RETREAT FOR SENIOR CITIZENS IN SREEMANGAL, SYLHET

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ABSTRACT

It is expected that Bangladesh, in addition to four other countries in the Asian region, will be home to majority of the elderly population of the world within the next three decades. Likewise, decrease in mortality rate and an increase in life expectancy rate further reinforces the current and projected ageing population of this country. However, existing challenges faced by the elderly community in Bangladesh prove to be a hindrance in their wellbeing. Given the changes taking place in lifestyle, family patterns and working environment, there is a crucial requirement for services specifically targeted towards the elderly population - that includes care and health services. Thus in light of the current conditions face by the elderly population of Bangladesh, an attempt has been made to alleviate the situation by constructing a retreat for senior citizens located in the outskirts of Sreemangal in Sylhet division. The project, under the guidance of the Ministry of Social Welfare, aims to provide residential, recreational healthcare and other ancillary services to the elderly population of Bangladesh. Through successful implementation of this project, it is expected that the complex would assist in remedying the current lack of specialized facilities for the elderlies as well as provide a retreat to senior citizens who are unable to care for themselves in the long run.

Keywords: Elderly, Bangladesh, engagement, interaction, accommodation

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CHAPTER 1: INTRODUCTION

1.1 Background of the project

In recent times, the steady rise in the total number of elderly individuals all over the globe has caught the attention of many, and has accumulated significant concern amongst all. Additionally, the situation in Bangladesh is of no exception as well. In fact, it has been expected that by 2050, Bangladesh, along with India, China, Japan and Singapore, will be accountable for an astonishing 50% of the total elderly population of the world, i.e. individuals aged 60 years and above (Mason, Lee and Russo, 2006). This massive rise in the percentage of elderly persons would ultimately lead to around 5.7 times less number of younger individuals aged 15 years and below living in Bangladesh (Rahman, 2010). Additionally, BSS (2014) had earlier stated that the proportion of individuals aged 60 years and above in this country will be about 4.0 crore by the next 50 years. This drastic boom in the percentage of elderlies residing in this country will lead to a range of implications upon the framework of the entire nation – particularly the economic and social welfare of this sector of the population. Flora (2011) had further shed light on this concern, citing about the lack of adequate health facilities, accommodation and sources of income people face as they reach their 60s. Moreover, urbanization in Bangladesh has led to a drop in the proportion of joint families and subsequent rise in nuclear families, which in turn results in the absence of younger members looking after their elderly counterparts (Chowdhury, 2015). Hence, it becomes essential, especially for nuclear households, that a feasible alternative for accommodation is present for the elderly persons, where essential resources and

caretakers are available around the clock to care for them at times when their own family members or next of kin is not present. Additionally, accessibility to proper healthcare services targeted towards elderly individuals would ensure their overall physical and mental well-being in later years.

Over the years, many government and non-government organizations in Bangladesh have stepped up in supporting the elderly population in terms of monetary and lodging services such as accommodation facilities in old homes, pension schemes for former government employees, financial aid for underprivileged elderly persons and so on (BSS, 2014). However, there mostly is lack and transparency in the way these services are being provided to their users. Moreover, one of the most important servicesunavailable is the option of suitable activities and events which can be easily pursued by the more senior citizens of this nation (Flora, 2011). Being regularly engaged in a particular activity would result in an enhanced well-being of the elderly individual, which would continue well off into his/her later years (Warburton, Nicol and Bredin, 2006). Thus in addition to accommodation facilities and specialized healthcare services, appropriate activity centers should also be present so that the elderly persons are continually engaged and active.

1.2 Project Brief

1.2.1 Name of the project

The project is titled “Retreat for Senior Citizens”.

1.2.2 Client

The project has been piloted by the Government of Bangladesh, through the Ministry of Social Welfare – which will be later on executed by means of a Public Private Partnership (PPP) contract.

1.2.3 Location and area of the site

The location of the site for this proposed project is at Sreemangal in Moulvibazar, near the Balishira Tea garden region. The site spans over an area of 6.5 acres.

1.3 Project introduction

The constant increase in the percentage of elderly inhabitants worldwide has been a matter of significance importance. However, this issue has not been yet effectively proclaimed in the policy agenda of Bangladesh. Keeping in light the present as well as the anticipated forthcoming increase of the population, elderly individuals will be subjected to a number of impending problems, including scarcity of resources, insufficient healthcare services, absence of social security and so on. Consequently, this sector of the population would be the most vulnerable in the upcoming years.

To address this concern, the Ministry of Social Welfare has proposed to build a senior citizen complex in Sreemangal, Moulvibazar. The intention of this project is to provide residential, recreational, healthcare and ancillary services specifically targeted towards the elderly population of the society. Successful implementation of this project may lead to replication of this scheme in various other districts of the country.

1.4 Aims and objectives of the project

The foremost target of this project is to cater to the specific needs of the elderly population of this country. The complex would provide lodging opportunities to elderly individuals hailing from all sectors and fields of the society. It would also address the current lack of activity centers and workshops that would allow the residents and other elderly visitors to be continually engaged – ensuring their overall physical and mental well-being. In addition, specialized healthcare services for the elderly sector of the population would also be provided. The project would especially serve as a refuge to those who do not have any family members or close relations to take care of them in the forthcoming years, and are in need of continual support and care by a secondary specialized group.

1.5 Proposed programs

The project consists of residential spaces for individuals aged 60 years and above. In addition, healthcare facilities in the form of consultancy clinics and therapy rooms are also proposed. Recreational and ancillary services proposed in this project include a multipurpose hall, training center and workshop, cafeteria, library, convenience store, mosque, guest accommodation and lodging for staff members.

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CHAPTER 2: LEARNING ABOUT THE SENIOR COMMUNITY: THE PEOPLE, THEIR ABODES AND NEEDS

2.1 Classification of senior citizen

The life cycle of a human being is defined from his/her moment of conception in this world till death. According to Bogin and Smith (1996), the various stages of human life include infancy, childhood, juvenile and adulthood, with the latter being divided into reproductive and post reproductive stages for females. After adulthood starts the stage of elderly years, which is widely regarded as the later years when an adult turns 60 years of age (World Health Organization, 2016). A range of euphemisms and terms exist for old people, including seniors/senior citizens, elders/elderly, the aged, pensioner, retiree, golden-ager and so on (Cruikshank, 2013).

