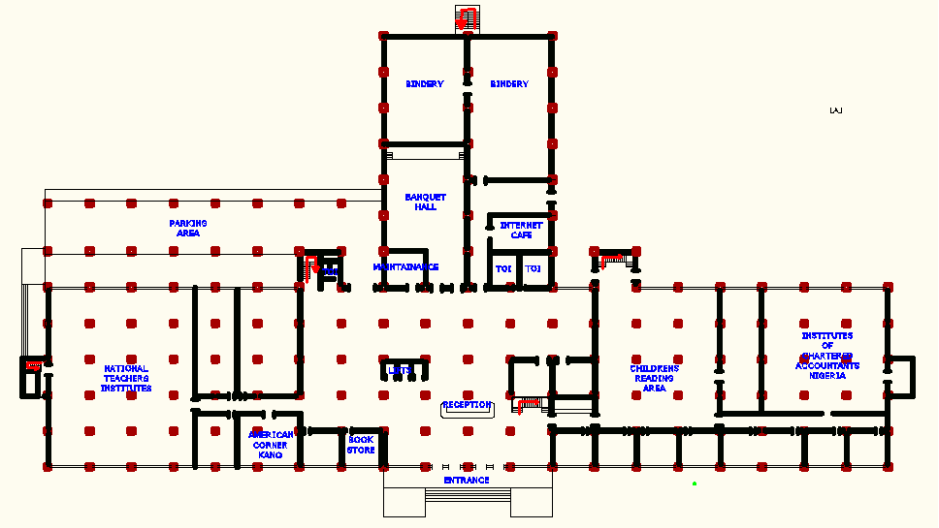


Fig 4.9: Murtala Muhammad public library: Ground floor plan.

Source: Field Survey, 2013

On the ground floor, the right wing is occupied by the children section and their indoor play area. Their entire children section occupies about 16 grids. The Institute of Chartered Accountants in Nigeria completes the section on the right wing.

On the left wing, the National Teachers Institute occupies the largest area, while the Blind section and American Corner Kano completes the wing. The central area is more of a circulation space with the lifts to the extreme left. The front desk of reception is immediate at the entrance.

On the rear wing, the conference hall and the internet cafe/training school are the most prominent spaces to the general public, while the Bindery/printing section is located at the rear end with its own entrance and exit door.



Plate 4.11: Murtala Muhammad public library: At reception.

Source: Field Survey, 2013

On the first floor, the right wing completely is dedicated to the circulation section. This is the only library that users can borrow books and be able to leave with it. Its arrangement is in the DDC method with a separate Hausa collection area.

The left wing consists of the Government Documents section, which includes personal books, papers, and other relevant documents of the states' serving governor. The other section on this wing is the Arabic section, containing documents on Arabic literature and religious documents writing in Arabic.

On the rear wing, a combination of the Periodical Section, Audio and Visual section, Ahmad Deedat section and the Reference section coming together make up the wing.

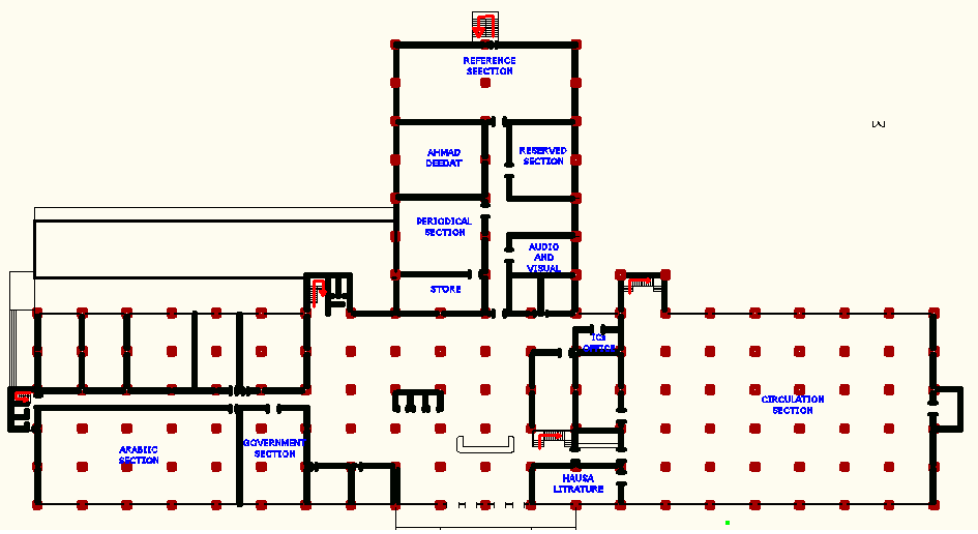


Fig 4.10: Murtala Muhammad public library: First floor plan.

Source: Field Survey, 2013





Plate 4.12 and 4.13: views of the Arabic and Circulation sections respectively

Source: Field Survey, 2013

On the third floor, the library leased the right wing to the Central Bank of Nigeria for the establishment of Entrepreneurship Development Center North-West region, likewise the entire left wing is leased out to the Kano Informatics Institute, a tertiary educational institute.





Plate 4.14 and 4.15: views of the CBN/OIC and Kano Informatics Institute

Source: Field Survey, 2013

4.4.4 SITE AND SURROUNDINGS.

The entire library building covers at least 35.40% of the entire land area. Few dedicated parking area, the site area opposite the main entrance into the building serves as the parking area for the general public. Landscape elements such as hedges and shrubs are very rarely seen on the site which leaves the ground open to erosion. The presence of large branched trees is far from the main building itself making it impossible to exact any direct effect on the library's' indoor spaces. It also lacks hard landscape elements such as defined walkways, concrete benches for outdoor reading except for the road linking into the site.



Fig 4.16: Ariel View of Murtala Muhammad Public Library
Source: Google earth, 2013

Table 4.3: Case Study Variables asessment of Murtala Muhammad Public Library

PRINCIPLE	REQUIREMENT	LEVEL OF REFLECTION				REMARK
		Absent	Lw	Med.	High	
INFORMATION STORAGE AND RETRIEVAL	*1 Computer and other Computing tools*		●			*only present in the internet section and not anywhere else*
	2 E.Storage Facilities			●		*Some of the libraries documents are saved in digital format on the libraries internal network*
	3 Multimedia Facilities			●		*Projectors, P.A systems available for mass crowds*
Space and Space Use.	*4 Flexibility.*			●		*the spaces are flexible in terms of expansion and usage.*
	5 Organization		●			*Close contact between sections of the library but alot of noise is generated from leased spaces on upper floorsdue to movement*
	6 Suitability		●			*Space usage is much defined by the library most especially computers*
	7 Continuity.	●				*The is no continuity from the indoor reading areas to outdoor spaces*
	8 Ease of Interaction.				●	*Adequate user to user and user to service interaction*
LIBRARY INFLUENCE ON EXTERNAL ENVIRONMENT	*9 Cyber Communication.*		●			*Low cybercommunication activities and related services*
	10 Interaction and interconnectivity.		●			*Minimal form of intraction with organisation, public institutions in such a manner. Such as British council.*
SITE CONSIDERATION	*11 Hard Landscape.*	●				*Lacks the presence of outdoor furniture and adequate pavings for pedestrians*
	12 Soft Landscape		●			*Very low ground cover with a fair amount of large trees which are far from the building*

Source: Field Survey, 2013

4.5 CASE STUDY THREE; ABDULLAHI MUHAMMAD PUBLIC LIBRARY

4.5.1 INTRODUCTION AND LOCATION

The Abdullahi Muhammad Public Library or the Samaru Public library is a small and unique establishment being financed and administered by the Department of Library science not the government. It was opened in 1968 and since then has served as a laboratory for students of the department. It is located on the main campus of Ahmadu Bello University close to the main road at the North Gate area.



Plate 4.17: Perspective view of Abdullahi Muhammad Public Library

Source: Field Survey, 2013

4.5.2 STRUCTURE AND CONSTRUCTION

The structure is made up of reinforced concrete of grid of 1.5 by 11 meters. The flooring is made up of terrazzo which has a high resistance capacity. The ceiling is made up of cellotex of 600mm grid. The interior partitions of the internet cafe, and that of the Audio and Visual section is made up of timber stud partition. The rest of the internal partitions are made up of 150mm and 230mm thick sand screed blocks. Some part of the roof is made up of concrete deck while other areas are covered with aluminum roof cover.



Plate 4.18 : Perspective view showing ceiling finish in adult section

Source: Field Survey, 2013

4.5.3 SPATIAL ORGANISATION.

The library is divided into two parts; the adult section and the children section. The adult section is only a single hall with the sitting arrangement towards the openings and the books shelves at the center. The children section occupies the second hall.

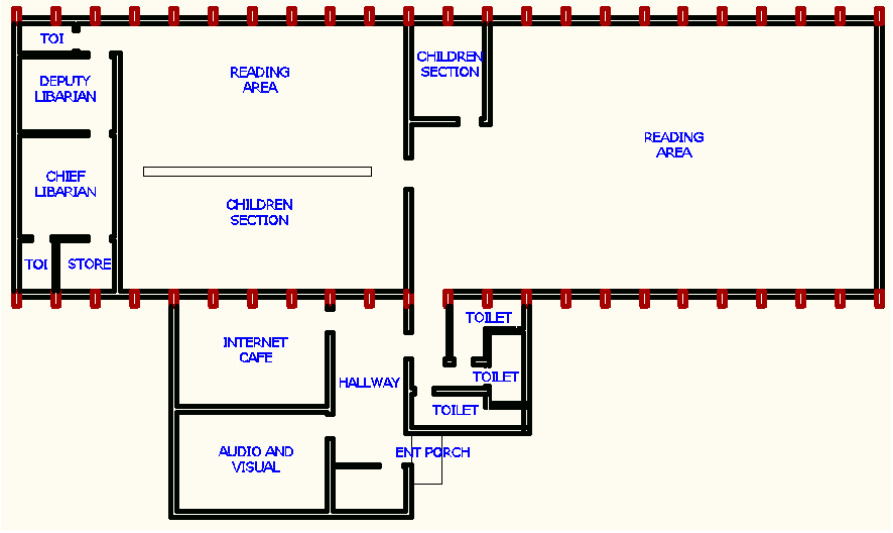


Fig 4.11: Abdullahi Muhammad Public Library: Ground floor plan.

Source: Field Survey 2013

The audio and visual section is situated immediately at the entrance close to the busy and noisy street leading to Demonstration School. Also situated around the region is the internet cafe and the leased copy shop.

The heads of the library office is located behind the children section with the librarians office accessed through the deputy librarian office or alternatively through the internet cafe.



Plate 4.19: Perspective view of children section section

Source: Field Survey, 2013

4.5.4 SITE AND SURROUNDING

The site is an open site within the Ahmadu Bello University, Zaria main campus. The library has no provision for outdoor library usage i.e. no provision for hard landscape elements such as concrete benches or any other form of outdoor sitting. The ground on the libraries approach is free from any ground cover, exposing it to all sort of whether action. There is some evidence of seasonal ground cover at the rear of the facility. The presence of the single tree confirms the low vegetation cover on the libraries complex.



Plate 4.20 : Ariel View of Abdullahi Muhammad Public Library
Source: Google earth, 2013

Table 4.4: Case Study Variables asessment of Abdullahi Muhammad Public Library

PRINCIPLE	REQUIREMENT	LEVEL OF REFLECTION				REMARK
		Absent	Lw	Med.	High	
INFORMATION STORAGE AND RETRIVAL	*1 Computer and other Computing tools*		●			*only present in the internet section and not anywhere else*
	2 E.Storage Facilities	●				*Lacks any form of storage equipments of facilities*
	3 Multimedia Facilities		●			*P.A systems available for mass crowds*
Space and Space Use.	*4 Flexibility.*		●			*the spaces are flexible in terms of expansion*
	5 Organisation				●	*Close contact between sections of the library*
	6 Suitability	●				*Space usage is much defined by the library*
	7 Continuity.	●				*There's no continuity from the indoor reading areas to outdoor spaces*
	8 Ease of Interaction.				●	*Adequate user to user and user to service interaction*
LIBRARY INFLUENCE ON EXTERNAL ENVIRONMENT	*9 Cyber Communication.*				●	*high cyber communication activities and related services*
	10 Interaction and interconnectivity.	●				*Zero form of interaction with organization, public institutions in such a manner.*
SITE CONSIDERATION	*11 Hard Landscape.*	●				*Lacks the presence of outdoor furniture and adequate pavings for pedestrians*
	12 Soft Landscape	●				*Very low ground cover with very minimal amount of large trees which close to the building*

Source: Field Survey, 2013

4.6 SUMMARY OF FINDINGS

At the end of the case studies, the research was able to establish some findings which includes the following; The studied libraries did not adequately provide for the cyber community; there is a lack of continuous relationship between the indoor areas and the outdoors; facilities and spaces that can support social learning such as outdoor spaces, discussion areas and edu.entertaiment facilities among others are not provided for; and there are no spaces for communal activities.

4.7 DATA PRESENTATION

The data presented here is an analysis of 100 Questionnaires in which the respondents were asked a number of questions at each of the studied public libraries and below are a summary of the resulted as collected.

On the question "To what age bracket do you belong", the majority of the library users, around 60 percent, where found to be of the age of twenty.seven and below. Only six percent are found to be forty plus years. This shows that the library complex is dominated by the youth and as such there should be at the center of design and policy consideration. Areas of interest to such an age group should be the largest and be more pronounced in the library environment.

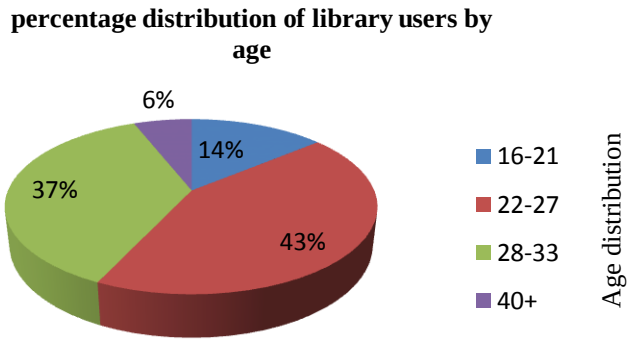


Fig 4.12: percentage distribution of library users by age

Source: Field Survey, 2013

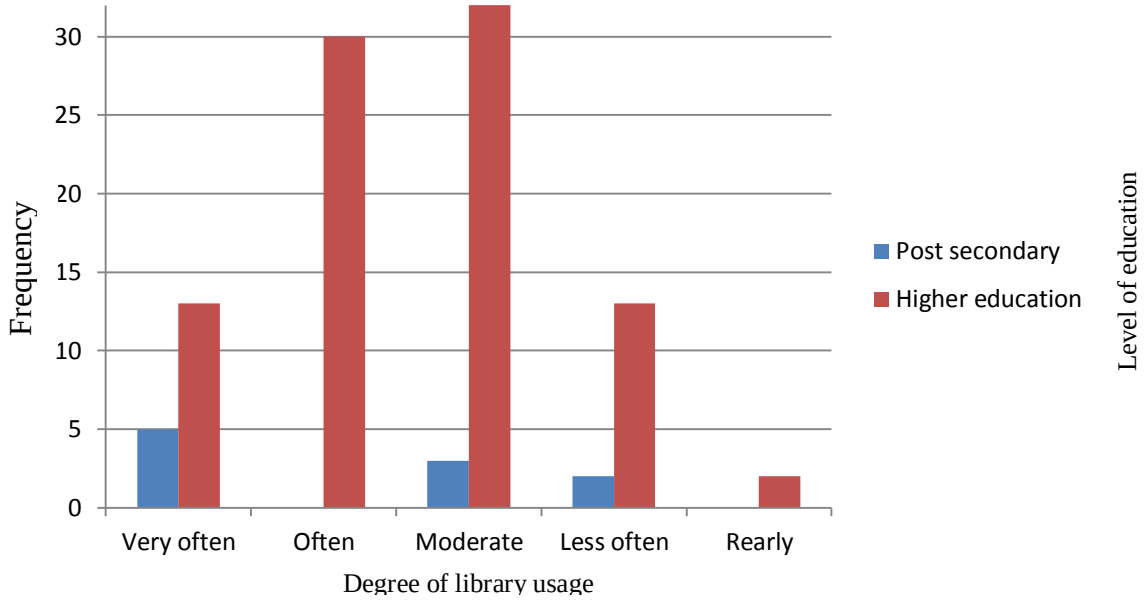


Fig 4.13: Relationship between level of education and library usage.

Source: Field Survey, 2013

The result also shows that the level of education is not a function of library usage. Though the users of library with higher education qualification are higher in number, but in term of percentage within them, it's a bit lower than that of post secondary education.

Table 4.5: Library usage and education level in terms of percentage

Level of education	Degree of library usage					
	Very often. V.O	Often. O	Moderate.	Less often.	Rarely.	% of V.O and O.
Post Secondary	5	0	3	2	0	50%
Higher education	13	30	32	13	2	47.7%

Source: Field Survey, 2013

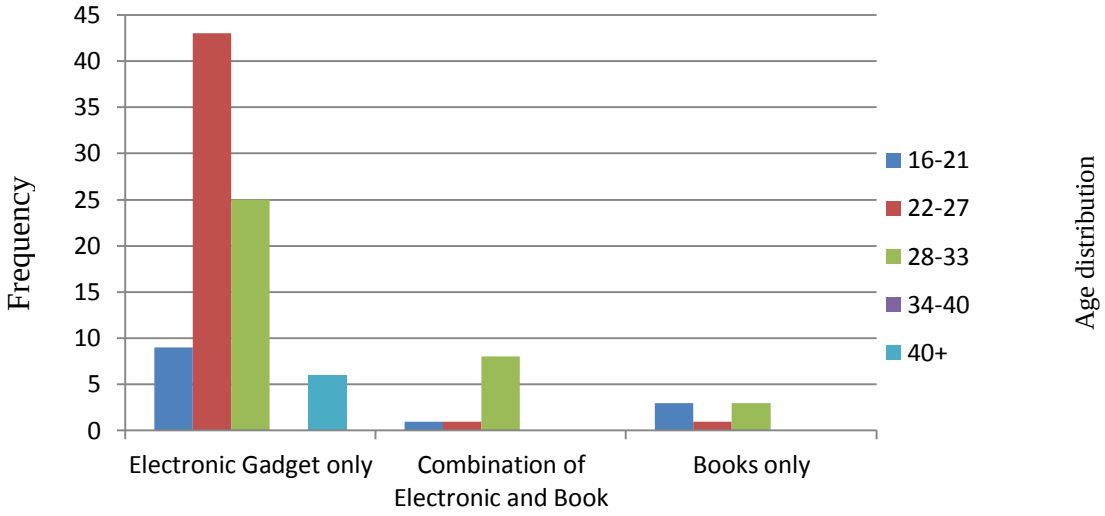


Fig 4.14: Relationship between age and type of media used.

Source: Field Survey, 2013

The above fig 4:20 show clearly the preference for the use of electronic media as the dominant tool for accessing information. This is due to the fact that the largest population of the library is formed by people under the age of 28 years and their preferred tools are those of ICT. The era of books are not necessarily over since the people still do consult them alongside the new technologies. A little percentage of the population prefers the use of books alone.

On the question of "how often do you make use of the materials provided by the library?", it is no surprise that 40 percent of the respondents answered rarely or less often. This is due to the fact that the libraries offer these information and documents in traditional print media which is in sharp contrast to the preferred medium of the current library user .This means that a greater number of people using the library do not patronize the provisions made within the library. This lack of preferred media is likely having an effect library registration. Thirty.one percent of the respondents affirm that they use the library documents which is slightly higher than twenty.nine percent those who patronize them on and off.

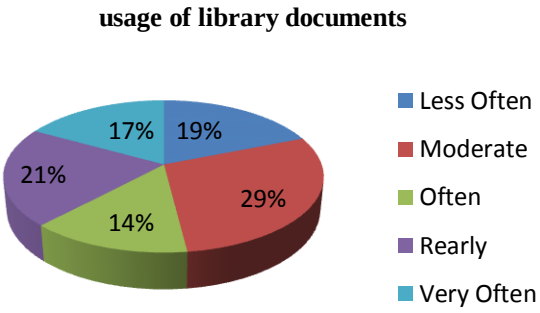


Fig 4.15: usage of library documents

Source: Field Survey, 2013

From the above data, it is apparent to understand how the respondents make use of the library. Users are just patronizing the library for the comfort and quietness that it provides while neglecting the services. These statistics shows the level of relevance of the library in its society.