However, there is no official standard criterion for when an adult turns into an elderly person. In fact, the definition varies from culture to culture, and can usually be divided into three main classes – chronological age limit, changes in social role and changes in capability (World Health Organization, 2016). In most contexts, the biological age limit for an elderly person is 60+ years. Yet, in most cases, this age limit has been predetermined by the pensionable age limits set up by the government – which is 60 to 65 years of age (Roebuck, 1979). For example, the current age limit for retirement for Bangladeshi government employees is 59 years of age (Acharjee, 2015). On the contrary, the chronological time limit holds little or no significance in defining the term “old age”. Designations set up by the society are held in more importance, especially in many parts of the developing world. For instance, Gorman (2000) had stated that in

these regions, old age is related with physical decline and the loss of previous roles and active contribution in the society. Additionally, old age can also be linked to changes in social role. In 1980, Glascock had mentioned about the roles played by changes in working pattern, position of adult children and biological changes in outlining the old age limit for women. In many societies, women tend to retire from their workplace at the ages of 45 to 55 years, whereas men were more inclined to work and thus provide financial support to their household till the ages of between 55 years and 75 years. Consequently, according to this context, women had a lower age limit for being classified as “elderly” than men. Hence it can perceived that although 60 years is universally considered to be the benchmark for old age, an individual can likewise be seen as “old” before or after this age limit, depending on the perception of society and his own competence.

2.1.1 Physical signs of ageing

Ageing is a process of gradual change in the body. A range of changes take place in the elderly body which is natural and are not dependent on diseases. According to Bee (2000), Smith and Gove (2005), Gates and Walker (2014) and (Warburton, Nicol and Bredin, 2006), some of the physical changes commonly associated with elderly persons are as follows:

1) Sensory changes within the elderly body

- One in every three individuals aged 60 years and above suffers from some form of hearing impairment. They have difficulties in perceiving high pitched voices or making out sounds when background noise is present.

- Ageing causes reduction in peripheral vision. Diminished eyesight makes it difficult to read and make out objects in low lighting. Serious vision impairments such as color blindness, cataract, blindness and glaucoma become common in later years.

- Loss in taste sensitivity may occur. Food may become less appealing and malnutrition may occur

- Some form of loss of smell sensitivity may occur.

- Reduced sensitivity of the skin towards warmth becomes common in old age. An elderly person may thus be vulnerable in getting injured from hot objects such as heating pads, hot water bottles etc. Contrastingly, greater sensitivity towards cold temperature is developed. The skin loses elasticity and becomes prone to wear and tear, increasing the risk of injury and infections.

2) Changes in bones and muscles

- Elderly people tend to develop frail and brittle bones. This results in a reduction of height and a stooping posture. Thus they become more susceptible to diseases such as osteoporosis and arthritis.

- Due to loss of muscle tissue, reduction in physical strength occurs that may also result in increased chances of falls and muscle pain. Weight loss becomes common as well.

3) Changes in the digestive system

    - Susceptibility to gum diseases occur, which increases the chances of losing teeth with age.

    - Loneliness and depression may often result in stomach issues and loss of appetite. Other concerns commonly faced are reduction in bowel movement, constipation and dehydration.

4) Changes in the circulatory system: The heart becomes frailer due to ageing and is unable to pump blood as efficiently as in the earlier years. Additionally, blood vessels lose elasticity. This decreases blood circulation around the body which in turn results in a wide range of complications may surface such as decrease in energy and stamina, swelling of feet and hands, cold sensitivity, poor cognitive functions and susceptibility to cardiac diseases such as strokes, heart attacks etc.

5) Changes in respiratory system: The lung tissues and airway vessels of elderly persons tend to lose elasticity, resulting in decreased levels of respiration and thus less flow of oxygen in the blood.

6) Changes in outlook: Hair loss and graying becomes more common with age. Receding headlines, thinning of hair and bald spots occur beyond the age of 50,

especially for males. The skin loses elasticity and becomes more vulnerable to wrinkles, scaling and drying. Additionally, wearying of vocal cords results in a weakened, husky voice.

7) Increased susceptibility to diseases: The immune system of individuals decline with age. Thus elderlies are more vulnerable to various diseases in later life such as diabetes, cancer, obesity etc.

2.1.2 Mental signs of ageing

In addition to physical changes, elderly persons also undergo a range of psychological changes in their lifetime as well. In fact, almost 15% of all individuals aged 60 years and above suffer from some form of mental illness (World Health Organization, 2016). As indicated by World Health Organization (2016), American Psychological Association (2015) and Glisky (2007), some of the mental marks of ageing are stated below:

1) The most common mental disorder among elderlies is dementia, which is defined by the World Health Organization (2016) as “the irreversible deterioration of intellectual ability accompanied by emotional disturbance”. Dementia can often lead to impairment in socialization, memory loss, depression, fretfulness and paranoia.

2) Anxiety disorders are common in elderlies, and may be accompanied by fear and tension over a long period of time.

3) Changes in sexual organs and reactions results in a decrease in sexual drive and desires.

4) Sleep problems are more pronounced in individuals over 60 years of age, with almost 50% of all elderlies suffering from some form of sleep deprivation.

5) Some elderlies may display cases of hypochondriasis, where the individual has a superior belief of suffering from a false case of any disease.

6) Some elderlies may also suffer from alcohol as well as drug abuse, resulting from a prolonged list of medications recommended for them.

7) Almost 7% of all elderlies suffer from depression. Depression is also accompanied by unhappiness, feeling of vulnerability and decreased motivation.

8) Behavioral changes such as physical aggression, violent outbursts and motor over activity (wandering) can also occur in elderlies.

9) Alzheimer's disease is also common among elderly individuals. It results in short term memory loss, and in later years may lead to long term memory loss, childish behavior and inability to perform simple daily tasks.

2.1.3 Statistical data of the elderly population in Bangladesh

According to a report by Bangladesh Bureau of Statistics (2015), the total percentage of elderly citizens in Bangladesh in 2011 was 7.7%, with the size of the population aged 65 years and above being around 8 million. Furthermore, it is expected that the percentage would increase to more than 11% by 2050. The average percentage of elderlies living in Sylhet was 7.34% in 2011. In addition, the average life expectancy of a Bangladeshi resident increased from 59 years in 1990 to 69 years in 2010, and it is expected to

increase to 75 years by the year 2050. The overall prevalence of contracting more than two chronic illnesses among elderlies in the mentioned year was 53.8%.

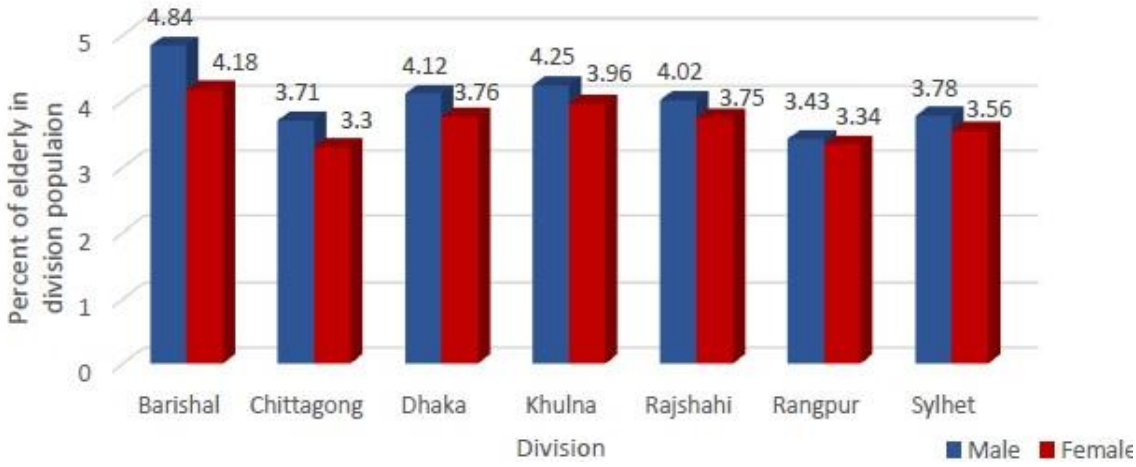

Fig 2.1.1 Comparative percentage of elderly by gender in each division (Source: Bangladesh Bureau of statistics)

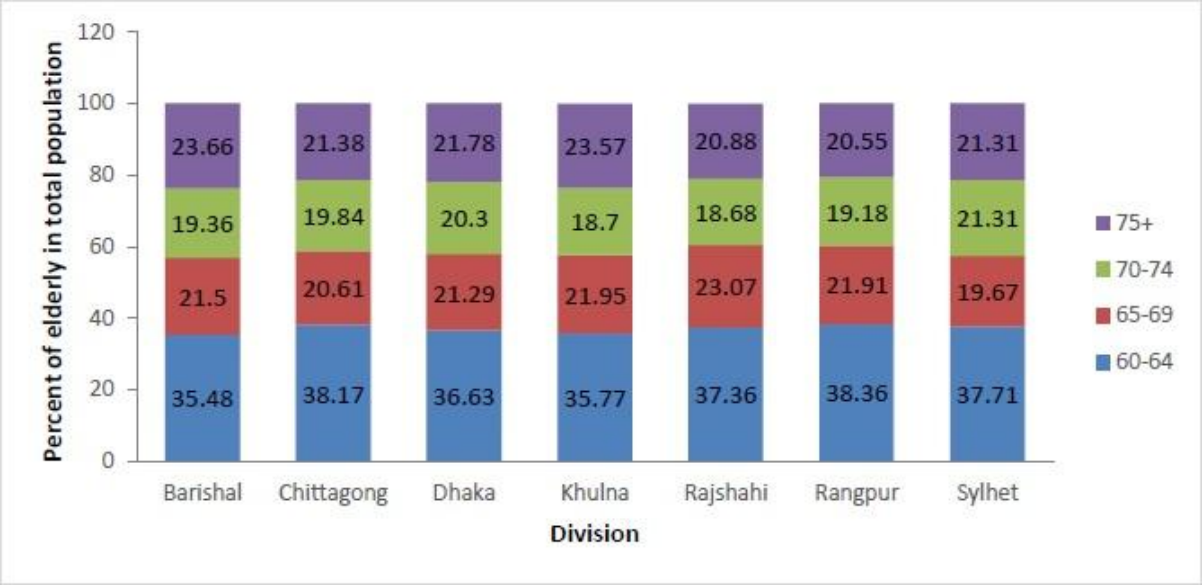

Fig 2.1.2 Percentage of elderly by age group in each division (Source: Bangladesh Bureau of Statistics)

Fig 2.1.3 Percentage of marital status of elderly by gender (Source: Bangladesh Bureau of Statistics)

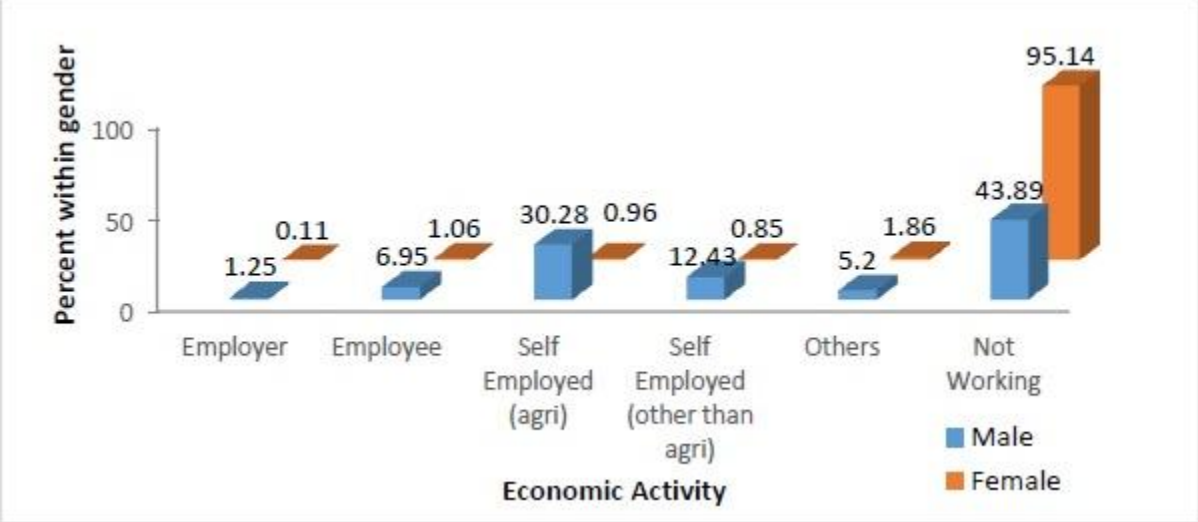

Fig 2.1.4 Distribution of economic activity of elderly people by gender (Source: Bangladesh Bureau of Statistics)

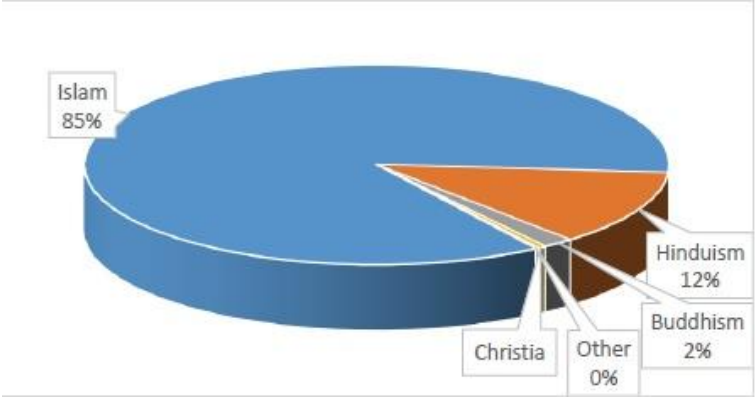

Fig 2.1.5 Percentage of religious status of the elderly (Source: Bangladesh Bureau of Statistics)