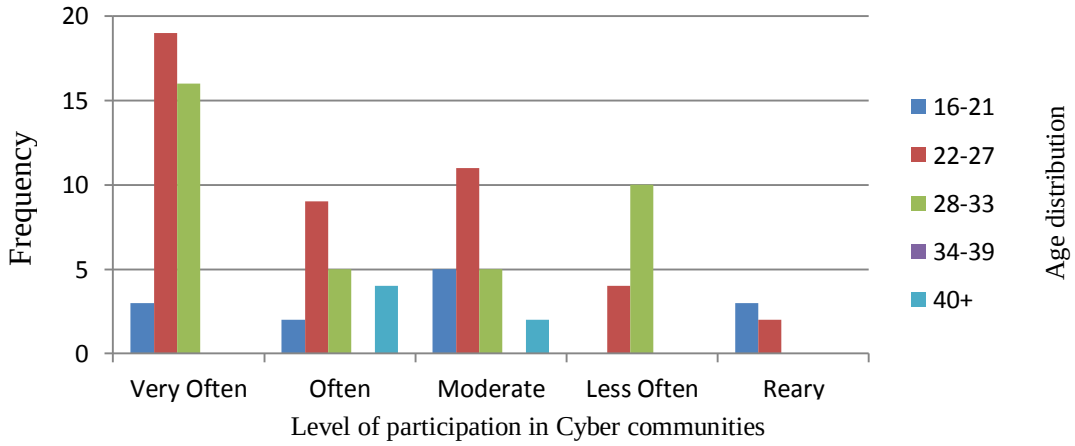


Fig 4.16: Relationship between age and participation in cyber communities

The level of participation of the library users in the cyber community is critical to even begin integrating them into the public library. It is the determining factor in revisiting the library design in the first place.

The level of participation in cyber communities is also highest in the ages of 27 and below. This shows consistency in the use of electronic gadgets in accessing information. Where there is high number of youth the level of participation in cyber community is going to be high.

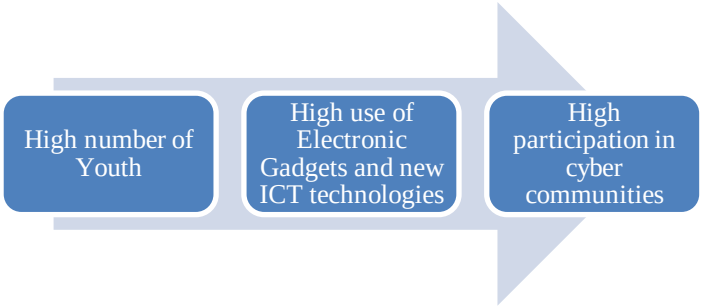


Fig 4.17: Effect of ICT technology and demography in cyber community participation

Source: Field Survey, 2013

When asked about the level of participate in cyber communities, the result shows; 61 percent responded to be either participating very often or often. This represents a very high percentage within public library users. This makes them active member of such a group. Thirty.five percent responded to be between lurker members and users only.

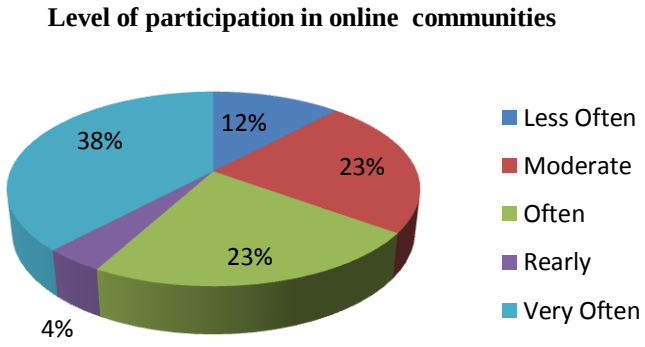


Fig 4.18: Level of participation in online communities

Source: Field Survey, 2013

In order to fully integrate the cyber community in the library, the nature of the interaction of the users must be given a high priority. Determining participation levels will aid in space management, allocation and usage. When the respondents were asked "What is the nature of your interaction on cyber communities?", the feedback is as follows; all the groups with the exception of 40 and above were unanimous in their academic engagements in cyber community. This is no surprise since most of the respondents have attained or in the process of attaining

higher education qualification. This could be through forum participation for research and other academic works. Twelve percent affirmed that it was only for intellectual discussion, be it general/ current affairs, symposiums etc. As for the social aspect, twenty percent of the respondents favour such type of interaction of which 67 percent of those are of the age bracket of forties and above.

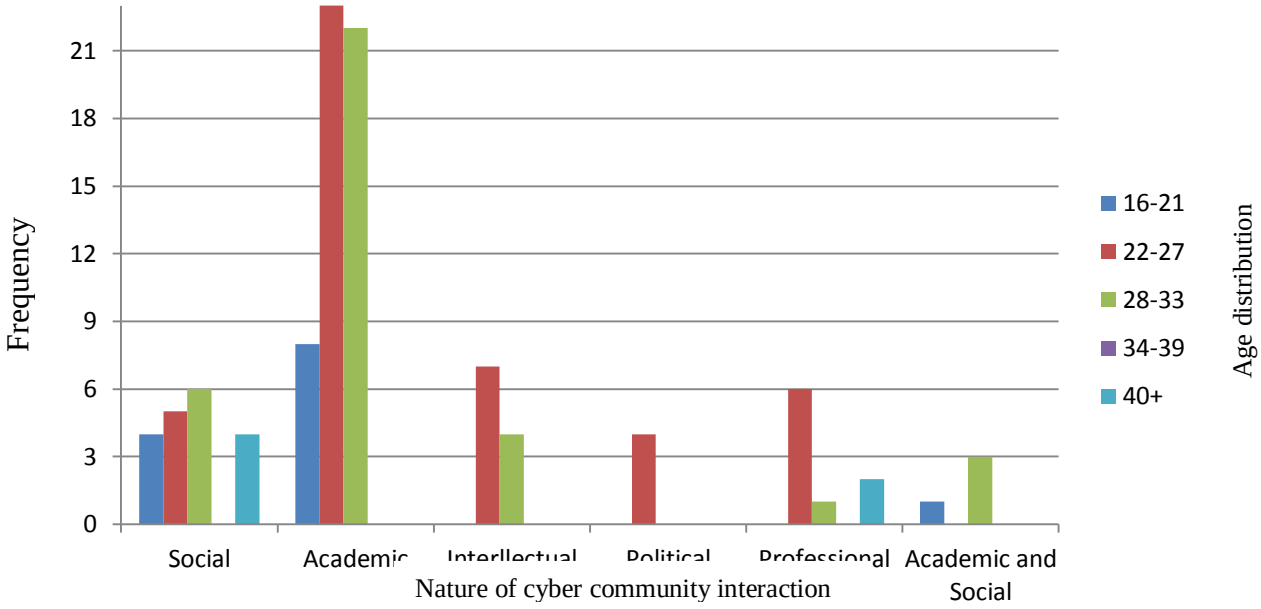


Fig 4.19: Relationship between age and nature of cyber community interaction
Source: Field Survey, 2013

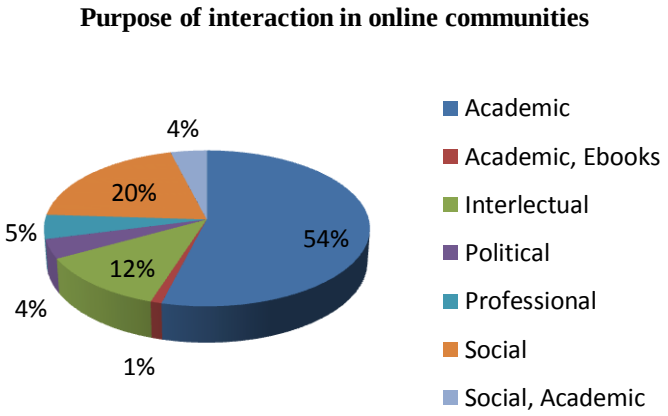


Fig 4.20: Purpose of interaction in online communities

Source: Field Survey, 2013

In order to determine the how users of the public library behave and conduct themselves during the process of accessing information, the question "In sourcing information, how often do you interact with others" was posed to the respondents. Fifty.seven percent of the respondents answered very often and often. This shows the high level of communication with people around and in turn points to generation of noise. Less than twenty percent do acquire information in absolute silence.

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Table 4.6: Level of interaction during accessing information

		Frequency	Percent
Valid	Less Often	8	8.0
	Moderate	23	23.0
	Often	40	40.0
	Rearly	12	12.0
	Very Often	17	17.0
	Total	100	100.0

Source: Field Survey, 2013

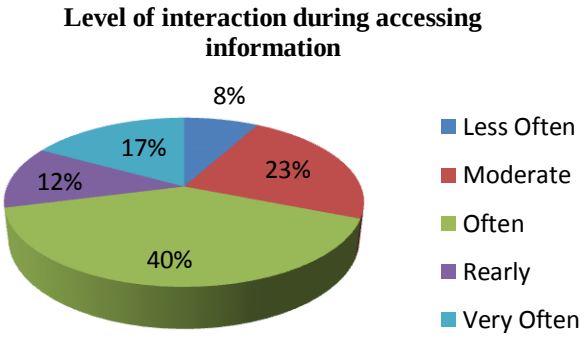


Fig 4.21: Level of interaction during accessing information

Source: Field Survey, 2013

4.8 INFERENCES FROM DATA.

The data presented here shows the level of commitment and pattern of the users of the public library. It shows their behaviour towards the materials provided by the library. These respondents provide their own materials and documents to read and consult. Outdoor spaces before the main entrance in the the library could be provided as the users here need not to necessarily enter into the main building. Courtyards and terraces could also be utilised for this function. These could serve as spaces for such users and the casual readers.

The lack of adequate and current information and communication technology equipments at the researched libraries made the users bring their own gadgets. Provision of open air sheds, gazebos and shaded trees would suit such individuals. The spaces could be both indoors or outdoors.

As for the high percentages of those that participate in cyber communities for academic and social purposes, private readings and stand alone outdoor reading spaces or Huts could serve the needs for academic activities, while garden areas, fountain sitting areas and rooftop spaces could enhance their social activities with the good panoramic views they possess.

Since level of education does not affect library usage, amphitheater, auditorium and other large open air gathering spaces could also be provided to the users that require communications, discussions, presentations and other activities that call for interaction within members for more understanding and sharing of ideas between them.

For much smaller groups that are goal oriented, conference rooms, lounges and exhibition areas could suit their needs.

As for the research questions posed in 1.3 (i) how does the use of electronic/digital gadgets affects the use of space in a public library? and (ii) Does the use of such gadgets upholds the relevance of key traditional library processes?, from the research, it can safely be concluded that

the use of electronic/digital gadgets will have a significant effect on the space use: (a) by employing the use of electronic/digital gadgets, information will be stored on servers and/or the cloud. This will make the use of book shelves obsolete. The spaces occupied by this furniture and the circulation space provided for them are enormous. In their absence, the library will have extra space to and its carrying capacity will increase. (b) The design needs to protect the books and other valuable documents from elements whether will not be there. However a new design problem will emerge in the need to protect the new equipments and devices (c) the amount of lightening needed for reading spaces will drastically reduce since these gadgets have screens. All changes points to the effect of the electronic/digital gadgets will bring to the library spaces. (d) Some spaces of administrative areas will also see elimination or reduction in size. Lack of books will render the bindery section obsolete, while large spaces in acquisition section will not be needed. This is because all purchases would be electronic and via the internet saving space for administrative works.

On the issue of whether the use of electronic/digital gadgets upholds traditional library processes, here to the answer could not be clearer. (a) Cataloguing section will be eliminated in the eventuality that a library becomes completely digital, or at the very least changes the method of identifying the location of a book. This is because the process of cataloguing is for the purpose of identifying the location of a book with its detail of author, title, subject, it would not be necessary when the books are stores digitally. A simple search on the devices used could easily pop up such book. (b) The elimination of the physical documents will bring an end to some administrative activities such as the bindery and physical sorting of documents upon delivery. (c) The process of returning and lending of documents will not be required in a library that gives

relevance to digital technologies. Registrations or subscriptions with the library will make material available to the user on the device need. This will end the process also.

CHAPTER 5: SITE

5.1 INTRODUCTION

Libraries speak of the community's cultural and intellectual heritage. Like any other project, it also begins with land acquisition (Site). A site is a parcel of land, a plot of ground or a lot on which the intended project is to be executed. These sites are easy to find but a question always arises; Are the sites Suitable for the particular Project?. Hence the need to analyse the Pros and Cons of individual site and compare the results in a scientific manner. A certain characteristics of each site will suit the project well while others will differ. This set of characteristics used in the analysis is what is termed as "Site Selection Criteria"

5.2 SITE SELECTION CRITERIA FOR PUBLIC LIBRARIES

Many criteria have been developed in selecting a suitable site for a library. While some are ranked as most important of what a public library's site must possess, some are there to make a sites choise easier when the is a tie or an equal evaluation standards.

The recurring characteristics in selecting a suitable site for public libraries in document PC77 and that of (Penchansky. and Whisler. 2011) are; Access, geography, site features/ image quality, infrastructure, site amenities.

5.2.1 ACCESS

According to Padilla (2002), it is the sequence entry into a building from its neighborhood. The hierarchy given was from the neighborhood, to street, to sidewalk or parking space and finally to the main entrance of the building. This access must cater for the patrons need. Due consideration

must be given to convenience of users with respect to traffic flow, Pedestrian crossing, bicycle paths as well as emergency routes (Penchansky and Whisler. 2011).

5.2.2 SITE INFRASTRUCTURE

In assessing a site while undergoing a selection process, availability and location of infrastructure is paramount in determining the choice to be made (Padilla, 2005). Infrastructure refers to the services that are necessary for the running and operation of the of such facilities. These include but are not limited to power lines, water supply, communication lines, drainage to take of storm water, service routes etc. These should be in place to avoid extra cost by the time construction starts (PC77 doc. 2004).

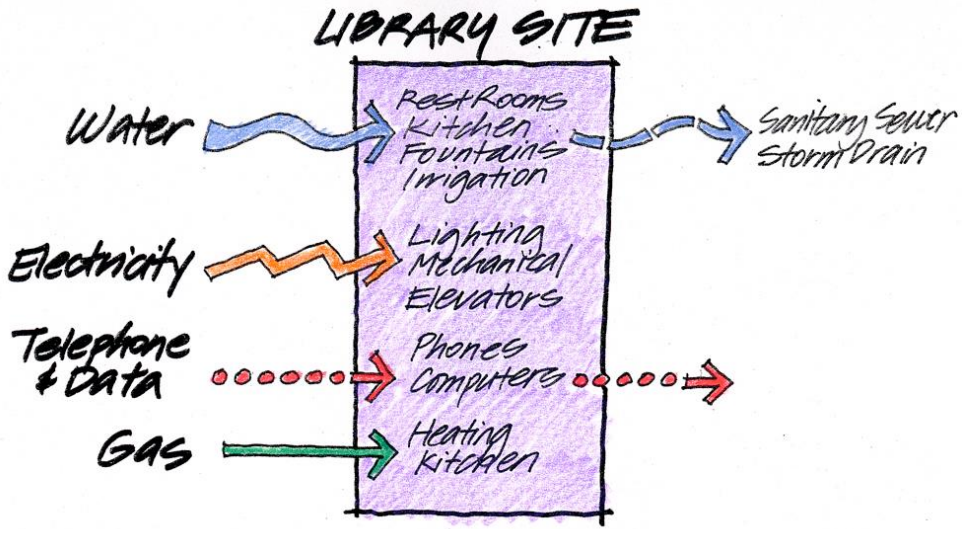


Fig 5.1: Library infrastructural needs

Source; Site selection for Libraries http://www.librisdesign.org

5.2.3 GEOGRAPHY, DEMOGRAPHIC PATTERN AND NEIGHBOURHOOD COMPACTIBILITY

Locating a site for a library is contingent upon understanding whom the library is to serve. These libraries should be located with relative proximity to major population centers (Penchansky and

Whisler. 2011).. However, (Padilla, 2005) said a public library in a metropolis should be cited in close proximity to other public institutions such as educational facilities, plazas and parks, cultural centers etc.

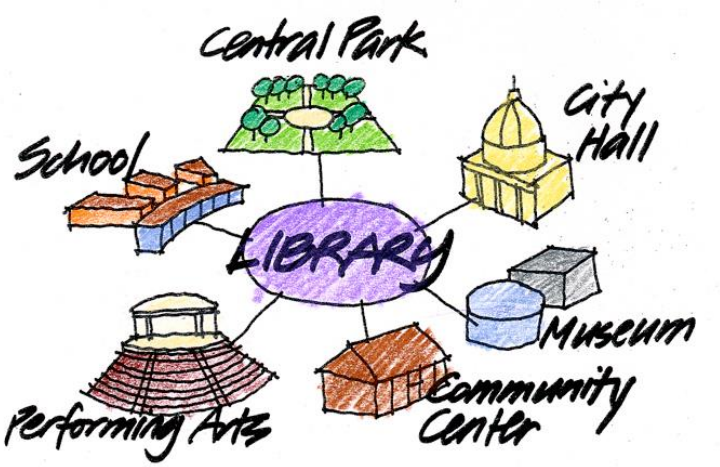


Fig 5.2: Library within a city center

Source; Site selection for Libraries http://www.librisdesign.org

In the PC77 document, it stated that a library should be located where people can conduct different activities in same trip. This means a place where the is natural and convenient movement of people to partake in their daily activities. The document further states that the library should be situated where the largest percentage of its users are.

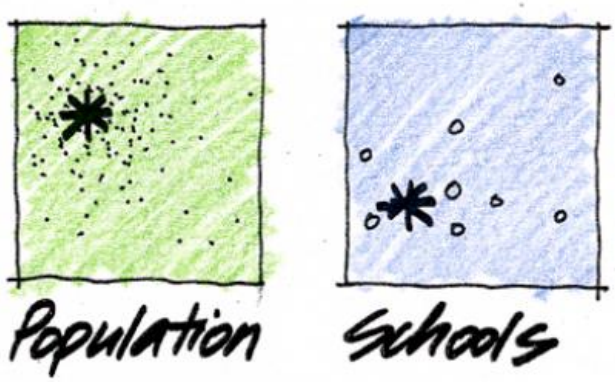


Fig 5.3: Population distribution around a library

Source; http://www.librisdesign.org

As for the neighbourhood capacity, the questions that will arise are; Is the library giong to fit into the neighbourhood; Incase of expansion of the neighbourhood, will it alter the demography of the users etc.

5.2.4 SITE FEATURES AND IMAGE QUALITY.

The surrounding environment of the proposed library site should be able to enhance library activities rather than detract them. The images round the site should be positive and not distractive such as trees, other vegetation, streams, ponds, rock etc

5.2.5 SUITABLE TOPOGRAPHY.

The site selection of a library should be such that the site is able to drain naturally (if possible) of with ease. The site should not be hilly so as to discourage some of the patrons from coming. Site that Ponds water naturally without draining should be treated carefully.



Fig 5.4: Site Topography

Source; Site selection for Libraries http://www.librisdesign.org

The site topography should not appear that the library is at a lower level or sinking than its surrounding.

5.2.6 SITE VISIBILITY.

The library should be a building that attracts large number of people. Hence it should be visible from a major street. Where it is surrounded with buildings, the library should be oriented toward the side with greater view.

5.2.7 SITE CAPACITY.

The site should be sizeable enough to contain the building and its landscape with enough space for future expansion. Also it should able to accommodate reasonable space for parking, setbacks and satisfy other zoning requirements. In essence, the building should look as if it belongs to the site not forced on it.

5.2.8 PHYSIOGRAPHY.

The site should be able to allow for the avoidance of western sun on the books, and the site should be free from shadows been casted on the site by adjacent buildings. Also, the soil bearing capacity of the site should be able to carry the building with little engineering done to the soil.

5.2.9 POTENTIAL SUITABILITY FOR GREEN DEVELOPMENT.

The site should be able to allow the development of the building with ease and in a green and sustainable manner while also allow for ease of maintenance of landscape elements. The nature of the soil will have a great impact on the soft landscape that is needed for the provision of soil cover against erosion and radiation.

TIE.BREAKER CRITERIA

These are costs related to each site. They are only made to come into effect when two or more sites rank equally on the site selection site. These costs should compared on the bases of the

following factors; Any acquisition costs, Demolition costs of existing buildings, Relocation costs of any existing business or resident etc.

5.3 AREA OF STUDY

Kaduna state is the area of study where all the possible sites are. Located at the north west of Nigeria on latitude +10.52 (10^0 32' 12" N); longitude +7.44(7^0 26' 24" E), the state was created on 27th May 1967 as one of the six states of the northern region of Nigeria. Today, Kaduna state covers a total area of about 46,053 km².



Figure 5.5: Map of Nigeria showing Kaduna State
Source: www.wikipedia.com

5.3.1 BRIEF HISTORY

The British colony established Kaduna In 1913 in Northern Nigeria made it an industrial and administrative hub of the Northern region thereby, attracting migrants from all over Nigeria. It till date houses some of the most important public institutions of the Federation such as the Nigerian Institute for Trypanosomiasis Research, Ahmadu Bello University and Teaching Hospital, Kaduna polytechnic, Nigerian Defense Academy amongst others. The state was a major rail and road junction and it was a Center for trade in cotton, livestock, durra, corn etc.

5.3.2 SITE ONE

The site is located in the business district of Kaduna along Gombe street. It has two possible access into the parcel and is located close to National Library, Kaduna state Library, National Archives, polytechnic, Central Bank of Nigeria amongst others. The sites topography slopes gently to the South.West area making the drainage design system of the site to take advantage of this nature. The library building, surrounding green and parking area could all be accommodated on this parcel due to its large site capacity. The site also has a very good and Functional infrastructure around it. The presence of road networks possible access area, good drainage system, power lines and telecommunications lines also.