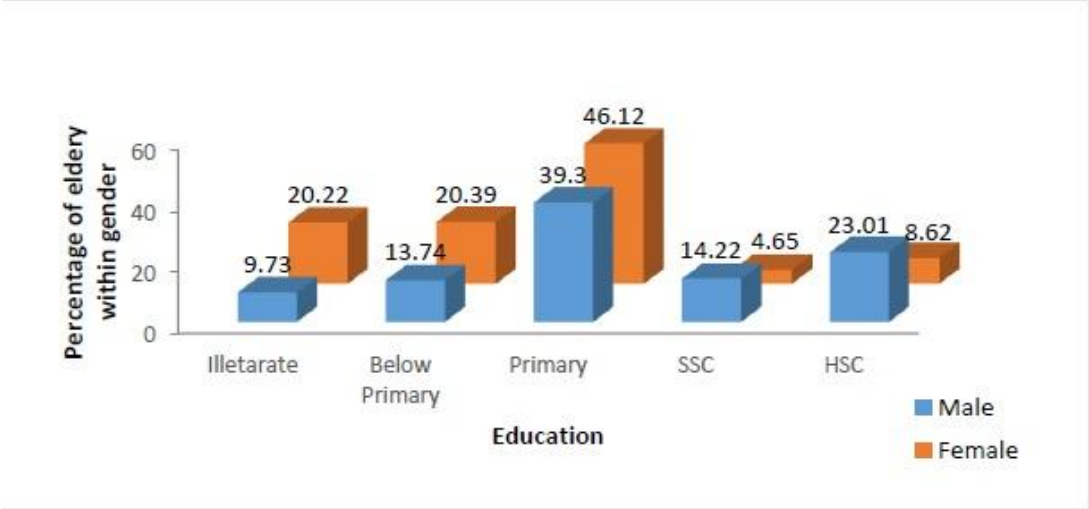

Fig 2.1.6 Percentage of elderly according to education and gender (Source: Bangladesh Bureau of Statistics)

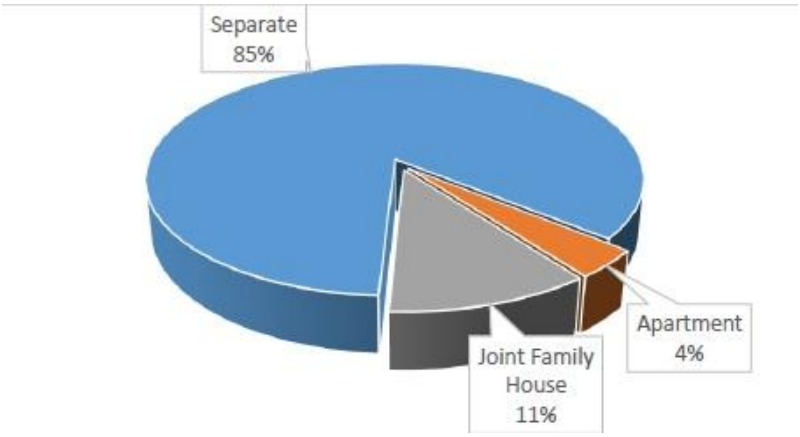

Fig 2.1.7 Percentage of elderly in order of their family type (Source: Bangladesh Bureau of Statistics)

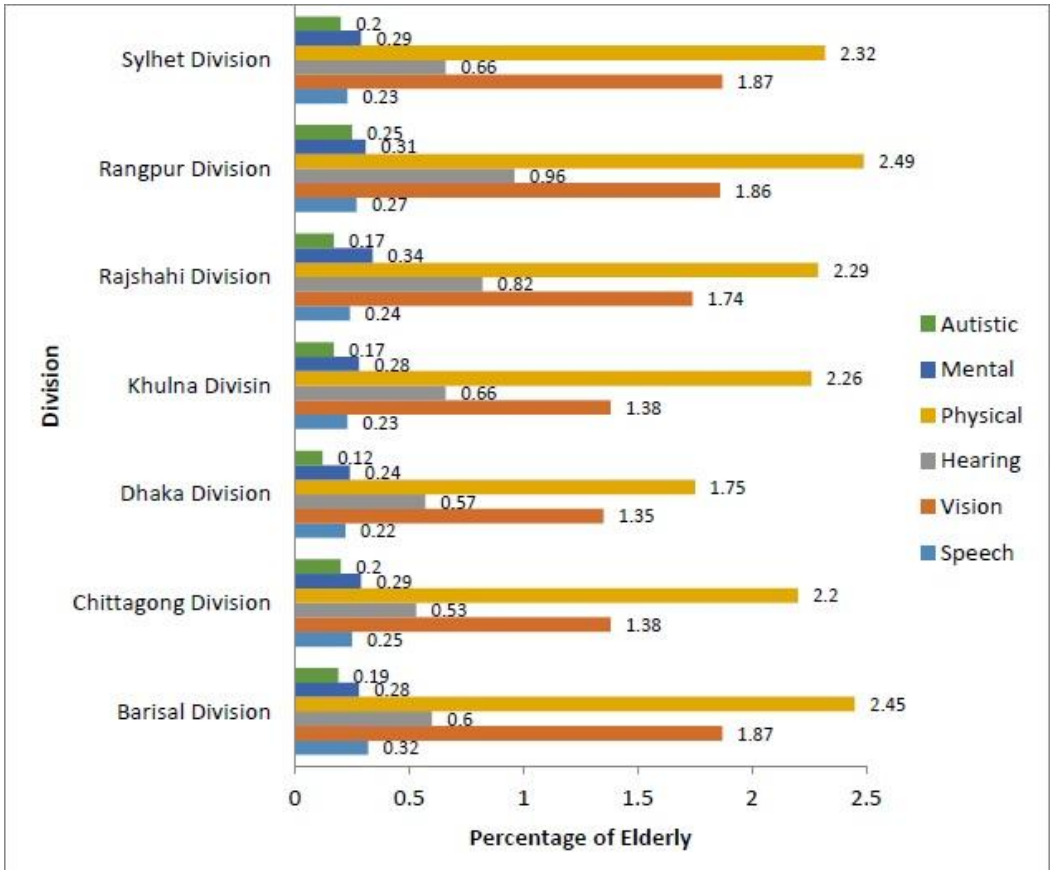

Fig 2.1.8 Division wise types of disability of age group 60+ (Source: Bangladesh Bureau of Statistics)

2.2 Classification of old age home

Retirement home, often known as old age home is defined as an accommodation facility designed for senior citizens who are either unable to stay with their families anymore, or do not have anyone close to stay with, or are impoverished (Andersson 2011). Often these facilities also include specialized healthcare services for the welfare of elderly persons. A place in an old age home can be acquired by means of monthly rent, or can be purchased (ibid).

2.2.1 History of old age homes

According to Young (2015), the concept of old age homes first arose in the United States during the 19th century. She stated that during this period, the widespread effects of Industrial revolution resulted in the substitution of older, slower and technologically disadvantaged elderlies for more younger and productive individuals. Additionally, these elderlies often did not have anyone else to go to for support (ibid). Thus, elderlies who needed shelter and support were sent to live in almshouses which were residential facilities supported by government taxes.

However, Weisman (1999) stated that these facilities were very ill-managed, with little or no concern for their healthcare needs. Moreover, almshouses were also shelters for the country's homeless population as well as drunkards and retarded individuals. As a result, there was dignity and respect to the elderly residents, who were once important elites of the society. Hence during the end of the nineteenth century, various women and church groups founded "Homes for the Aged", in an effort to provide accommodation for the elderly community (Weisman, 1999). By the 1950s, various policymakers voted and succeeded in demolishing almshouses altogether.

Afterwards, the modern concept of nursing homes took place. In 2015, Young had mentioned that old age homes became more popular and spread throughout the American and European nations during the 1920s and 1930s. She also stated that certain rules passed in the USA such as the Hill Burton Act in 1954, SBA loans and the passage of Medicare and Medicaid further increased the rate of growth of nursing homes in the nation. These facilities were always in conjunction to general hospitals,

and were similar to hospital wards or cabins. Hence, they were more reminiscent of medical rooms and did not have the intimate ambiance of a private residence (Young, 2015).

In 1972, the Federal government of USA laid out specific guidelines for nursing homes run by Medicare and Medicaid (Weisman, 1999). Following these changes in the requirements, the standards for skilled nursing facilities emerged. By the early 1990s, nursing homes started serving as a discharge space for elderly patients in hospitals, where they could recover quickly in controlled situations. Additionally, Young (2015) stated that during this time, assisted living facilities also boomed. These facilities were an alternate residential option for elderlies, who did not require as much supervision or support as elderly patients in nursing homes. Moreover, Young (2015) also mentioned that retirement communities grew popularity in these regions, where elderlies could reside in a neighborhood amongst individuals of their same age. The concept of old age homes quickly spread to other developed nations as well as developing countries, including Bangladesh.

2.2.2 Recent trends in old age homes worldwide

As mentioned by Anderson (2011), Amanullah (2016), Gross (2008) and WHO (2016), some of the various types of old age homes currently present across the globe are as follows:

1) Independent senior living facility: In this type of housing, elderly individuals have the liberty to live in an apartment, cottages or single family homes without

requiring constant medical help or assistance in their daily activities, but having the choice of availing appropriate services such as nutritional meals, physical and mental stimulation, transportation facilities and socialization opportunities with individuals their own age. It is also referred to as retirement communities, senior living communities or independent retirement communities in various countries.

2) Assisted living facility: This housing facility is suited for elderlies with disabilities and requires supervision with at least one of the Activities of daily living (ADL). In these facilities, trained personnel are available around the clock to provide assistance with daily chores such as household work, cooking, dressing, bathing, and medical assistance and so on, depending on the resident's capability. In most cases, ancillary services such as grocery shop, beauty parlors etc are also available within the complex. Some elderlies may also chose to live in assisted living facilities for recovery after a surgical procedure so that they can heal quicker and return to their own homes. They are suitable for elderly individuals who are unable to live alone in independent living facilities, but do not require constant medical assistance of a skilled nursing facility.

3) Skilled nursing facility: It can be regarded as a residential facility where elderlies provided with constant supervision with their daily activities as well as constant medical services such as medication monitoring, dieticians, personal care, 24 hours emergency care, occupational and physical therapy, and also socialization and recreational activities. Suitable occupants are elderlies with physical or

mental disorder, and special needs such as Alzheimer's disease. It is also known as nursing home, care home, rest home, intermediate care or convalescent home.

4) Continuing care community: Also known as life-care community, this facility brings together the services of independent senior living facility, assisted living facility and skilled nursing facility under one singular complex. They are suitable for senior citizens yearning to live independently in a residential facility, but will require skilled nursing care and specialized service in the upcoming years of their life. The complex may be in the form of a single residence divided by separate floors or wings, or may be spread across like a campus environment.

In 2014, Aronson brought about the issue of a growing trend in the field of architecture titled "Silver architecture". Silver architecture came into response to the designing challenges of the rapidly ageing population of the 21st century. It does not only converge to special needs or disable individuals – rather, it focuses to enhancing the quality of life and ensuring independence in the later years of life which most of us will reach (ibid). Additionally, Nerenberg (2010) mentioned that architects need to think about the current generation as well while designing homes – as this generation will also reach their 50s in the next few decades. He also stated about the importance of making buildings as well as cities more accessible, social, healthy and engaging to all age groups,in addition to being adaptable for future generations and uses. Some of the recent developments in the design of old age homes according to Aranson (2014), Rizzo (2016), Sisson (2016) and Perkins (2009) are as follows:

1) Universal accessibility is being given top-most priority, with all doors, rooms and public gathering spaces being safely and easily accessible to individuals travelling in wheelchairs, walkers and those being assisted by a caregiver.

2) Technological advancement is being incorporated into the daily lives of elderlies as well. For example, remote controls for windows, lights and doors, and geo-fencing to keep Alzheimer's and dementia patients inside secure areas are widely being implemented in old age homes.

3) Old age homes currently are not lone structures. Rather, they are incorporated and designed as part of a larger functional facility so that people from all age groups and backgrounds can visit the old homes and interact with the elderlies. Recreational options such as fitness classes, educational centers, outings to museums etc are also provided to engage the elderlies as well as enhance interaction with other age groups.

4) "Break-out" spaces are introduced between consecutive functional areas to provide interaction opportunities between elderlies as well as frequent seating or resting places for elderlies.

5) Most old age homes in this era are located in areas away from busy urban hubs such as shopping malls, and close to places which can provide activities suitable for elderlies.

6) Sustainable design is also being emphasized while designing for elderly citizens. Features such as energy and water conservation, efficient day lighting, improved

air circulation are being implemented in recent old age homes. In fact, most authorities are preparing to make their complexes LEED certified and hence better for both the elderlies and the environment.

7) Some facilities integrate senior co-housing, where elderlies have independent houses but share amenities such as gardens, dining spaces, recreational facilities with other residents. Thus elderlies can save expenses in otherwise costly activities such as cooking, housekeeping duties etc.

8) Memory care facilities are being implemented, where designing certain areas and grounds from yesteryears helps elderlies to be familiarized with the new surroundings and also help them recover long term recollections of the past.