On its weak side are the surrounding image quality which is dominated by the high density central market. It site visibility from both the possible accesses is narrow and poor for library requirement which requires a high site visibility.



Plate 5.1: Site one, Gombe street Kaduna North
Source: Google maps 2013

Table 5.1: Attributes of Site one

S/No	Criteria/Characteristics	Description/	Remarks
1	Access.	The site has 2 accesses leading into the site one directly on Gombe road and the other off Yakubu Gowon way.	Very Suitable
2	Site Infrastructure.	2 access roads leading to the site, power lines and drainage systems are available	Very Suitable
3	Geography, Demographic Pattern and Neighbourhood compatibility	The site is located close to National Library, Kaduna state Library, National Archives, polytechnic.	Very Suitable
4	Site features and Image quality.	View of densely populated market place, no appealing green area.	Least Suitable
5	Suitable Topography.	The Site slopes gently towards the south.west	Acceptable
6	Site Visibility	Visibility of the site is very narrow along both the major and the minor road	Not Suitable
7	Site Capacity	Large enough to contain the building, green area, recreational spaces and surface parking	Very Suitable
8	Physiography	The site is longer along the north.south axis	Not Suitable
9	Potential suitability for Green development	The soil will be able to support soft landscape and ease of construction	Acceptable

Source: Author's fieldwork, 2013

5.3.3 SITE TWO

The site is located at the predominantly residential area of Ungwar Rimi along Shehu Laminu road. It has one major possible access into the site along the road and a less visible one. This site is in close proximity with a group from its intended users such as the Kaduna State University, Kaduna Polytechnic and a huge population from the residential area. The sites topography slopes gently to the Eastern area making the drainage design system of the site to take advantage of this nature. The site also has a high capacity and can accommodate the building, surrounding green and parking area and have available space for expansion. The site also has a very good and Functional infrastructure around it. The presence of a road networks which provides the main access point and also power lines and telecommunications lines also.

The site also has a good image quality from its surrounding environment with also a high visibility facing the major access road.



Plate 5.2: Site two, Shehu Laminu Road, Kaduna
Source: Google maps 2013

Table 5.2: Attributes of Site Two

S/No	Criteria/Characteristics	Description/	Remarks
1	Access.	The site has single access along Shehu Laminu road.	Acceptable
2	Site Infrastructure.	Access, drainage systems, power lines all available on site.	Very Suitable
3	Geography, Demographic Pattern and Neighbourhood compatibility	Site located close to kasu, poly, rimi college and the Unguwar Rimi populace	Very Suitable
4	Site features and Image quality.	The site has a 360° view of expanse land of green area, low density and little traffic area	Very Suitable
5	Suitable Topography.	Relatively flat. Suitable for parking area and easy movement for the physically challenged	Suitable
6	Site Visibility	The site has a very large visibility from the access road of 180°	Very Suitable
7	Site Capacity	Large enough to contain the building, green area, recreational spaces and surface parking	Very Suitable
8	Physiography	The site is longer along the east.west axis. No presence of tall buildings to cast shadow on the site	Very Suitable
9	Potential suitability for Green development	The soil will be able to support soft landscape and ease of construction.	Acceptable

Source: Author's fieldwork, 2013

5.3.4 SITE THREE

The site is located in the business district of Kaduna along Lafia Road. It has just the single access into the parcel which is off Independence way which is the main road and is located close to the Luggard Hall which is the seat of the state legistilature, Airforce complex and the Murtala Square. The sites topography slopes gently to the Western area making the drainage design system of the site to take advantage of this nature. The library building, surrounding green and parking area could all be accommodated on this parcel due to its large site capacity. The site also has a very good and Functional infrastructure around it. There are road networks around the site, a good drainage system, and power and telecommunications lines also present.

It site visibility is generally poor towards the major road which is a hindrance to the site.



Plate 5.3: Site three. Lafiya Road, Kaduna.
Source: Google maps 2013

Table 5.3: Attributes of Site Three

S/No	Criteria/Characteristics	Description/	Remarks
1	Access.	A entry points into the site all off the main roads	Not Suitable
2	Site Infrastructure.	Access, drainage systems, power lines all available on site.	Very Suitable
3	Geography, Demographic Pattern and Neighbourhood compatibility	The site is located close to Newnigerian newspaper, PHCN, major financial institutions etc	Suitable
4	Site features and Image quality.	A little view of green land, less dense populated area.	Acceptable
5	Suitable Topography.	The site slopes gently to the west which will aid in drainage	Suitable
6	Site Visibility	The site has a wide visibility but not on either of its access	Not Suitable
7	Site Capacity	Large enough to contain the building, green area, recreational spaces and surface parking	Very suitable
8	Physiography	The site is longer along the north.south axis	Not Suitable
9	Potential suitability for Green development	The soil will be able to support soft landscape and ease of construction.	Acceptable

Source: Author's fieldwork, 2013

5.3.5 SITE COMPARISON

Here, the three sites will be compared based on their remarks gathered from the description of individual sites. The remarks range from Not Suitable to Very Suitable. These degrees of suitability will be translated into numbers 1.5.

Table 5.4: Comparison of Sites Attributes

S/No	Criteria/Characteristics	Site 1	Site 2	Site 3
1	Access.	5	3	1
2	Site Infrastructure.	5	5	5
3	Geography, Demographic Pattern and Neighbourhood compatibility	5	5	4
4	Site features and Image quality.	2	5	3
5	Suitable Topography.	3	4	4
6	Site Visibility	1	5	1
7	Site Capacity	5	5	5
8	Physiography	1	5	1
9	Potential suitability for Green development	3	3	3
10	Total points	30	40	27

Source: Author's fieldwork, 2013

From the above point system table, the chart clearly puts site two as the most suitable site and hence the one to be analyzed for the purpose of this research.

5.4 SITE ANALYSIS; SITE FEATURES

The analysis of features on and around the site undertaken during this research is to bring out the impact most relevant sites characteristics and determine how such features will eventually impact the proposed design. Such features studied during this design are; access, site topography, soil type, site vegetation, site size and shape and sources of noise.

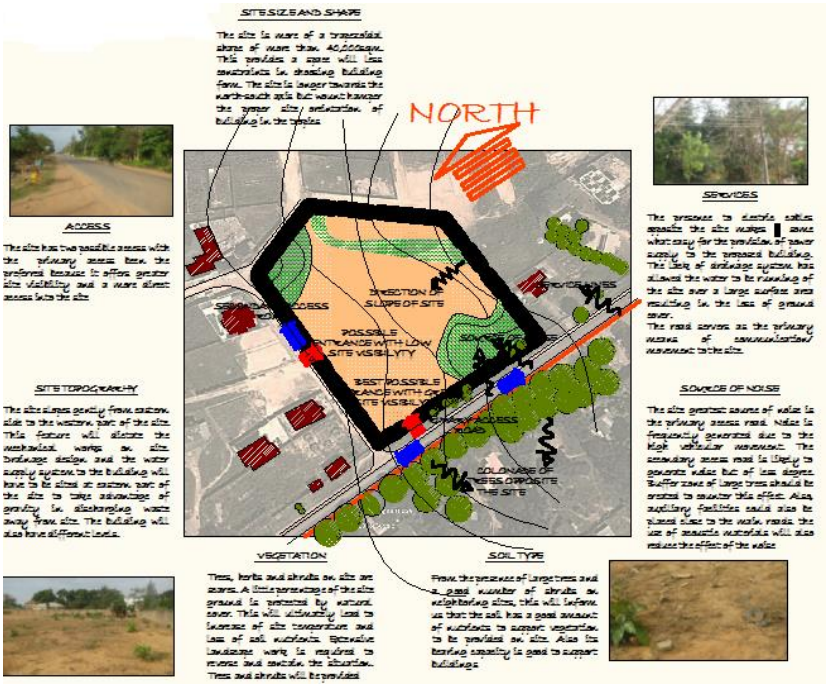


FIg 5.5: Site Analysis, site features
Source: Author's fieldwork, 2013

5.4.1 ACCESS

The site is located at the predominantly residential area of Ungwar Rimi along Shehu Laminu road. It has two possible access with the primary access been the preferred because it offers greater site visibility and a more direct access into the site.



Plate 5.4: Access road to site
Source: Author field work, 2013

5.4.2 SITES SIZE AND SHAPE

The site is more of a trapezoidal shape of more than 40,000sqm. This provides a space with fewer constraints in choosing building form. The site is longer towards the north.south axis but won't hamper the proper site orientation of building in the tropics. It will also allow ample space for Greenery and future expansion.

5.4.3 SITES TOPOGRAPHY

The site slopes gently from eastern side to the western part of the site. This feature will dictate the mechanical works on site. Drainage design and the water supply system to the building will have to be sited at eastern part of the site to take advantage of gravity in discharging waste away from site.

5.4.4 SOIL TYPE

From the presence of large trees and a good number of shrubs on neighboring sites, these informed the researcher that the soil has a good amount of nutrients to support vegetation to be provided on site.

5.4.5 VEGETATION

Trees, herbs and shrubs on the site are scares. A little percentage of the site ground is protected by natural cover. This will ultimately lead to increase of site temperature and loss of soil nutrients. Extensive landscape work is required to reverse and contain the situation. Trees and shrubs need be provided



Plate 5.5: Vegetation on site
Source: Author's fieldwork, 2013

5.4.6 SERVICES

The presence to electric cables opposite the site makes it somewhat easy for the provision of power supply to the proposed building. The lack of drainage system has allowed the water to be running of the site over a large surface area resulting in the loss of ground cover. The road serves as the primary means of communication/ movement to the site.

5.4.7 SOURCE OF NOISE

The site greatest source of noise is the primary access road. Noise is frequently generated due to the high vehicular movement. The secondary access road is likely to generate noise but of less degree. Buffer zone of large trees is to be created to mitigate this effect. Also, auxiliary facilities could also be placed close to the main roads and acoustic materials will also reduce the effect of the noise.

5.5 SITE ANALYSIS; SITE VIEWS

The sites 360° surroundings presents a variety of picture views to the site. The scene towards the Eastern direction gives a view of small number of trees beyond which lies a heavily denser commercial area. Sections of the library particularly those which have little to do with the user directly or of less usage than main areas such as the acquisition, maintenance, and tech support etc should be placed in view towards this direction. Also stores and conveniences can be located here

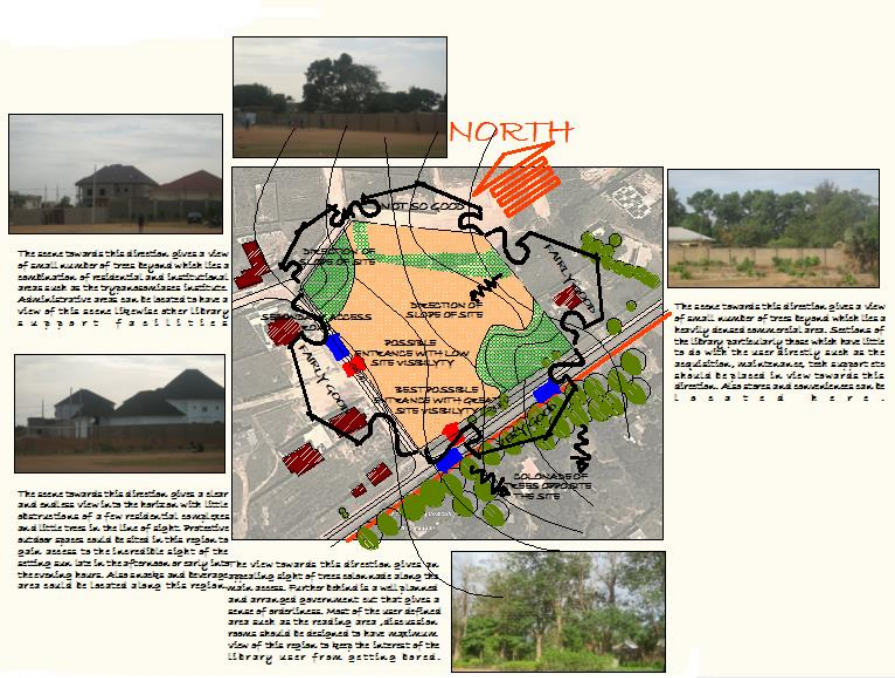


Fig 5.6: Site analysis, site views
Source: Author's fieldwork, 2013

The view towards the South provides an appealing sight of trees colonnade along the main access. Further behind is a well planned and arranged government cut that gives a sense of orderliness. Most of the user defined area such as the reading area , discussion rooms should be designed to have maximum view of this region to keep the interest of the library user from getting bored.

Towards the North, the scene gives a view of small number of trees beyond which lies a combination of residential and institutional areas such as the trypanosomiases institute. Administrative areas can be located to have a view of this scene likewise other library support facilities.

5.6 SITE ANALYSIS; CLIMATIC CONDITIONS

The site is located in a tropical climatic zone with abundant sunshine and dryness during the dry season and rain during the rainy period. The site has climatic characteristics the same as that of Kaduna state.

5.6.1 TEMPERATURE

The hot season take a larger part of the year from March through to September. The temperature here reaches as high as 40 degrees Celsius. Design strategies employed will quickly replenish the indoor air and provide a comfortable environment. Methods of evaporative cooling were also be employed to cool down the building and its surroundings.

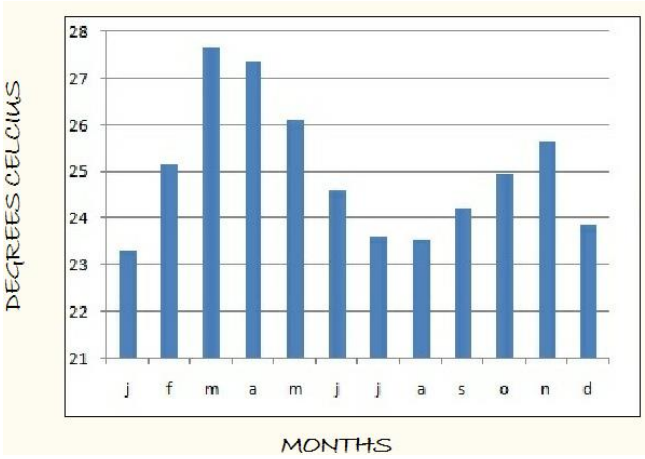


Fig 5.7: Temperature variance through the year

Source: Nigerian Metrological Agency, 2013

5.6.2 RAINFALL

The rainy season stretches from April through October. At its peak, it reaches about 275mm of precipitation. The design had to cater for proper drainage design on the site to avoid ponding and stagnation of water. Also roofs angle of inclination must be appropriate and adequate ground cover should be provided to avoid erosion.

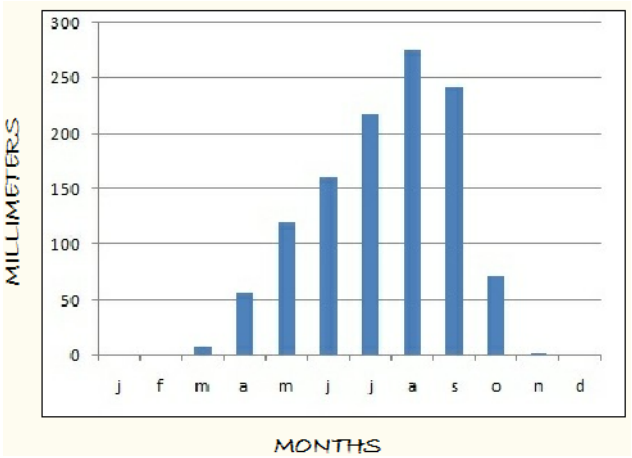


Fig5.8: Map of Nigeria
Source: Source: Nigerian Metrological Agency, 2013

5.6.3 WIND SPEED

The wind speed on the average reaches up to about 3.7.4.0m/s. During the Harmattan season, it is characterised as dry and carries dust from the desert. Proper barriers should be provided to protect the building and its material content from the harsh conditions. The building should be oriented to make use of the south.western trade wind



Fig 5.9: Map of Nigeria
Source: Nigerian Metrological Agency, 2013

5.7 SITE ANALYSIS; SITE DEVELOPMENT

This is based on analysis of facts obtained from the site inventory which have been diagnosed and synthesized to formulate an optimum solution for the initial site planning scheme. The site has been zoned into six areas, each with a particular group of functions..

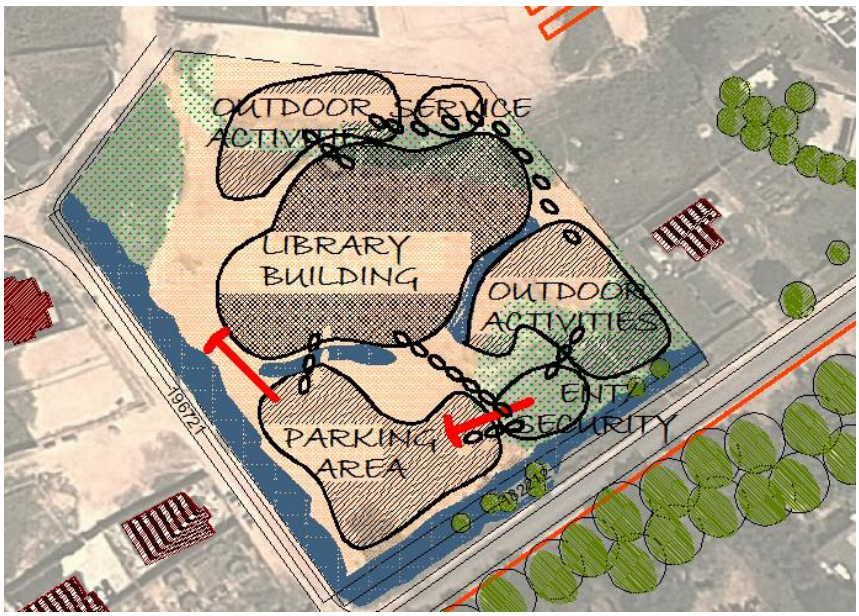


Fig 5.10: Site Analysis showing proposed site development
Source: Author's fieldwork, 2013

This land use design set aside specific spaces for different activites on the site. Most of the outdoor activities have been designated the entire right section of the site in front of the main building. Parking spaces have been kept to the left to provide safe path and passage for the pedestrians in and around the site. The main building occupies the central part of the site to conform with the principle of site and building visibility while other services such as the maintenance, administrative section have been secluded to the rear of the building. This is due to the fact that the users have very small if at all connection with such facilities.

5.8 SUMMARY OF DESIGN CHALLENGES.

With the need of the cyber community very different from the services offered by the current traditional library, the biggest challenge is incorporating them into the public library design. Their technological needs in terms of equipments that ranges from computers to e.readers, to their activities from social to intellectual purposes poses a great question to the existing library environment.

More free and open spaces are to be provided in the interior free from obstacles and hindrances. The space should be flexible in its use to account for future changes in case of another technological revolution.

Large outdoor reading and sitting areas should be considered to cater for all kind of users from the more active ones to the passive ones. Communal activity areas such as the amphitheater and the auditorium can increase the patronage of the library which inturn makes the library a place for everyone. These spaces could hold awareness campaigns, a place to reach and pass information to a large number of people and a place to educate the masses on everyday challenges.

More technological spaces such as the video conferencing area, server rooms, and repair and maintenance areas could cement the position of the cyber community within the public library.

All these new addition of spaces into the public library environment brings the challenge of them living and working side by side with some of the existing traditional library spaces and all serving the general public optimally.

CHAPTER SIX: DESIGN REPORT

6.1 DESIGN CONCEPT

The users of public libraries are as diverse in needs as the purpose of their usage of such facilities. Hence the design of public libraries should cater for their needs and reflect their nature. The concept of this design is derived from the need to harmonise and reconcile these differences in needs and provide a unit solution that addresses the challenge.

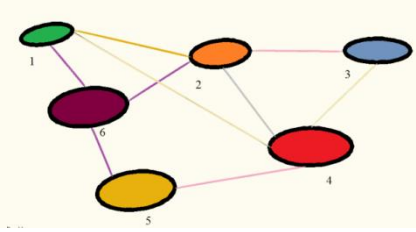


Fig 6.1: Different activities of cyber communities

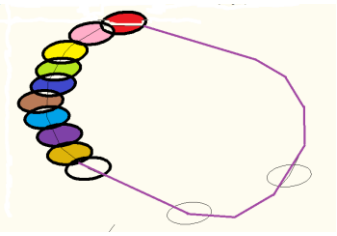


Fig 6.2: attempt in grouping activities to form a chain

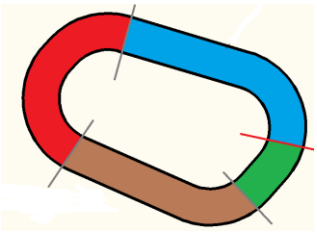


Fig 6.3: transformation in to a loop of activities



Fig 6.4: Final plan Form

Fig 6.1 shows the diversity of activities points required by the users if the library is to serve and satisfy their needs. Fig 6.2 shows the attempt to break down these activities into smaller units, rearrange and reorganise them to form a continuous chain of activities. Fig 6.3 shows the transformation into a loop system. This system will make the transition from one activity to another blur.