2.2.3 Old age homes in Bangladesh

Currently, the total number of old age homes present in the country is unknown, as most of them are operated by NGOS and no relevant information has been recorded on a national level by the government. In Dhaka division, three major old age homes have been identified – Probin Hitoishi Shangha in Agargaon, Shubarta trust in Shamoli and Savar, and Old Rehabilitation Center in Gazipur (Ahsan, 2016). Except the former organization, the latter two are run privately by an individual or committee. In the two former facilities, elderlies are required to pay rent on a monthly basis in order to be a resident - with underprivileged elderlies being supported by funds from trustees and generous donors; while in Old Rehabilitation Center; all services are free of cost as they provide amenities only to underprivileged elderlies (ibid). Both Amanullah (2016) and

Ahsan (2016) had stated that all of the old age homes present in Bangladesh follow a style between independent senior living facility and assisted living facility. There is no particular class of people reaching out to avail these services - residents include a diverse mix of elderlies from all race, religion and financial background. However, the existing old homes in Bangladesh do not provide all of the minimum services required for the welfare of the elderly residents. Additionally, none of the old age homes present in Bangladesh offers specialized services like therapy and healing sessions for disabled or invalid elderlies (BBS, 2015).

2.2.4 Reasons for staying in old age homes in Bangladesh

According to a study conducted by Sultana in 2013, some of the reasons for Bangladeshi elderlies to stay in an old home are as follows:

1) Some elderlies do not have any children or close family members to look after them in later years.

2) Some elderlies are unable to keep ownership of their property or apartment. As a result, they do not have a permanent abode to stay anymore.

3) Often, elderlies living alone in the city face harassment from local goons and political groups. They fear for their own security and well-being, and thus shift to an old age home for their own protection.

4) Some of the elderlies do not wish to live with their relatives or family members, as they regard it to be a hindrance in their own freedom. Moreover, they consider it to be disrespectful to live in their relatives' house and not their own abodes.

2.2.5 Problems faced in old age homes in Bangladesh

Elderly occupants living in these facilities also experience some difficulties during their stay. Some of the issues outlines by Sultana (2013) are mentioned below.

1) One of the main problems faced by the residents is a lack of engagement and interaction with the outside community. As a result, they feel secluded from the society and yearn to socialize and be a part of something productive and rewarding.

2) The residents in these facilities hail from all economic and social background. As a result, those who are economically less solvent are sometimes unable to cover the monthly expenses needed to stay at the facility.

3) Often, old age homes in Bangladesh do not provide an attached bathroom for each bedroom. Elderly occupants, especially those who are females, are sometimes embarrassed to use the common lavatories. Some are concerned about the hygiene of using a common bathroom, as elderlies are more vulnerable to urine infections. Additionally, most of these facilities do not provide hot water supply in the washrooms.

4) Most elderly residents are unsatisfied with the quality of food provided by the home, as everyone's appetite and palate varies.

5) Some of the elderly residents are unsatisfied with the medical services provided by the old age home they are living in. As a result, they have to travel outside the premises in order to receive appropriate healthcare facilities.

2.3 Classification of geriatric healthcare

Geriatric, or geriatric medicine, refers to the focus on healthcare of elderly people in addition to the prevention and treatment of various disabilities as well as illnesses that are common in old age (McCoy, n.d.). A geriatrician refers to a physician who is trained to care for elderly citizens. Unlike general medicine, geriatric focuses on the unique needs of an elderly person. According to Sollitto (n.d.), the body of an elderly person differs physiologically from that of an adult, and they are likely to suffer from diseases that are more common to this age group. A geriatrician thus takes a more holistic approach by evaluating past medical history as well as medication records, physical assessment, vision and hearing tests and so on. By retrieving this set of information, a geriatrician is thus able to treat their elderly patients by handling multiple symptoms of diseases and develop care plans which address the special health concerns of an elderly person. Additionally, he/she also coordinates the tasks of other specialists such as social workers, nurses, nutritionists, physical and occupational therapists, speech and hearing specialist, pharmacists, psychiatrists, specialized doctors and so on. A geriatrician also is sensitive to the wants and needs of an elderly person, and helps the patient achieve a higher quality of life. Some of the most common illnesses overseen by a geriatrician include dementia, arthritis, cancer, cardiovascular diseases, diabetes, obesity, sight and hearing loss, sleep disorders and urinary incontinence.

2.3.1 Geriatric facilities in Bangladesh

At present, the only recognized geriatric healthcare complex in Bangladesh is the Bangladesh Association for the Aged and Institute of Geriatric Medicine (BAAIGM),

located in Agargaon. The complex also includes Probin Hitoishi Shangha, an old age home for individuals aged 55 years and above. In addition, the government of Bangladesh had also formed a society named “Bangladesh Society of Geriatric Cardiology”, which deals with the various types of cardiovascular diseases affected by individuals over 65 years and above (Star Health report, 2007).

In 2014, BSS had mentioned about the President’s concern and respect for all the elderly citizens of Bangladesh, and the government then had also passed an order for all public hospitals in this country to include a geriatric section. However, this law has yet to be strictly implemented in the healthcare facilities of Bangladesh (Amanullah, 2016). Moreover, as stated by Flora (2011), the situation is worse for underprivileged elderlies and those living in rural areas, who do not have proper access to specialized medical facilities – and are not familiar with the word “geriatric”.

2.4 Challenges faced by senior citizens

2.4.1 Situation of senior citizens worldwide

The growing number of elderly persons living around the world also brings within itself a significant amount of challenges. These challenges must be resolved in order to enhance the welfare of this group of the community. According to Age UK (2013), Day (2014) and Little (2014), some of the major challenges faced by elderlies across the world, including Bangladesh are as follows:

1) Almost all elderlies suffer from ageism, which is the act of discriminating someone based on age. It exists in all cultures and can differ in severity. It can

result in elderly individuals fear about getting dismissed from their jobs, or by their doctors, or feel a lack of authority in their day to day living conditions.

2) With the rise in nuclear families, it has become more common for elderly parents being left alone by their children, who leave home to search for better career and lifestyle opportunities.

3) Elderlies often face from ill-treatment and neglect. Elder abuse occurs when any caregiver intentionally neglects and fails to take care of the elderly charge. Different types of abuse may include physical abuse, sexual abuse, emotional/psychological abuse, neglect, financial exploitation and self-neglect.

4) Some elderly persons, especially those living for many years, may outlive their funds and investments. They often do not have suitable options for continuing their career. Hence, they are likely to face financial troubles in later years.

5) Elderlies are more vulnerable in contracting various diseases in their old age. However, lack of geriatric healthcare in most societies prevents them for receiving the correct treatment for their ailments.