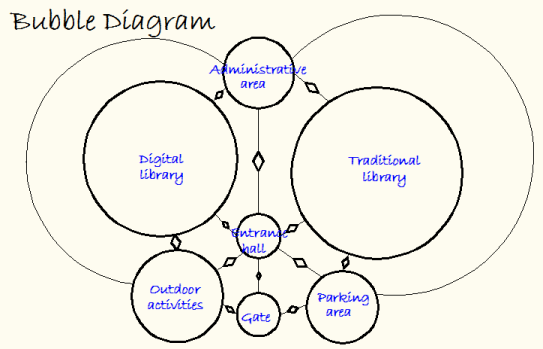


Fig 6.5: Bubble Diagram

Source: Authors Design 2014

The plan form generated from this idea divides the building into three main parts; the administrative section towards the rear, the so.called traditional library which houses the physical reading materials and the more digitalized library.

6.2 BUILDING PLANNING AND ORGANISATION

The building planning divides the building into three distinct areas, the administrative area, the "traditional library" and the digital area. This planning process carefully examines the needs across the various areas and grouped function in that regard. Areas that are prone to change in the short term periods are designed with open plan system while those that their needs could be predicted due to previous trends are dealt with more specific.

The administrative section, whose function is well defined in running the operations of the library has spaces demarcated and well defined. It has it entrance towards the rear side of the building, as the offices here have little or no connection directly with the end users of the library. It is a small single storey building which is about fifteen to twenty percent of the gross floor area of the building.

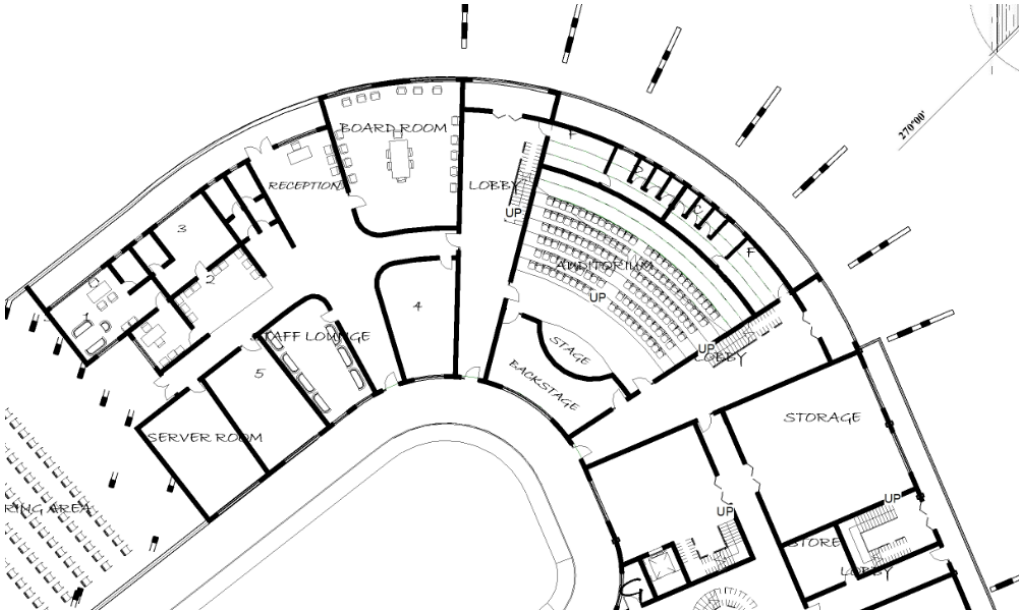


Fig 6.6: Administrative Section

Source: Authors Design 2014

The administrative section could be accessed directly through the main parking area which leads to the admin parking section or through the two accesses from within the building. The first is through the Adult section. With the bindenary and acquisition closest to traditional library, it will be controlled and managed through this area. The provision of a geometrical staircase will allow for movement to the reference section above by administrators. The second is through the outdoor lounge; here the activities of the digital library are regulated and controlled. There server room, IT department and the equipment repair and maintenance are located around this area. This also allows for easy movement of personale incharge of overseeing the digital aspect of the library.

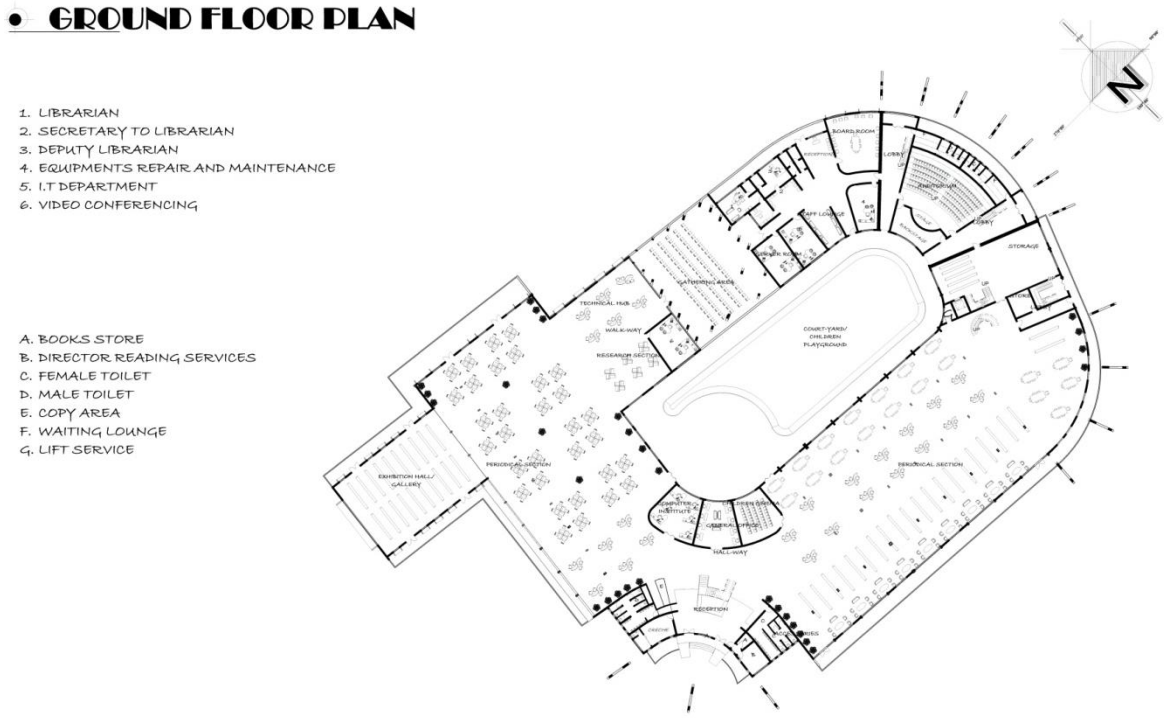


Fig 6.7: Ground Floor Plan

Source: Authors Design 2014

The main library sections have all been designed to function better and serve the need of the current library user. This meant the principle used as yardstick in measuring the effectiveness of the library studied for the purpose of this research have to be satisfied in order for it to meet such needs.

In terms of flexibility, all section of the library are entirely flexible for both usage and expansion. The sections do not dictate the kind of activities they hold but rather allowing for the possibility of taking host to other activities. This is present in their lack of well defined boundaries such as immovable walls and presence of obstructive structural elements. The furniture design also shows the nature of such flexibility of the design due to their nature of them being more fluid and easily movable to suit the need of the user. The library sections could also be expanded toward

the front and into the courtyard area should the need arises. This is possible through its simple structural scheme.

The organisational character of the sections is based on the type of media. The print media categories are group as a singular unit. This is because they share similar method of storage, which is physical while those of multimedia format are also grouped together also. Places that generate some level of noise are located in a considerable distance away from dedicated working stations.

Common shared facilities such as the Information desk, shop, lounge and conveniences are located centrally for easy access to all.

Continuity of space is one of the most stimulating factors to a library user. The ability to move from indoors to outdoors or vice versa should entirely rest on the user at will. Just as activities flow from internal parts to the external, so to should some of the favourable elements of the external environment flow inwards. The presence of indoor planting in reading areas and around the work stations aids in bringing some of the outdoor character inwards. Direct access from the traditional library areas into the children's play area and courtyard shows a great presence of this continuity principle, so too is the relationship between the digital library, the outdoor activities area, the courtyard and the outdoor lounge.

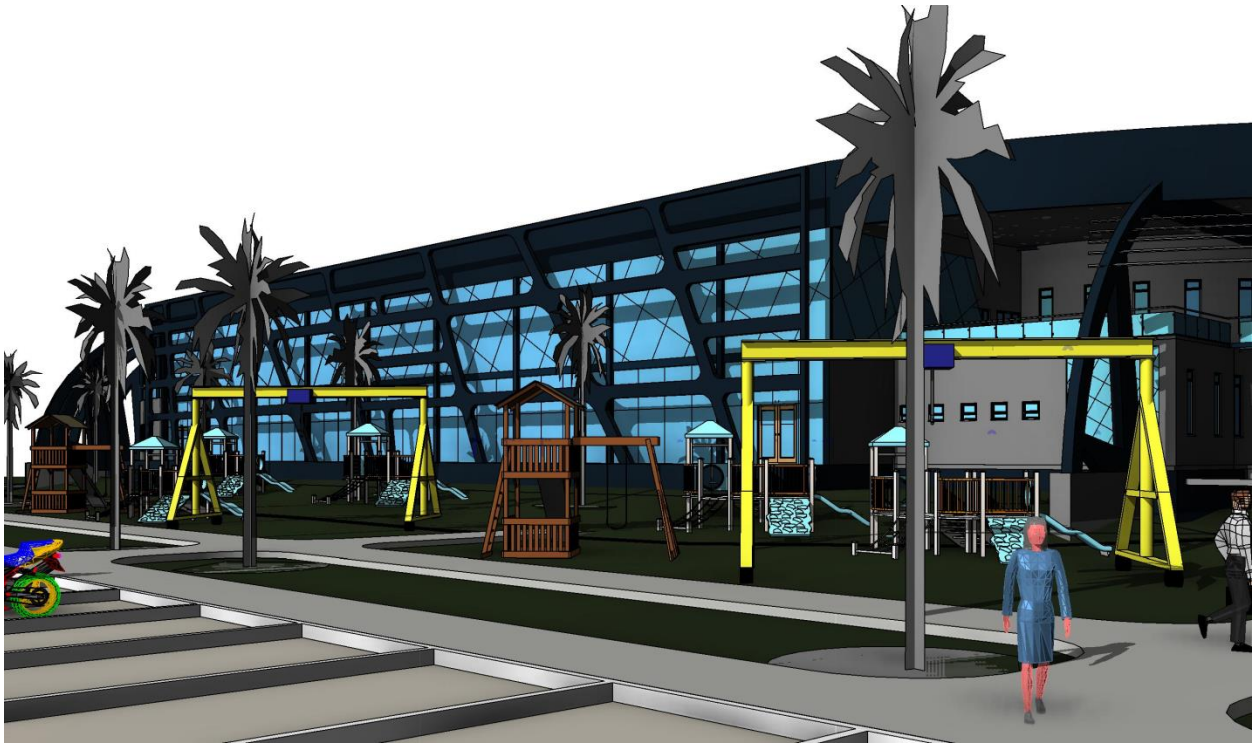


Fig 6.8: View of children play equipment

Source: Authors Design 2014

The presence of gentle slope ramps at the main entrance and the reception area makes its suitable for the physically challenged person to gain access into the library easily. With no change in level at the interior levels, it also affords the physically challenged to move about freely and provides a safe environment for children. This shows some elements of suitability of space.

Apart from a few dedicated areas within the facility such as the Audio and Visual, Auditorium and the training institute, no other space dictates to the user the kind of activity to be engaged in. There spaces are all flexible and open to maintain visual contact and increase the sense of security within that public space.

The elevation also follows suit with the plan. It shows simplicity in form as in usage. This is represented in the building mass being restricted to only three volumes and also in the use of simple design elements such as the horizontal shading devices the protect the building from direct sunlight.

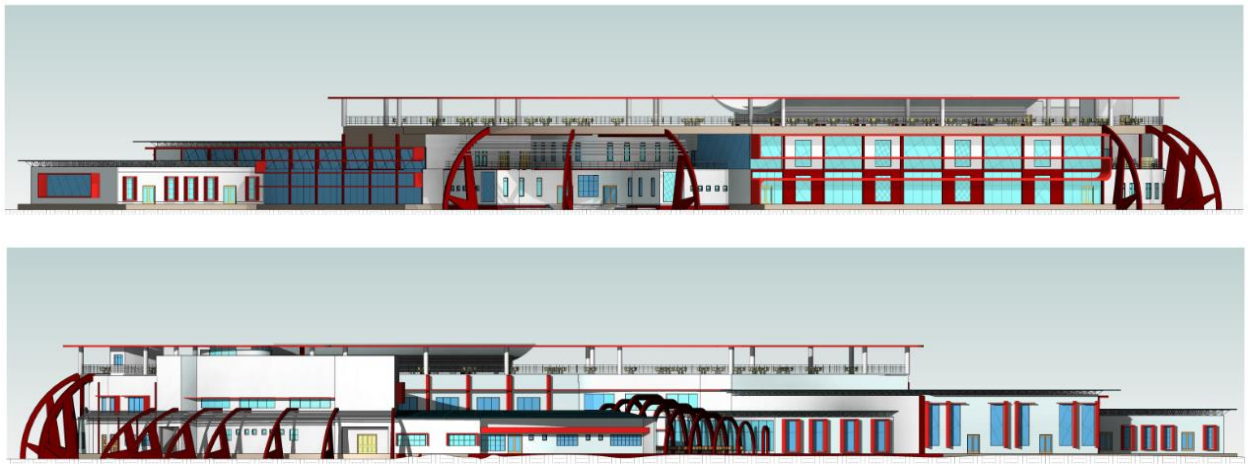


Fig 6.9: Approach and Rear Elevations

Source: Authors Design 2014

6.3 SITE DESIGN.

The site design has been heavily influenced by the results of the research survey. Showing the character of the usage of the public library, it became necessary for the design to show these shifts in library usage. Not least is the fact that a good amount of the library users tend not to use the documents provided by the institution, but still maintain their patronage. This influenced in part the design of the vast outdoor reading and working areas. These spaces are meant to cater for the casual user and social aspect of learning for the community's life. The outdoor spaces have been designed to run alongside a large portion of the library into the court yard. This allows for direct linkage and swift movement between the indoor and the outdoor areas.



Fig 6.10: Site Plan

Source: Authors Design 2014

The outdoor spaces also cater for those that work in groups and require more freedom to speak, discuss, debate and share ideas due to its non restrictive design attitude. Such spaces tend to make a public library more inclusive. A typical example is the amphitheatre, where people can gather to be addressed and can also support small lectures and performances. This represents also in part its social function.



Fig 6.11: Outdoor space

Source: Authors Design 2014

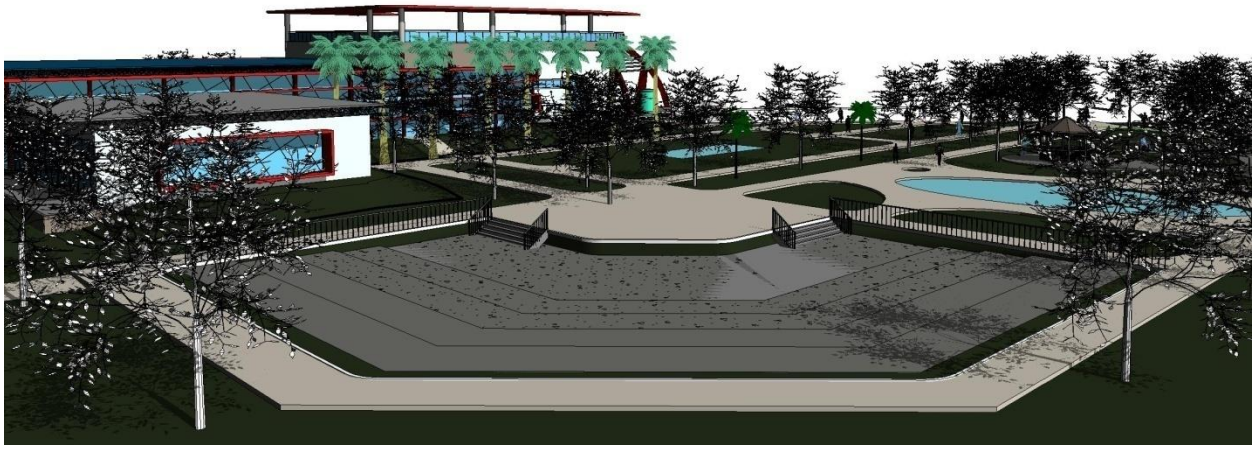


Fig 6.12: Outdoor space showing Amphitheatre

Source: Authors Design 2014

The site has also been designed to separate vehicular circulation from that of pedestrians to attain the maximum degree of safety possible. It is represented by the total exclusion of the parking area to one sector of the site while maintaining a direct approach towards the building with both forms of circulation. Most of the pedestrian walkways are located on the side of outdoor activity area to provide direct access to such areas and also lead directly into the building.

With the site located along a busy road, the design employs the use of buffer zones created with tall and broadleaf trees. This is to help reduce the amount of noise from outside sources into the site. The method is an additional tool employed having carefully placed the building a considerable distance away from the main source of noice (main road) and also restricting the movement of cars to limited areas.

The presence of small water bodies created on the site, such as the fountain and the ponds is to increase the micro climate of the site through evaporative cooling and increase the aesthetic appeal of the site.



Plate 6.1 and Plate 6.2: Fountains

Source: Google Images 2014

6.4 BUILDING MATERIALS AND TECHNOLOGY

Different materials have been used at different parts of the building. Some due to their aesthethic appeal while others is purely functional. These materials include but are not limited to concrete, glass, aluminum, steel, stone, timber etc.

6.4.1 CONCRETE

Concrete forms the major structural part of the building. It forms the entire columns and beams structure necessary for the stability of the building. Its choice was guided in its durability against elements of weather and the ease of construction. It also forms the staircases for vertical movement.

6.4.2 GLASS

Glass is used in the design to cover openings and even in place of exterior wall. The glass here is of high tech nature that allows the sun rays into the building while reflecting its ultra.violet radiation back. This prevents the building from developing an uncomfortable environment for the users. The curtain walls have open able doors and windows units within them to provide access and allow for natural ventilation.

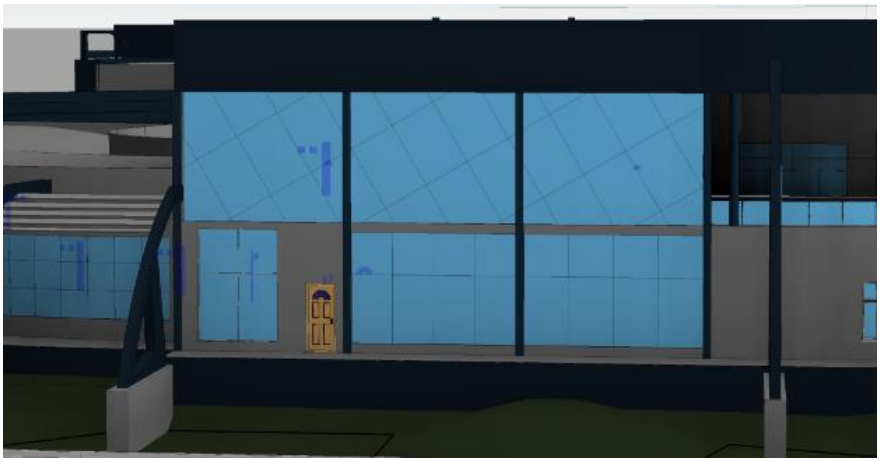


Fig 6.13: Use of glass on building

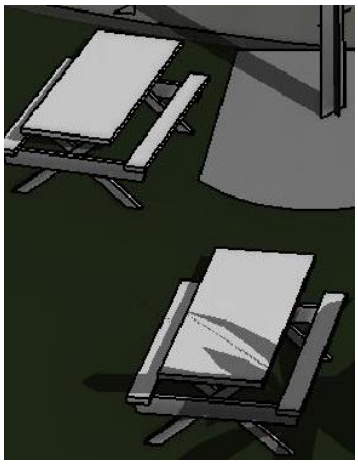
Source: Authors Design 2014

6.4.3 TIMBER.

The use of this material has been in areas where the acoustics need to be enhanced. The walls of the auditorium have been designed with timber cladding in gypsum boards due to its ability to

absorb sound and reduce reverberations. Its use has also been explored in areas of audio and visual as well as video conferencing area and children's cinema.

It is also widely used on outdoor furniture for benches and tables. Glue laminated Timber (Glulam) which is durable and flexible in the making was also used in the gathering area.