2.4.2 Situation of senior citizens in Bangladesh

In all cultures and societies, authorities have had set out a number of code of practice which ensures the welfare of all citizens, including the elderlies. For example, according to the Universal Declaration of Human Rights, all human beings, including elderlies, are entitled to all rights without any discrimination, should not be subjected to inhuman degradation, right to work, right to standard or adequate living and social security (The

United Nations, 1948). Additionally, the Government has also taken steps in ensuring the rights of elderlies by implementing Old Age Allowance Act, The National Policy on Elderly 2013 and Feeding and Lodging to Parents Act 2013 (BSS, 2014). BSS (2014) had also mentioned about the roles played by organizations such as Probin Hitoishi Sangha, Centre for Rehabilitation of Elderly People, Retired Government Employees Welfare Association and Resource Integration Centre to ensure the welfare of elderlies of Bangladesh.

However, even after numerous attempts of improving the current condition, elderlies in this country remain targets of various challenges in their daily lives. For example, most of the stakeholders of different businesses, industries and other establishments refrain from offering employment to the elderly members of this community (Rahman, 2010). Susceptibility to various diseases, preferences towards younger employees and lack of expertise in the technological field have made them a liability in the workplace (Flora, 2011) Additionally, in 2001, Fahey and Russell had indicated that there were no justifications based on economic, social or other aspects behind choosing 65 years as the age limit for retirement for elderly persons in Ireland. Nevertheless, the government of Bangladesh is yet to pass the order of extending the age limit of retirement of its elderly citizens, with the current retirement age being 60 years for freedom fighters and 59 for other government employees (Acharjee, 2015). This suggests that a lack of proper facilities and a predetermined hostile mindset amongst the younger generation as well as employers is the key reason behind the reluctance of providing jobs to the elderly community, regardless of their mental and physical stability. Furthermore, services that would help elderlies continue their jobs effortlessly such as training

classes, transportation facilities healthcare benefits, work leave etc are not available in this country (Amanullah, 2016).

Mason, Lee and Russo (2006) had argued that even though substantial improvements have been made on maternal healthcare in many developing countries including Bangladesh, the same had not been applied on the healthcare facilities for the elderly – even though increase in the percentage of the elderly members of the population is a primary concern in these regions. An increase in age leads to a number of health complications such as cardiovascular diseases, decreased mobility and so on, which at times can mark an elderly person as a liability to the community. In addition, individuals aged 50 and above are particularly more susceptible in contracting various ailments in their subsequent years of life, such as arthritis, hypertension, eye problem, cardiovascular disease and so on (Flora, 2011). The situation is bleaker for the elderly members living in rural communities, where lack of proper healthcare options leads to senior members being confined in their own abodes – isolated from the entire community. Thus absence of proper medical facilities puts the entire elderly community at risk in the upcoming years.

One of the main benefits of being continuously engaged in a particular task is that it ensures soundness and vigor within a person's demeanor. Taylor (2013) had mentioned that around 3.2 million people from around the world die each year due to lack of physical activity – with 70% of deaths accounted by individuals aged 70 and above. In fact, incorporating physical activity in a person's lifestyle is essential to prevent various diseases in later life – including diabetes, cancer, obesity, depression etc (Warburton,

Nicol and Bredin, 2006). Additionally, Rahman (2010) had stated that negligence of the younger generation towards the elderly population leads to early health and mental distress. For instance, Garrard et. Al. (1998) concluded from a 2 year study conducted in Minneapolis, USA that individuals aged 65 and above were more inclined at contracting various levels of depression – resulting from lack of engagement in various activities. The situation is also similar in Bangladesh, where low family income and lack of social engagement and activity leads to high levels of depression among individuals aged 60 years and above (Maula, Mumu and Flora, 2011). More alarming is the fact that in most cases, depression is not detected immediately or properly acknowledged by the elderly persons and people surrounding them. This leads to a slow yet progressive degeneration of their well-being. All these ailments could be easily alleviated by means of some form of physical activity. Taylor (2014) had mentioned that a range of activities – such as gardening, household chores as well as light exercise can be successfully taken up by elderly individuals in their later years. She had also mentioned that controlled levels of intensity and incidence of workload can allow an elderly person to work effectively in any establishment. Thus, they can also benefit physically and mentally from being engaged in an activity.

Although different programs and facilities providing monetary and healthcare support for the elderlies are present in the country, yet Chowdhury (2015) argued that those are not being properly supervised by the patrons and service providers. For example, the current *Boyoshkko Vata*(pension schemes for poorer elderly persons provided by the government) comprises of a mere TK 400 per month (as of 2015), which is extremely low to support their day to day activities. In addition, this amount is only provided to five

male and five female elderly members of each union of Bangladesh (Flora, 2011). Flora (2011) had also expressed concern about the lack of transparency regarding the selection criteria of elderlies for the Old Age Allowance (OAA) program, in which a monetary support of TK 891 crore was budgeted by the government of Bangladesh during the fiscal year of 2011 to 2012 for 24.7 lac elderly persons. Moreover, only a limited number of elderly government employees are receiving full pensions from the government (Chowdhury, 2015). The facts stated in this paragraph suggest that a lack of proper supervision of these services is preventing most elderly persons of this country from receiving sufficient financial support – especially when they are unemployed.

Perhaps the most vulnerable members in this community are elderly females, especially elderly widows. In 2011, Flora had expressed concern on the welfare of elderly females who are at a disadvantage in society due to gender discrimination, widowhood and old age. Furthermore, widows and elderly women living alone often are the sole bread earners of the family, but are unable to continue or search for suitable jobs due to their age and gender (Islam, Khatun, Shams, Chowdhury and Hossain, 2013). Additionally, most of the elderly females are unable to avail proper healthcare services, residential facilities and other amenities due to lack of available funds (ibid). Hence, this sector of the population ascertains to be the most vulnerable in later years.

In response to the drastically increasing elderly population of Bangladesh in the upcoming years as well as the challenges and obstacles faced by this sector, it is hence extremely important that appropriate residential facilities are available for elderlies. In

addition, specialized healthcare services as well as activity and recreational centers should also be provided in conjunction so that the elderly residents can lead healthy and fruitful lives. The proposed senior citizen complex at Sreemangal thus provides an answer to the aforementioned impending issues.

CHAPTER 3: SITE APPRAISAL

3.1 Background of the site

3.1.1 Geographical information

3.1.2 Socio cultural information

3.1.3 Climatic information

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CHAPTER 3: SITE APPRAISAL

3.1 Background of the site

3.1.1 Geographical information

Sreemangal is the tea capital of Bangladesh which is located at 24º18’30” N 91º44’00”E/24.3083ºN91.7333ºE. It is part of the Moulvibazaar district, in Sylhet division. The picturesque town is quite different from other districts due to its natural beauty characterized by hills and basins, with regions covered in tea gardens, lemon groves and pineapple orchards. Low lying flood plains called Haors are located in central areas. Sreemangal is surrounded by the Indian state of Meghalaya at the north, Tripura at the south, Netrokona, Kishoreganj and Brahmanbari on the west and Assam at the east (Bangladesh Bureau of Statistics, 2015).