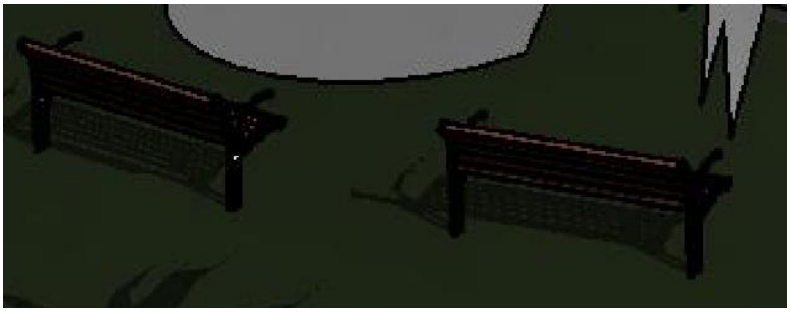


Fig 6.14 and 6.15: Use of timber for outdoor furniture

Source: Authors Design 2014

6.4.4 STEEL AND ALUMINIUM

Steel forms a larger part of the roofing structure. Its ability to span large areas without intermediary support makes it appealing to library design. Here, the steel if of reinforced fibre which makes it considerable light than cast iron steel. Its use is also employed in the design of the shading devices. Its use has also been employed in the light tubes systems at the auditorium. They provide additional diffused light into the auditorium.

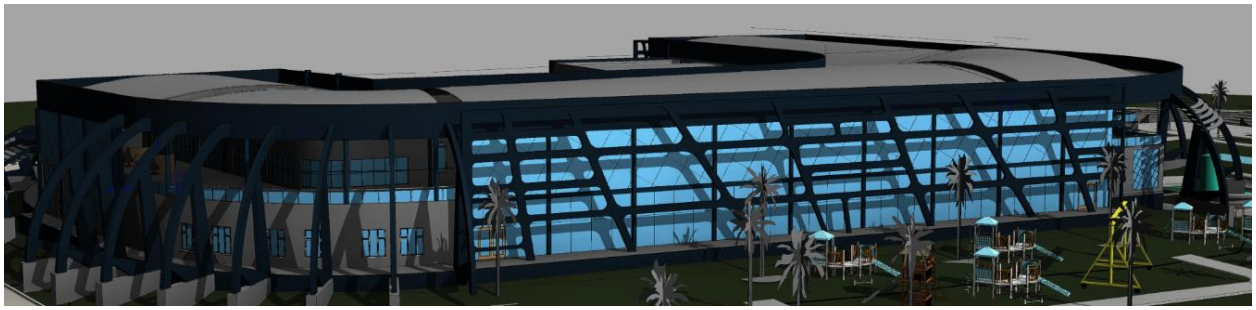


Fig 6.16: Use of steel on building facade

Source: Authors Design 2014

Aluminum is the used to clad the steel elements, providing a more smooth edges and aesthetic quality. Aluminum roofing sheets also form the roof coverings

6.4.5 STONE

Stone has been used as a finishing material on the exterior shading devices concrete base. This was delibrately employed to give a sense of strength and solidity to the building. The design also makes use of stone in pavements as drainage embankments.

6.4.6 PLASTIC

Plastic Polycarbonate was used in roofing the atrium above the traditional library section providing ligth to the central section of the lower floor. It also forms part of the synthetic grass used in covering the deck of the auditorium and grounds of the court yard. It is also used to provide shading at outdoor spaces

6.5 FACILITIES/ SCHEDULE OF ACCOMODATION

FUNCTION	AREA (sqm)	UNITS
Librarians office	30	1
Dep Librarians office	30	1

Director Reading Services	30	1
Boardroom	64	1
IT Department	24	1
Staff Lounge	50	1
Server Room	30	1
Equipments Repair Room	30	1
Storage Room	64	1
Bindenary	64	1
Bookshop	20	1
Reception	25	1
Hallway	100	1
Children Section	200	1
Periodicals	300	1
Adult Section	400	1
Reference Section	600	1
Technical Hub	200	1
Conferencing Area	40	1
Research Stations	150	1
Computer Institutes	150	1
Exhibition Hall	200	1
Standalone Reading area	12	17
Gathering Area	220	1
Amphitheater	200	1

Outdoor Browsing Area	300	1
Play Area	200	1

Chapter Seven: Conclusion

7.1 SUMMARY

The role of the public library has been and still is to provide information and support all aspect of learning and self development. That is not under debate. What need to be acknowledged are the needs of the users of such an institutions. How they share, access and enquire such information is coming into sharp contrast with what the library is offering. The advancement in technology means that new ways have been adopted by seekers of information. Computers, films, audio and other multimedia are the new means of accessing information nowadays, forming a new trend.

The library also needs to confront head on the ways of conveying information in a more social and informal way. Users of the public library come in all ages and intellectual capacity, a singular mode of accessing information can no longer serve the needs and interest of the community. Open discussions, debates, performances and intellectual gatherings also are means of passing and getting important information of some individuals within the society. Such trends need to be adopted by the libraries of today if they are to function more effectively in the society.

These changes in the needs of the users are definitely having an impact in the public library's environment. The space requirement and design, spatial organisation and arrangement within library and its environment is affected. The need for shelves units has been minimized. Other processes such as the cataloguing, bindery and returning and lending of book have been heavily reduced if not eliminated. This is now the reality of the twenty first century public library processes.

7.2 OBSERVATIONS.

From the study, it is clear to see that most of the libraries studied have failed to make a meaningful attempt in addressing the current challenges facing them. While they are still trying to improve the service delivery of the print media, they are missing out in the current trend of user needs the library should be investing in their operation. By addressing such needs, the public library will open a new frontier for itself. The diversity of the people it will be able to support and the kind of services it can provide to the community would have been unheard for years ago.

Will this advancement in technology and more sophisticated socials ways of self development keep have the same effect on the public library? This is now the daunting task designers are faced with. How do you design for a place that keeps on changing if that should eventually be the case? This might just be the new norm with other public institutions.

7.3 RECOMMENDATIONS.

The research makes the following recommendations;

I. Designers should center their design principle on the users of the public libraries more than around the content within. This will give the users more freedom within the library.

II. New technologies used by public library users should be carefully studied. If such equipments or gadgets require support facilities and/or systems, specially designed area should be provided for. This is to maximize the efficiency of service delivery to the public.

III. Libraries should begin to serve as community centers more. Gatherings, public events and academic lectures should be taking place within the library. This will make it serve up to its full potential. Partnerships will encourage this more.

IV. All or majority of the general public should be considered when designing a public library. The design should not discriminate on the basis of educational level or background. This can be done by providing informal space indoors and/or outdoors for the use of the general public.

V. More outdoor spaces should be provided for casual users of the Public library.

7.4 AREAS OF FURTHER RESEARCH.

With the limitation posed on this research, further research could be conducted using the same parameters but in different regions within the country. Also effects of technological advancement could possibly be investigated in academic libraries, schools and other institutions that serve the general public. The idea of having a completely digital library free of physical documents could also be researched in the context of Nigeria.

7.5 CONTRIBUTION TO KNOWLEDGE.

The following are the specific contribution made by this research;

I. The research has been able to identify the huge exclusion of social activities that aid learning within our public libraries. This means marginalizing a sizeable number of the public from using such facilities. This has been catered for in the proposed design by the radical introduction of amphitheater, gathering areas, rooftop spaces and other social activity amenities that are in line with the core responsibility of the public library, supporting learning.

II. The research was able to debunk the idea that libraries are becoming obsolete. By studying the attendance and registration books of the cases selected for this research, it was established that there was still commitment made by people towards the library. But this commitment was in a different format. People bring their own documents but nevertheless use the facility of the library. The number of registered members and attendances is still promising.

III. The research was also quick to establish that the library of today as we know it is not that of the future. Additions and changes in its function need to be made if it is to serve the twenty first century. It has to be adaptive and provide for new technologies in the ICT and also the changes it will bring to the behaviour of its users.

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APPENDICES

Questionnaire sample

This questionaire survey is been carried out to understand the way individuals make use of the Public libraries. The results of this survey will aid the researcher in understanding the changing; information needs, tool for information sourcing and behavioural dynamix of the general public. The respondants of the questionnaire will remain anonymous and the results of the survey will be analysed without making reference to the respondants.

Presonal data

(1) To what age bracket do you belong?

(a) 16.21 ( )
(b) 22.27 ( )
(c) 28.33 ( )
(d) 34.39 ( )
(e) 40 and above ( )

(2) What tribe do you belong to?

(a) Hausa ( )
(b) Igbo ( )
(c) Yoruba ( )
(d) Tiv ( )
(e) Others specify_____

(3) What is the level of your educational qualification?

(a) Primary ( )
(b) Post Primary ( )
(c) Post Secondary ( )
(d) Higher education ( )
(e) Religious ( )

(4) How close do you reside to a Public Library?

(a) Very Close ( )
(b) Close ( )
(c) Moderate ( )
(d) Far ( )
(e) Very Far ( )

Library Usage

(5) How often do you use the Public library?

(a)Very Often ( )

(b) Often ( )

(c) Moderate ( )

(d) Less Often ( )

(e) Rearly ( )

(6) How often does the your profession/trade relies on periodic information?

(a) Very Often ( )

(b) Often ( )

(c) Moderate ( )

(d) Less Often ( )

(e) Rearly ( )

(7) Which of the library section do you use the most?

(a) Circulation ( )

(b) Reference ( )

(c) audio/visual ( )

(d) Periodicals ( )

(e) Documents ( )

(8) How often do you make use of the materials provided by the library?

(a) Very Often ( )

(b) Often ( )

(c) Moderate ( )

(d) Less Often ( )

(e) Rearly ( )

(9) How often do you participate in online/cyber communities?

(a) Very Often ( )

(b) Often ( )

(c) Moderate ( )

(d) Less Often ( )

(e) Rearly ( )

(10) What is the nature of your interaction on this communities?

(a) Social ( )

(b) Academic ( )

(c) Interlectual ( )

(d) Political ( )

(e) Professional ( )

(11) Through which medium do you interact the most?

(a) Text Based ( )

(b) Video Based ( )

(c) Audio Based ( )

(d) Image Based ( )

(e) Others Specify_____

(12) What is the current trend in information sourcing in your occupation?

(a) Video ( )

(b) Audio ( )

(c) Images ( )

(d) written ( )

(e) E.books ( )

(13) What medium do you use in sourcing your information?

(a) Computer ( )

(b) Phones ( )

(c) Tablets ( )

(d) Books ( )

(e) Others Specify_____

(14) How often do you use these instruments in sourcing the information?

(a) Very Often ( )

(b) Often ( )

(c) Moderate ( )

(d) Less Often ( )

(e) Rearly ( )

(15) How Large of a data do you source at any given time?

(a) Very Large ( )

(b) Large ( )

(c) Moderate ( )

(d) Small ( )

(e) Very Small ( )

(16) To what degree of complexity is the data?

(a) 0.19 ( )

(b) 20.39 ( )

(c) 40.59 ( )

(d) 60.79 ( )

(e) 80 and above ( )

(17) During sourcing data how often do you interact with others?

(a) Very Often ( )

(b) Often ( )

(c) Moderate ( )

(d) Less Often ( )

(e) Rearly ( )

(18) In what medium is the interaction (in 17) mostly done?

(a) Audio ( )

(b) video ( )

(c) Physical writing ( )

(d) Electronic chat ( )

(e) Bill boards ( )

(19) How frequently do you sort for assistance in going through the data?

(b) Very Often ( )

(b) Often ( )

(c) Moderate ( )

(d) Less Often ( )

(e) Rearly ( )

(20) Which medium does have a greater positive impact on your development?

(a) Video ( )

(b) Audio ( )

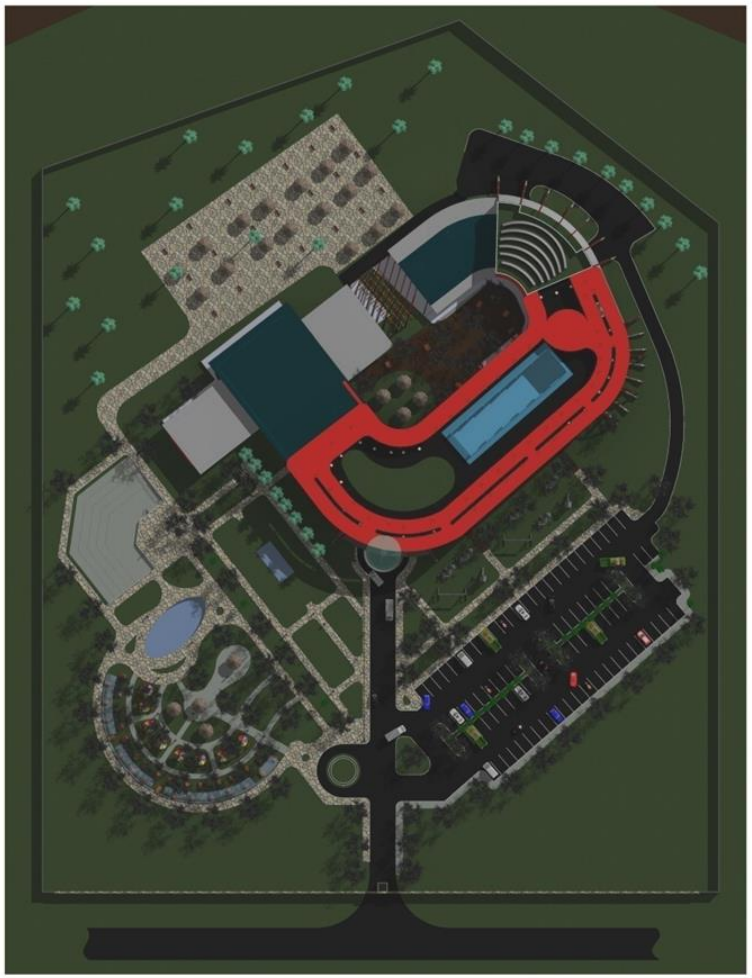
(c) Images ( )

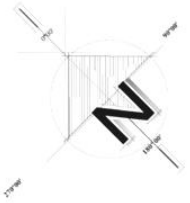
(d) written ( )

(e) E.books ( )

Appendix A

• SITE PLAN





EVALUATING THE USER NEEDS IN THE PUBLIC LIBRARY, KADUNA.

INTERGRATING CYBER COMMUNITY

MENTORS: Dr. M. D. AHMED; Dr. M.L. Sagada

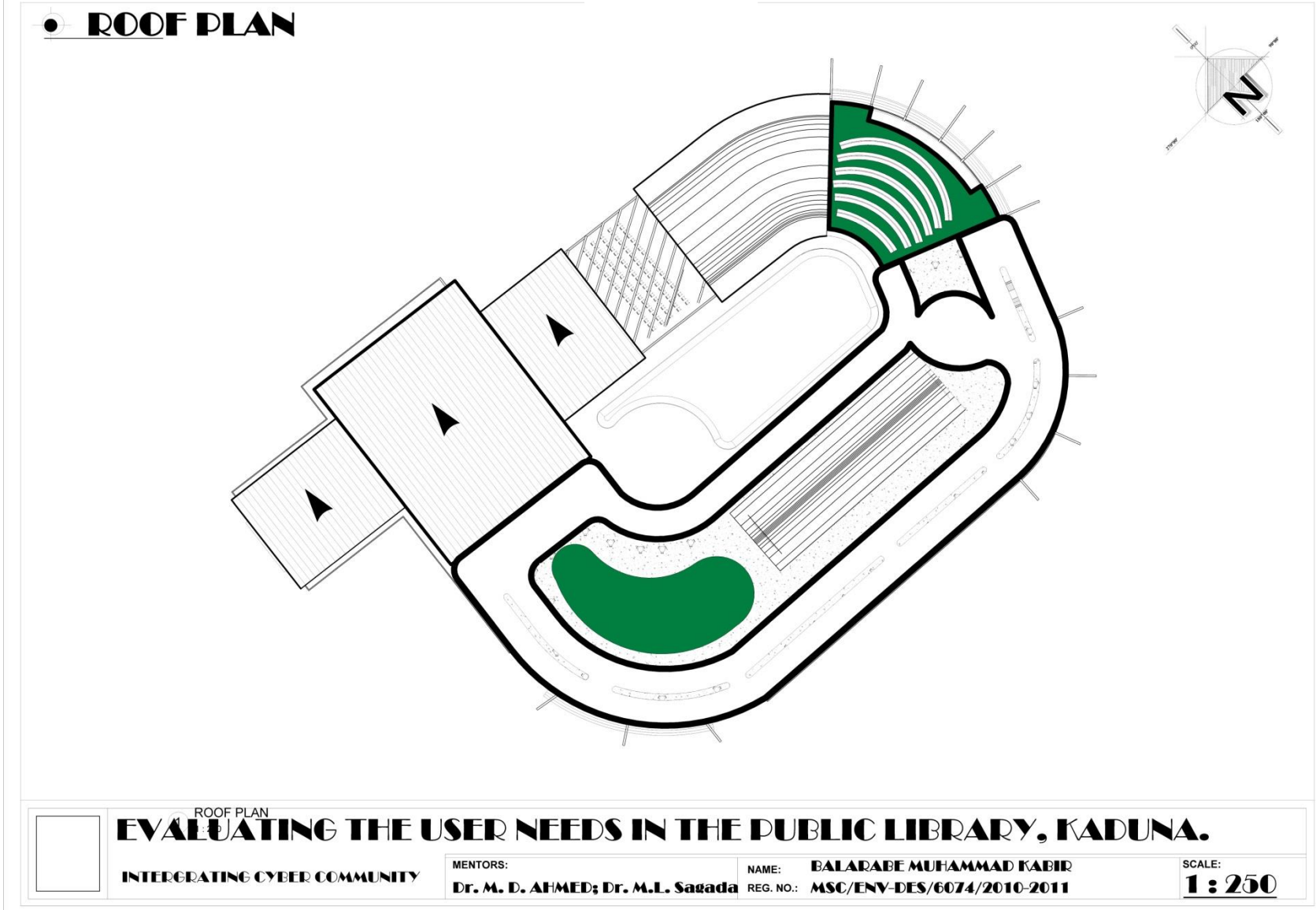
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REG. NO.: MSC/ENV-DES/6074/2010-2011

SCALE: 1 : 1

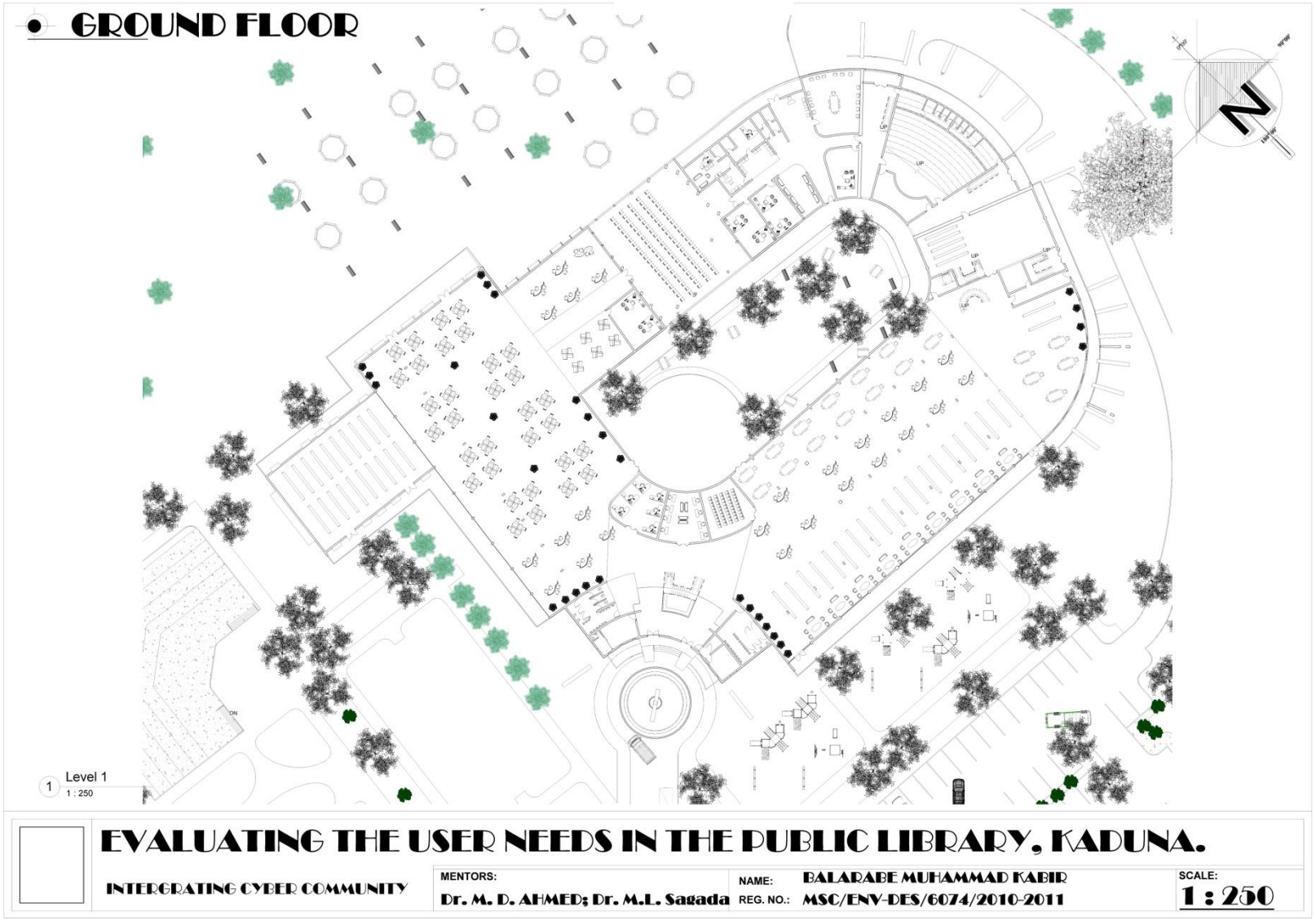
Source: Author Design, (2014)

Appendix B



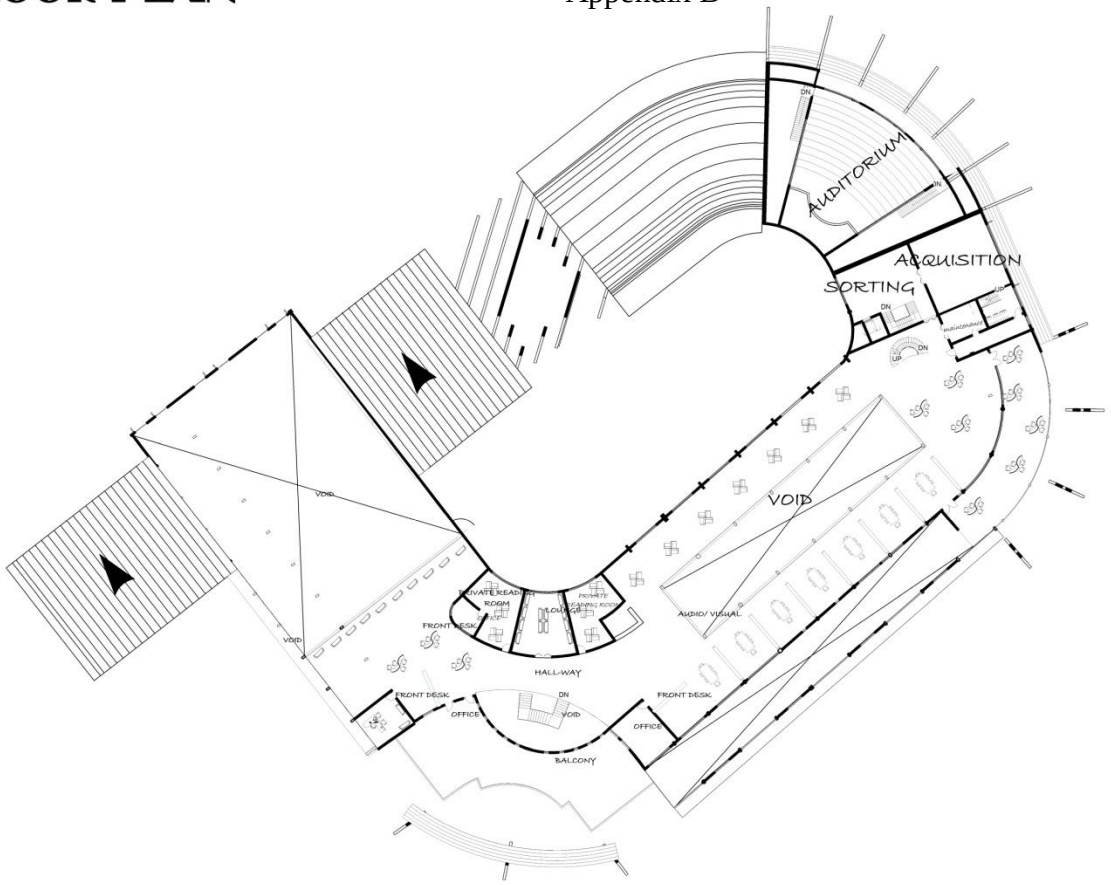
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Appendix C



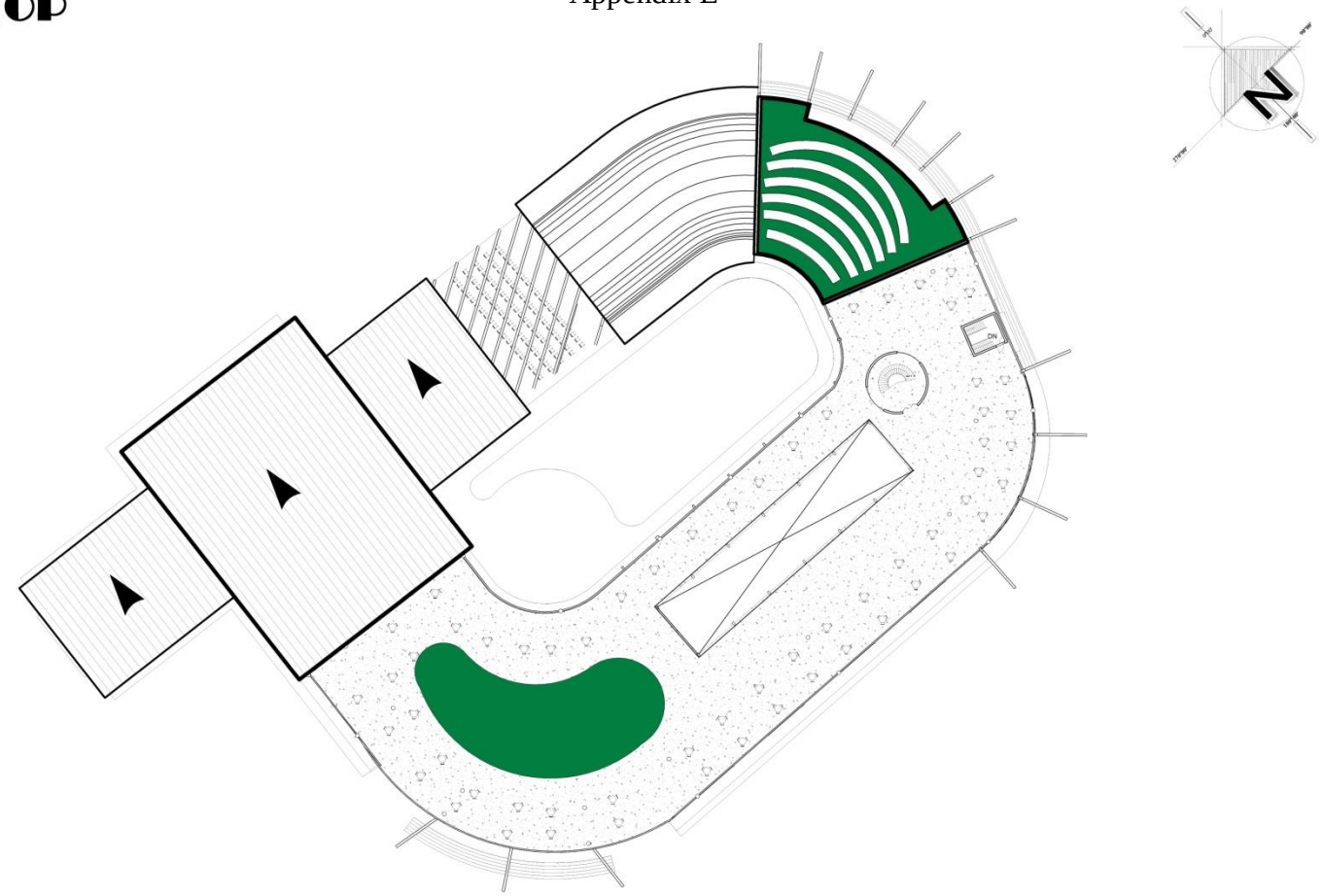
Source: Author Design, (2014)

Appendix D



Source: Author Design, (2014)

Appendix E



Source: Author Design, (2014)

Appendix F

ELEVATIONS



1 RIGHT
1 : 200



2 LEFT
1 : 200

EVALUATING THE USER NEEDS IN THE PUBLIC LIBRARY, KADUNA.

INTERGRATING CYBER COMMUNITY

MENTORS:	NAME:	SCALE:
Dr. M. D. AHMED; Dr. M.L. Sagada	BALARABE MUHAMMAD KABIR	1 : 200
	REG. NO.: MSC/ENV-DES/6074/2010-2011	

Sour Source: Author Design, (2014)

Appendix G

ELEVATIONS



1 APPROACH
1 : 200



2 REAR
1 : 200

EVALUATING THE USER NEEDS IN THE PUBLIC LIBRARY, KADUNA.

INTERGRATING CYBER COMMUNITY

MENTORS: Dr. M. D. AHMED; Dr. M.L. Sagada

NAME: BALARABE MUHAMMAD KABIR

REG. NO.: MSC/ENV-DES/6074/2010-2011

SCALE: 1 : 200

Source: Authors Design, (2014)

ELEVATIONS



1 LEFT ELEVATION
1 : 200



2 RIGHT ELEVATION
1 : 200

EVALUATING THE USER NEEDS IN THE PUBLIC LIBRARY, KADUNA.

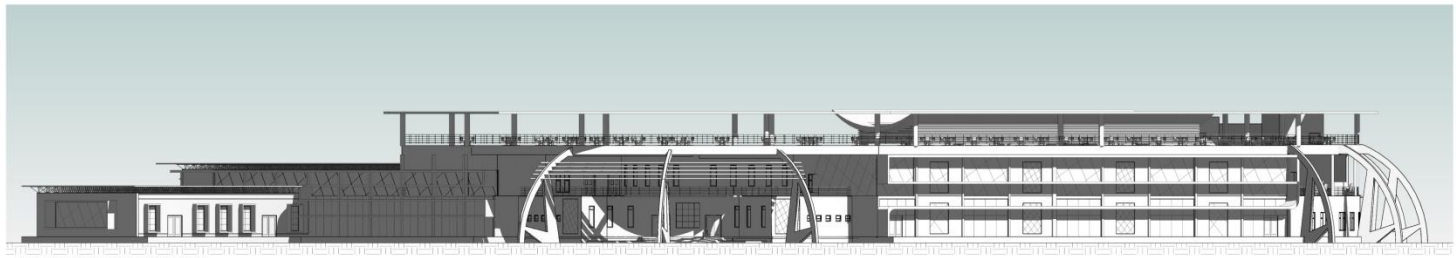
INTERGRATING CYBER COMMUNITY

MENTORS:	NAME:	SCALE:
Dr. M. D. AHMED; Dr. M.L. Sagada	BALARABE MUHAMMAD KABIR	1 : 200
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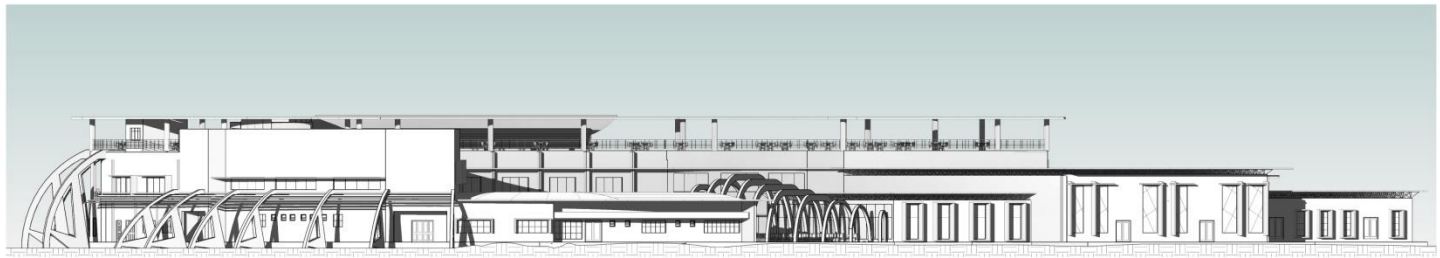
Source: Authors Design, (2014)

Appendix I

ELEVATIONS



1 APPROACH ELEVATION
1 : 200



2 REAR ELEVATION
1 : 200

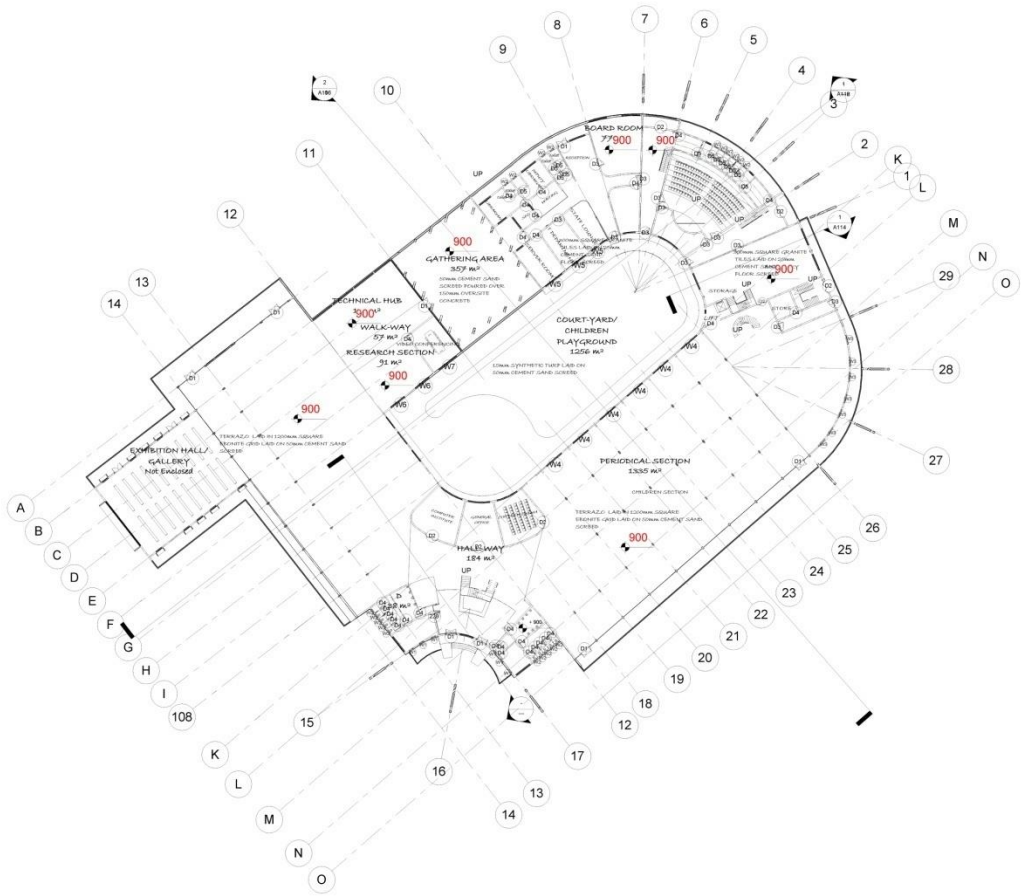
EVALUATING THE USER NEEDS IN THE PUBLIC LIBRARY, KADUNA.

INTERGRATING CYBER COMMUNITY

MENTORS:	NAME:	SCALE:
Dr. M. D. AHMED; Dr. M.L. Sagada	BALARABE MUHAMMAD KABIR	1 : 200
	REG. NO.: MSC/ENV-DES/6074/2010-2011	

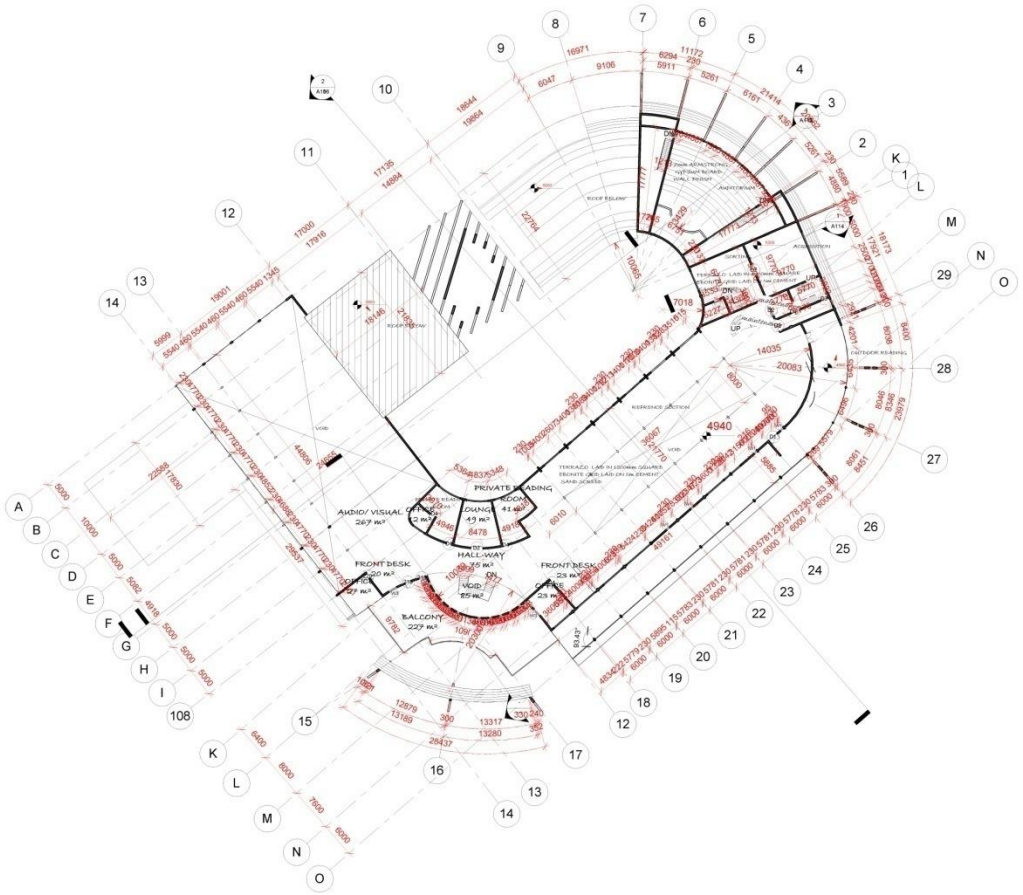
Source: Authors Design, (2014)

Appendix J



Source: Authors Design, (2014)

1ST FLOOR PLAN



EVALUATING THE USER NEEDS IN THE PUBLIC LIBRARY, KADUNA.

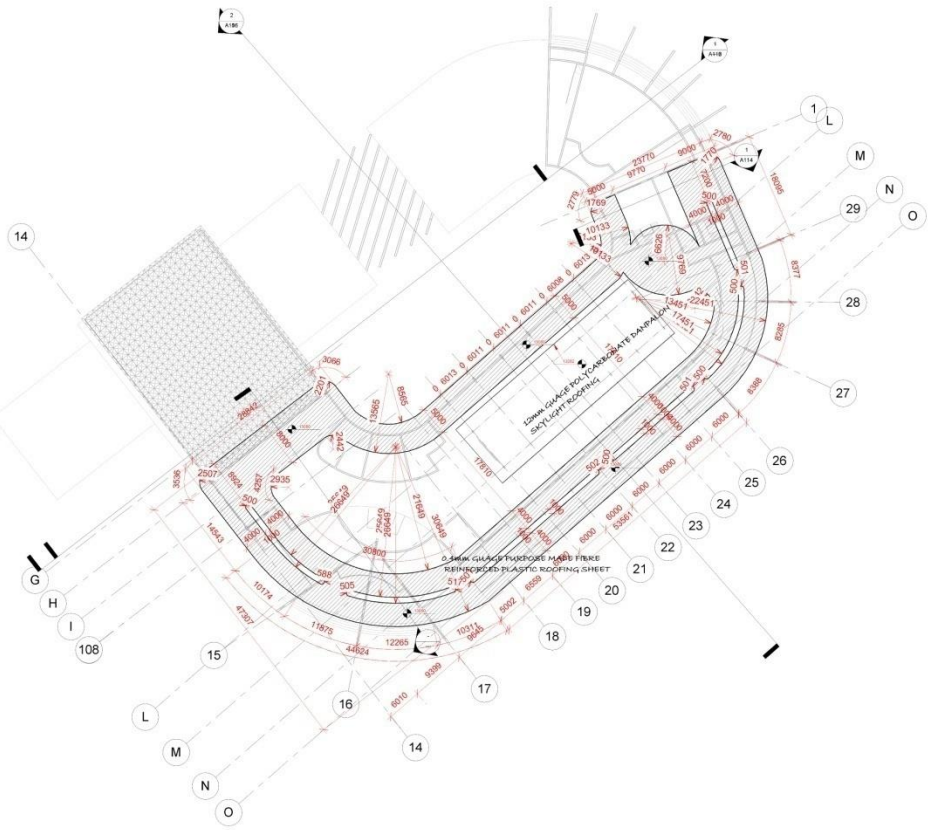
INTERGRATING CYBER COMMUNITY

MENTORS:	NAME:	SCALE:
Dr. M. D. AHMED; Dr. M.L. Sagada	BALARABE MUHAMMAD KABIR	1 : 350
	REG. NO.: MSC/ENV-DES/6074/2010-2011	

Source: Authors Design, (2014)

Appendix L

ROOF PLAN



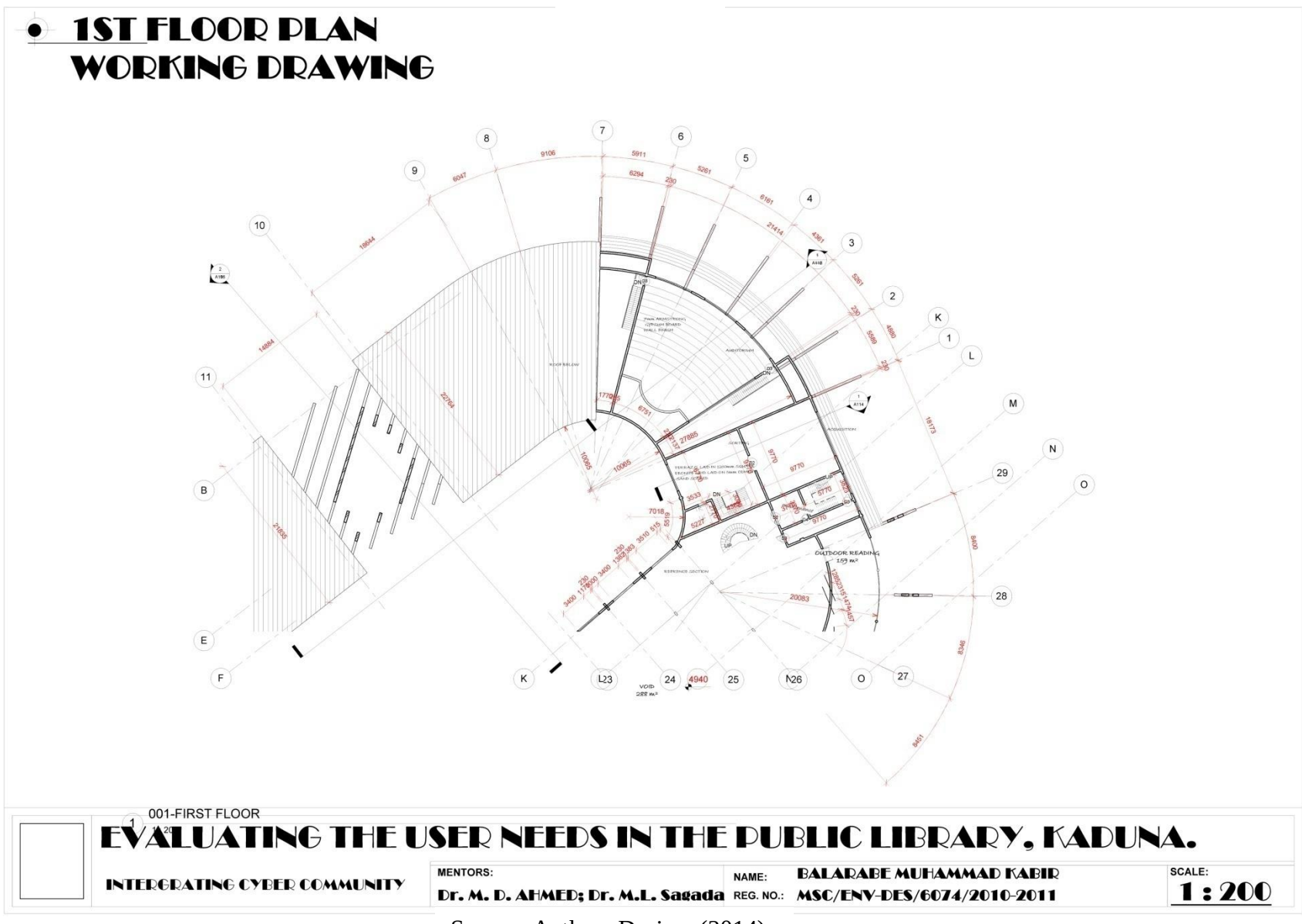
EVALUATING THE USER NEEDS IN THE PUBLIC LIBRARY, KADUNA.

INTERGRATING CYBER COMMUNITY

MENTORS:	NAME:	SCALE:
Dr. M. D. AHMED; Dr. M.L. Sagada	BALARABE MUHAMMAD KABIR	1 : 350
	REG. NO.: MSC/ENV-DES/6074/2010-2011	

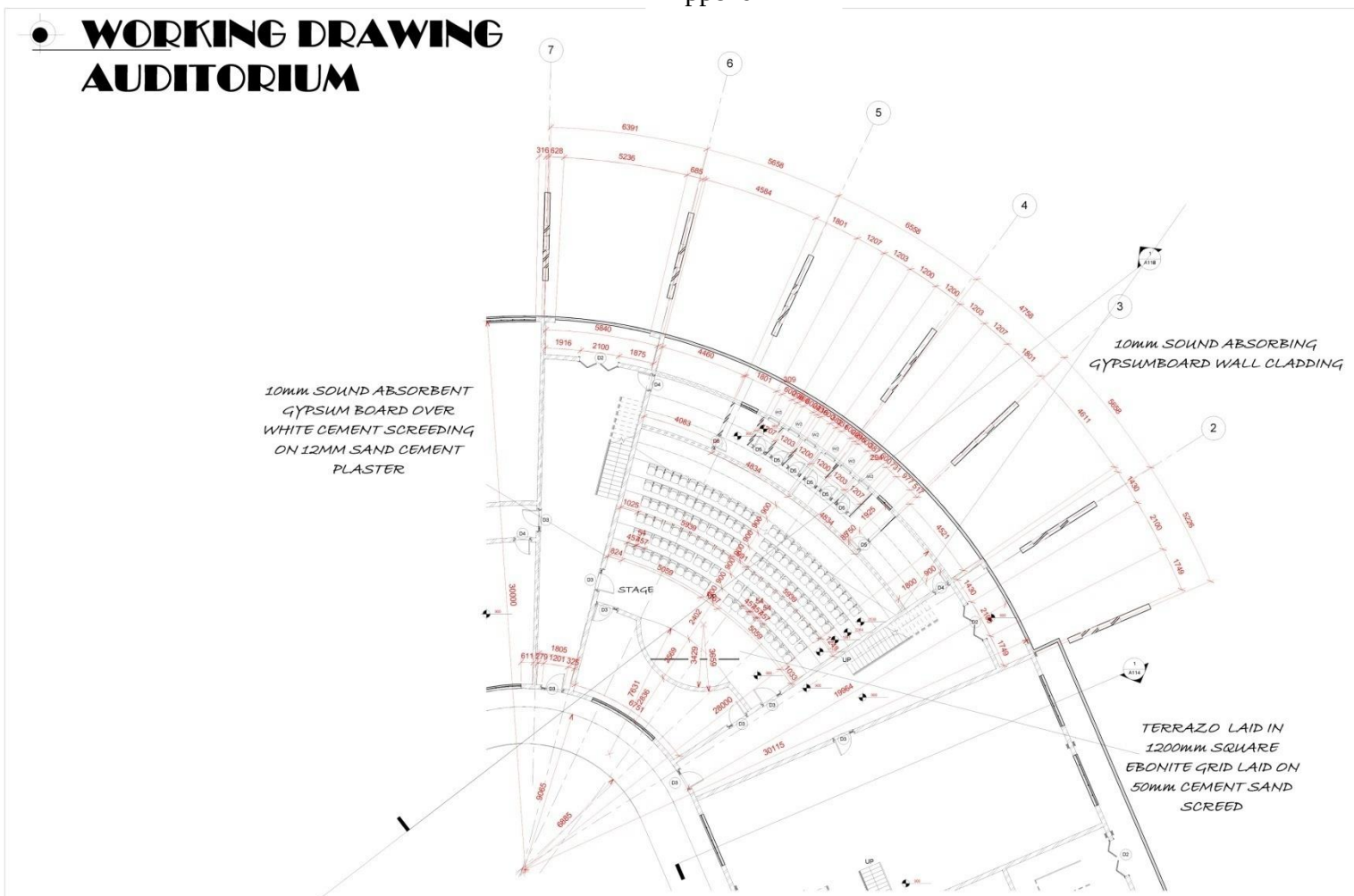
Source: Authors Design, (2014)

Appendix L



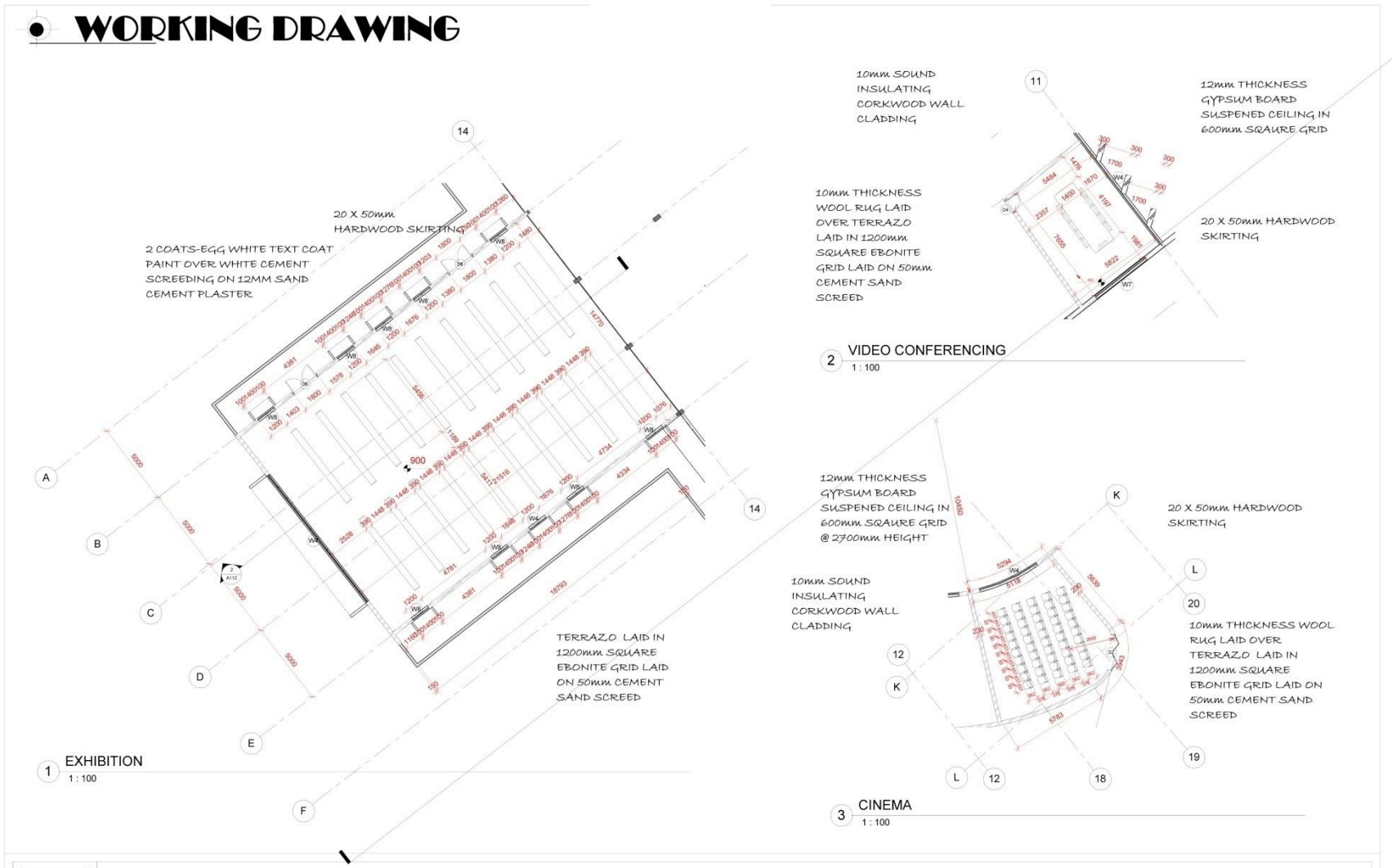
Source: Authors Design, (2014)

Appendix M



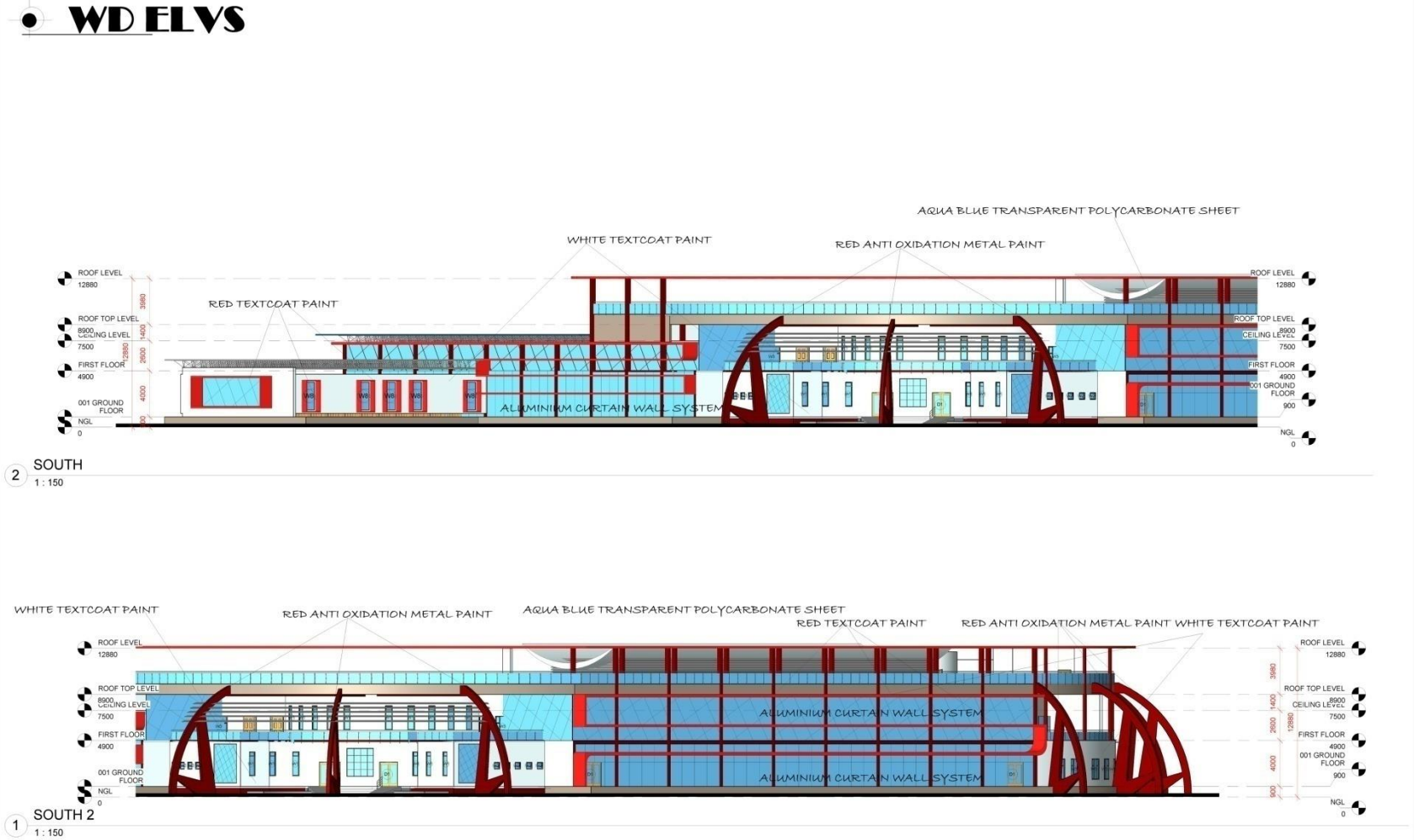
Source: Authors Design, (2014)

Appendix N



Source: Authors Design, (2014)

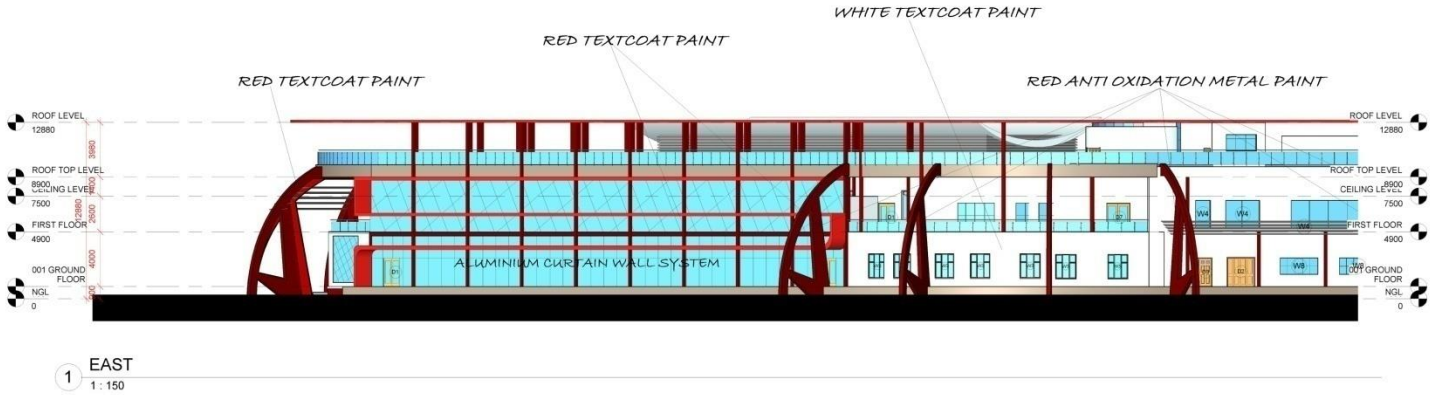
Appendix O



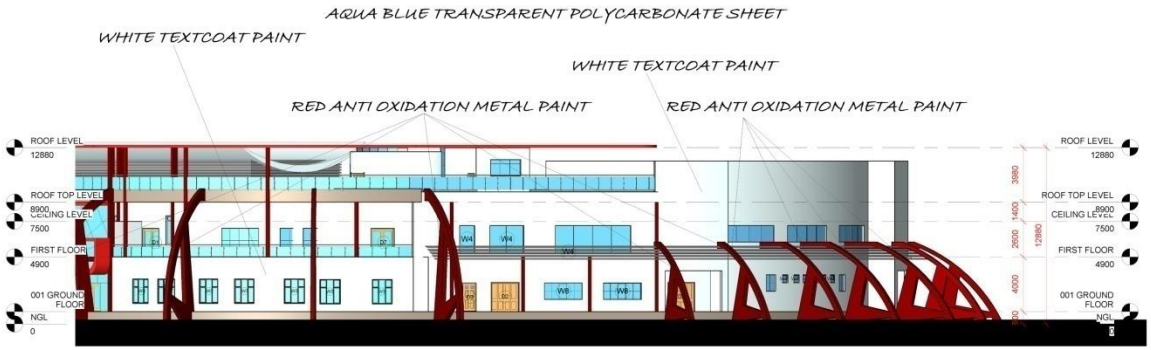
Source: Authors Design, (2014)

Appendix P

WORKING DRAWING ELEVATION



1 EAST
1 : 150



2 EAST 2
1 : 150

EVALUATING THE USER NEEDS IN THE PUBLIC LIBRARY, KADUNA.

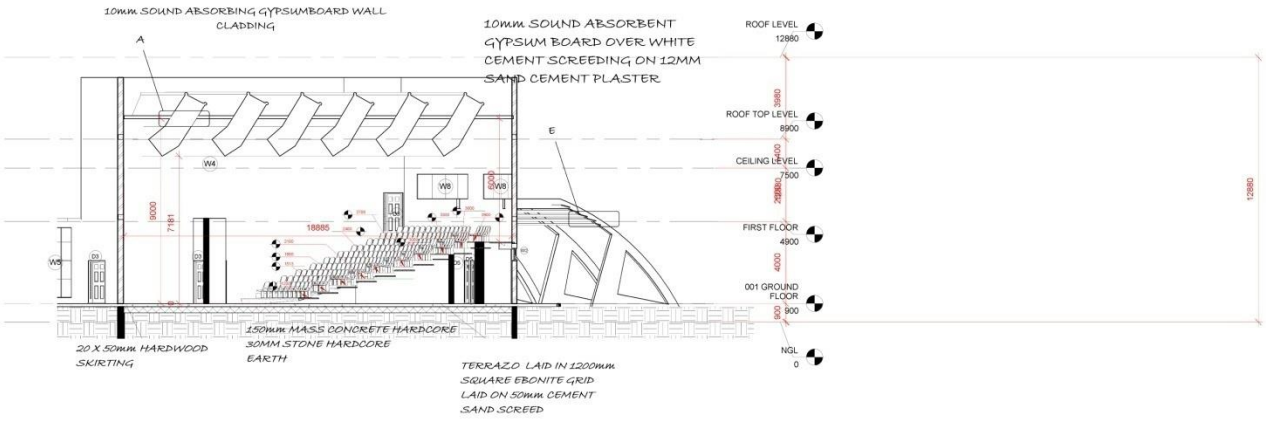
INTERGRATING CYBER COMMUNITY

MENTORS:	NAME:	SCALE:
Dr. M. D. AHMED; Dr. M.L. Sagada	BALARABE MUHAMMAD KABIR	1 : 150
	REG. NO.: MSC/ENV-DES/6074/2010-2011	

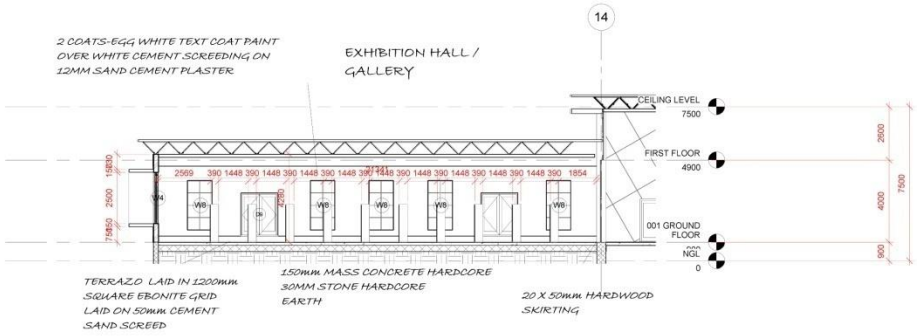
Source: Authors Design, (2014)

Appendix S

WORKIND DRAWING



1 AUDITORIUM
1 : 100



2 EXHIBITION HALL
1 : 100

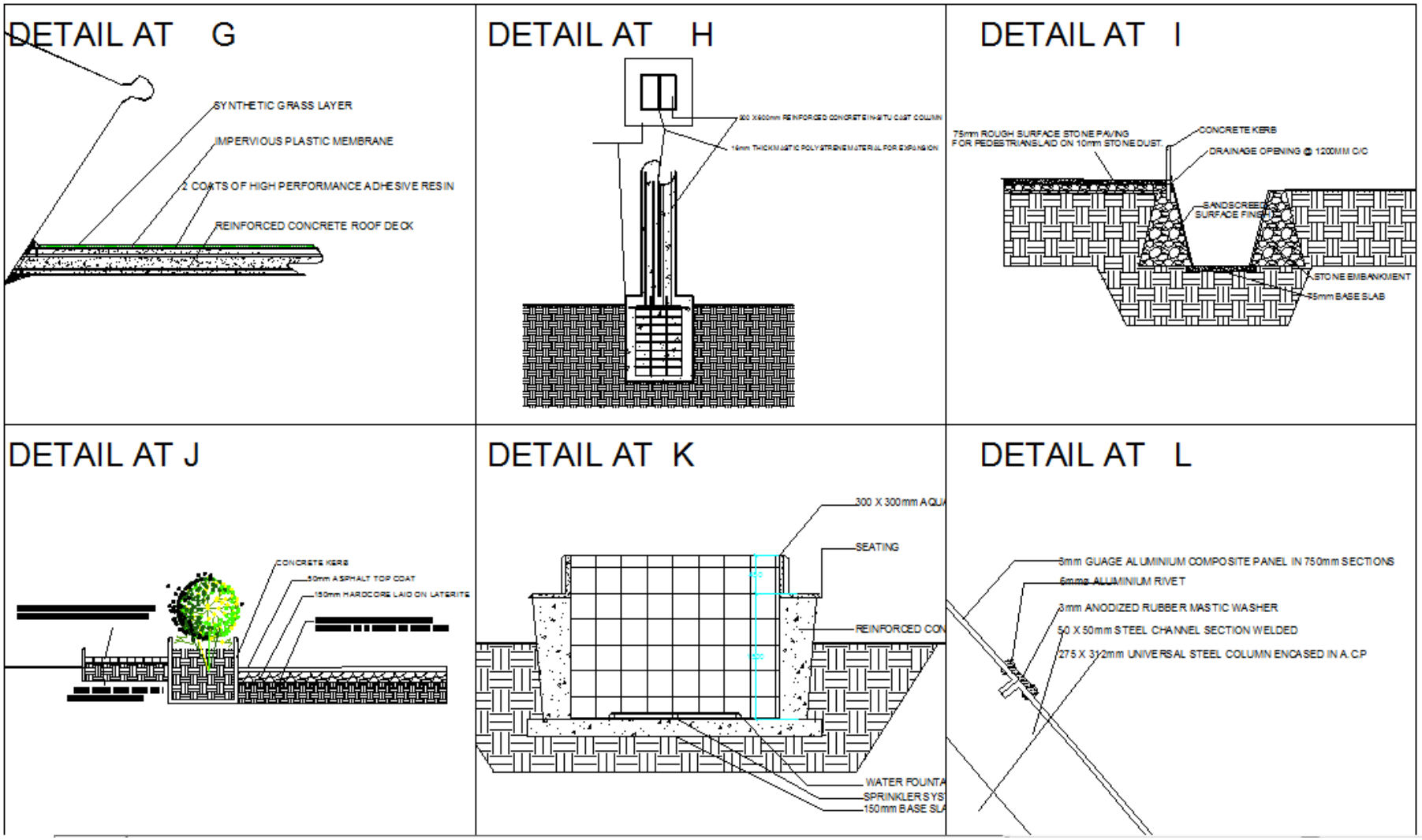
EVALUATING THE USER NEEDS IN THE PUBLIC LIBRARY, KADUNA.

INTERGRATING CYBER COMMUNITY

MENTORS:	NAME:	SCALE:
Dr. M. D. AHMED; Dr. M.L. Sagada	BALARABE MUHAMMAD KABIR	1 : 100
	REG. NO.: MSC/ENV-DES/6074/2010-2011	

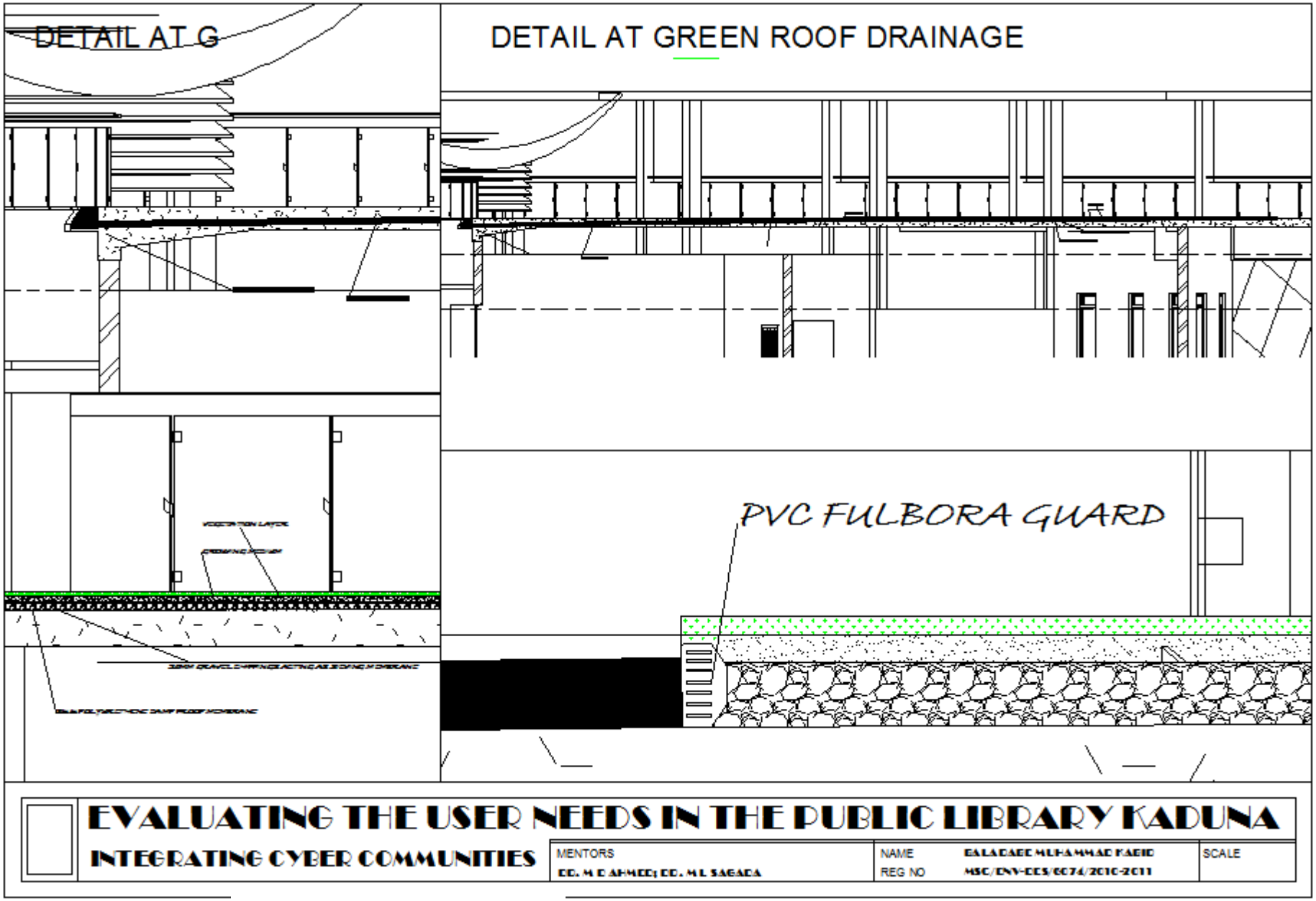
Source: Authors Design, (2014)

Appendix T

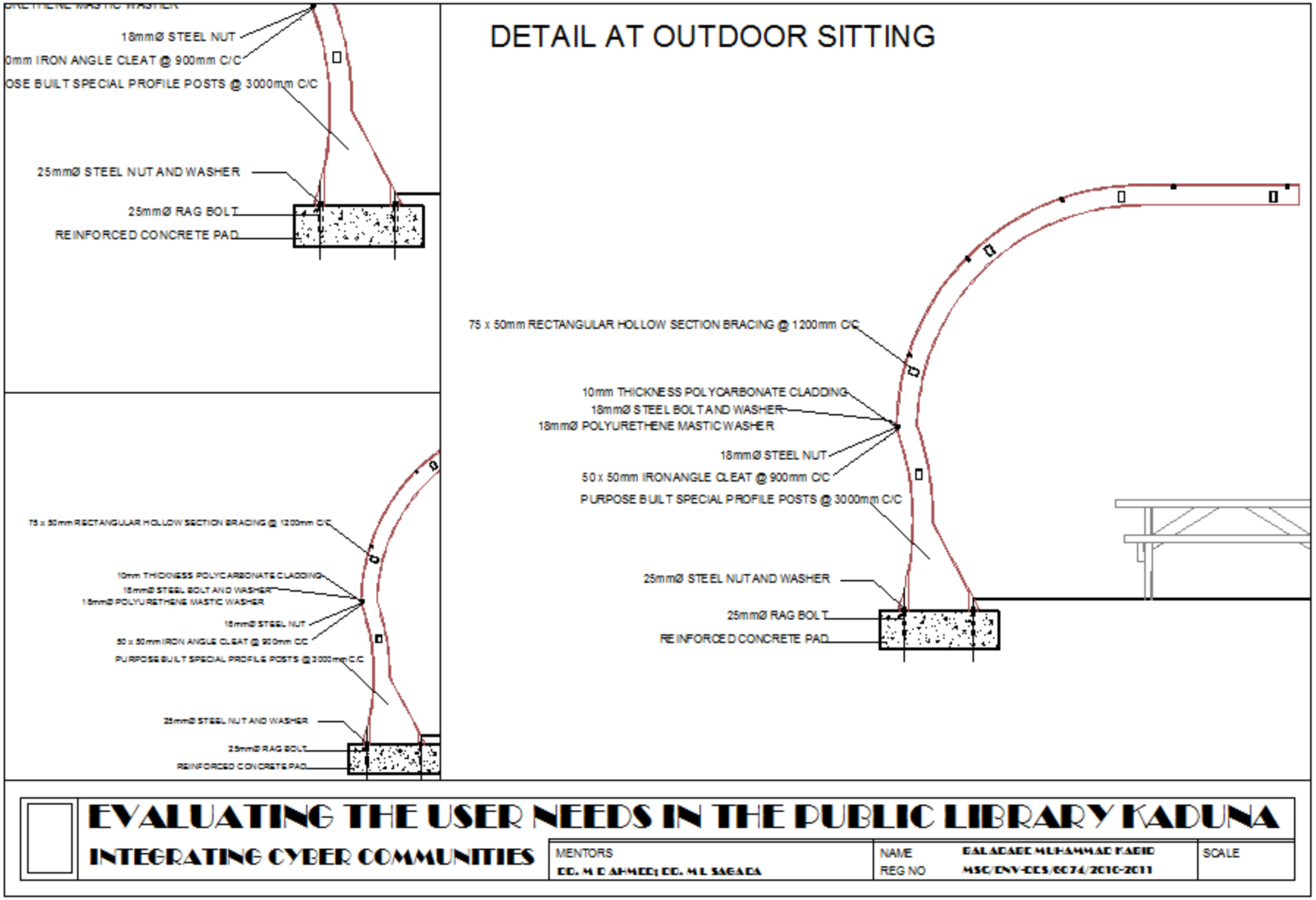


Source: Authors Design, (2014)

Appendix U

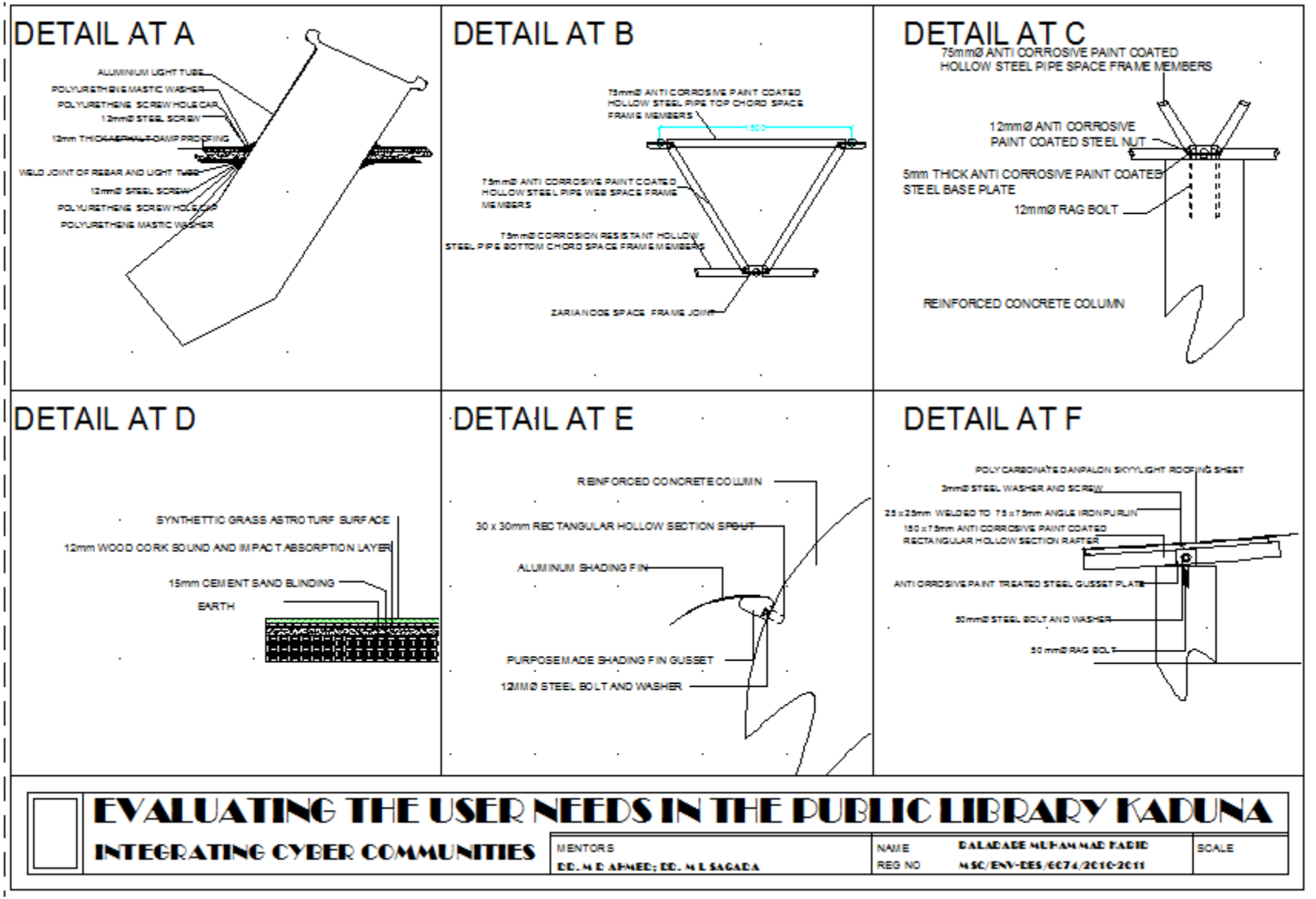


Source: Authors Design, (2014)



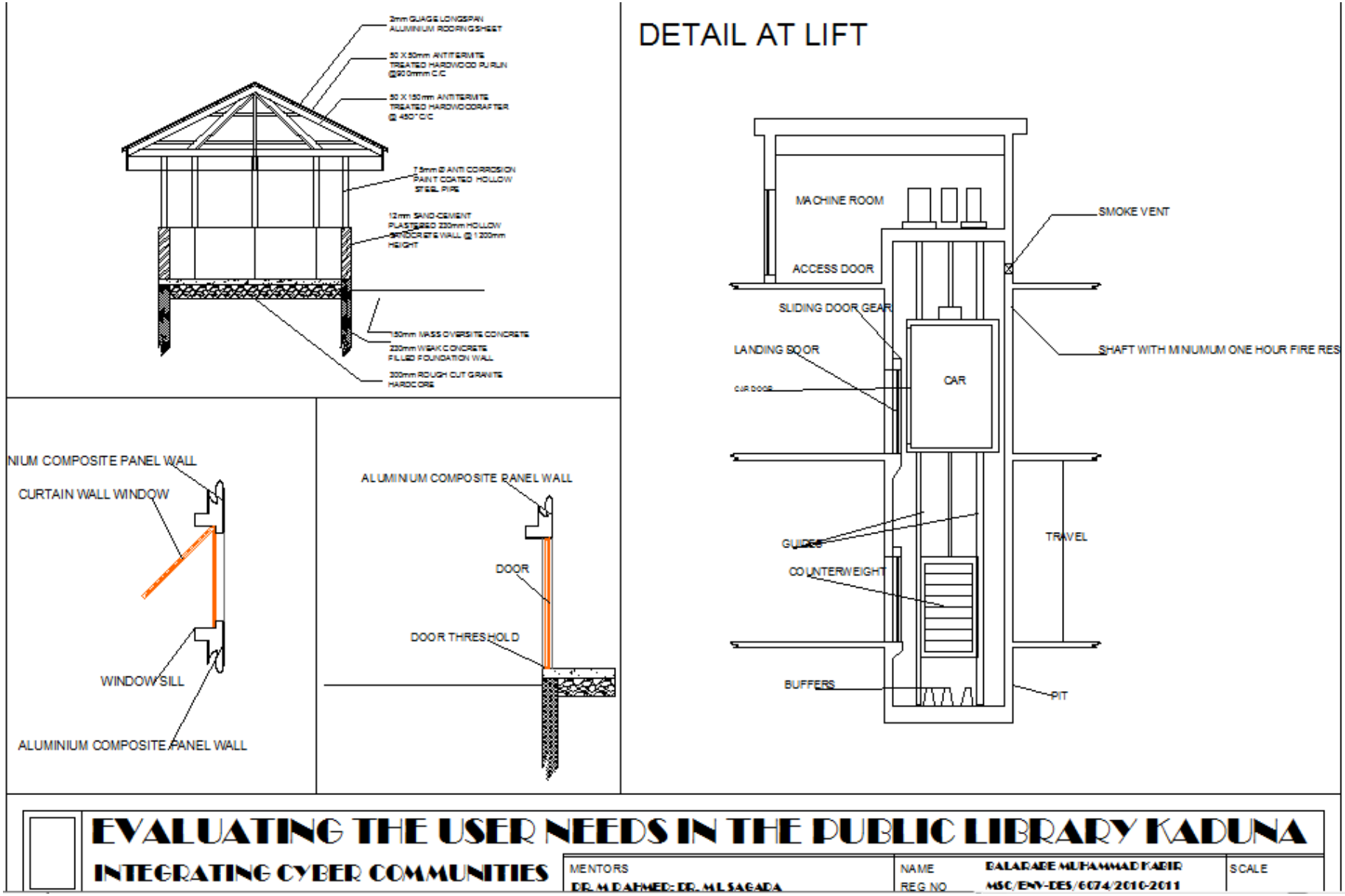
Source: Authors Design, (2014)

Appendix W



Source: Authors Design, (2014)

Appendix X



Source: Authors Design, (2014)

Appendix Y



Source: Authors Design, (2014)

Appendix Z



Source: Authors Design, (2014)

Appendix AA



Source: Authors Design, (2014)