3.1.2 Socio-cultural information

Sreemangal has a population of 230,889, consisting of around 53.33% males and 46.67% females. The literacy rate among the people is 61.6%. Sreemangal is considered to be the business hub of the district of Moulvibazar. Its panoramic splendor has proven it to be one of the most popular tourist destinations of this country. As well as being a significant trade and tea export area, it also has good road and railway communication networks with Sylhet, Habinganj, Moulvibazar and beyond. For centuries, the tea capital has been a melting pot of people from all regions of Bengal as well as various ethnic groups such as Garo, Santal, Khasis, Monipuri and Tipra. Sylheti language is spoken throughout the region, with some minor variations in dialect. Like

the rest of the nation, the people celebrate major Islamic festivals such as Eid-ul-fitr and Eid-ul-Adha, with some Hindu festivals as well such as Raspurnima, JhulanJatra and Roth Jatra. The indigenous part of the community also performs various types of folk art including Monipuri dance, Santal dance as well as folk songs which are deeply rooted in tradition, spirituality and devotion such as Baul, Bhatiali, Bhawaiyaetc (Kanungo, 2008).

3.1.3 Climatic information

The climate of Sreemangal is humid subtropical, with mostly hot and humid summers and cold winters. The town is within the monsoon climatic zone, with the average highest temperature of 23ºC and lowest being 7ºC. About 3334 mm of rainfall occurs annually in average, with the wettest months being between May and September (Bangladesh Bureau of Statistics, 2015).

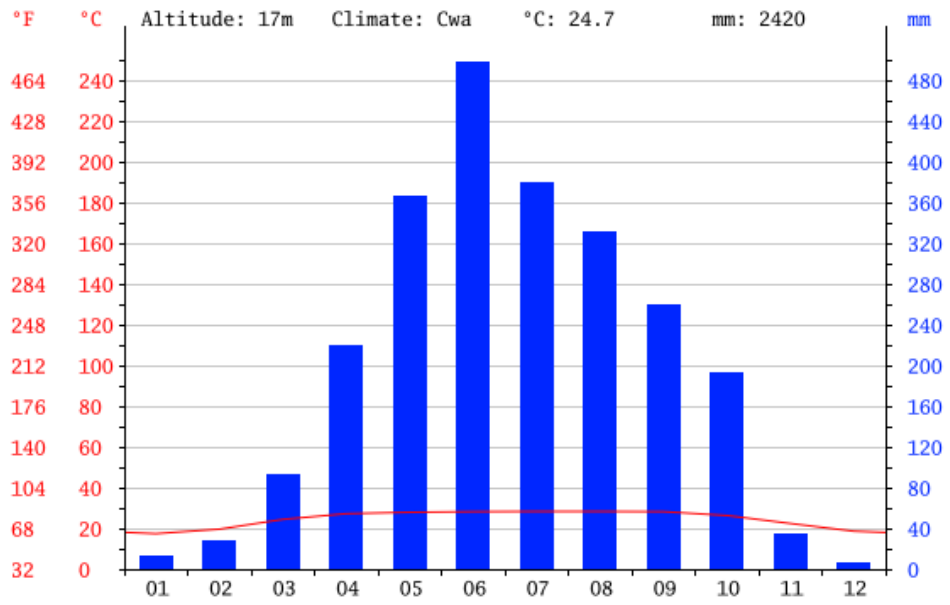


Fig 3.1.1. Graph of precipitation of Sreemangal region (Source: http://en.climate-data.org/location/970045/)

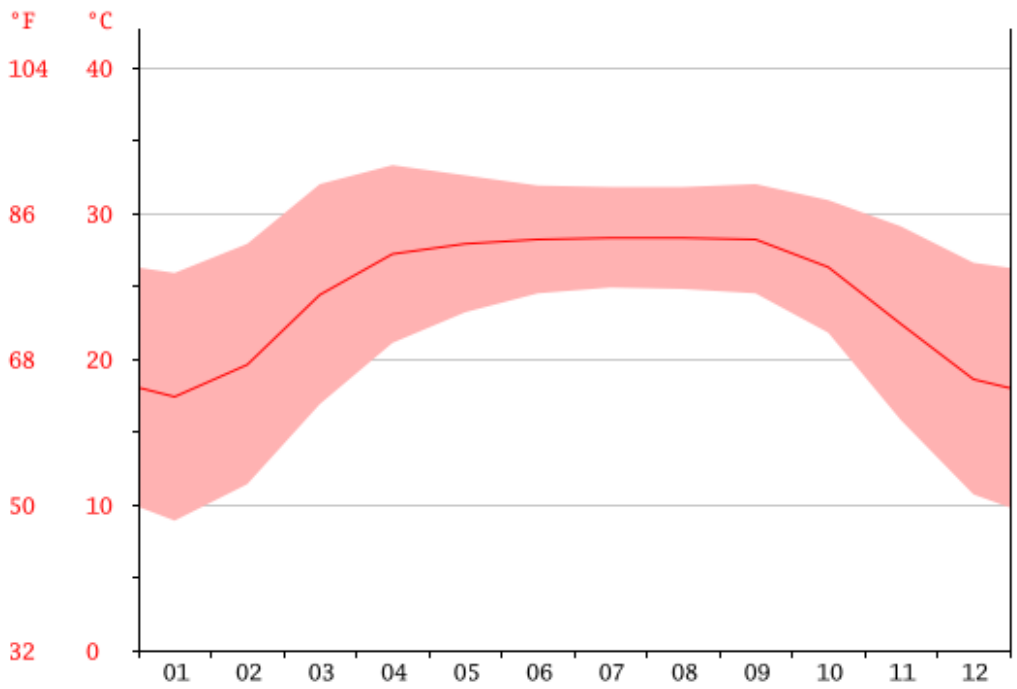


Fig 3.1.2 Temperature graph of Sreemangal region (Source: http://en.climate-data.org/location/970045/)

month	1	2	3	4	5	6	7	8	9	10	11	12
mm	12	28	93	219	366	498	380	331	260	192	35	6
°C	17.4	19.6	24.4	27.2	27.9	28.2	28.3	28.3	28.2	26.3	22.4	18.6
°C (min)	8.9	11.4	16.9	21.1	23.2	24.5	24.9	24.8	24.5	21.8	15.8	10.7
°C (max)	25.9	27.9	32.0	33.3	32.6	31.9	31.8	31.8	32.0	30.9	29.1	26.6
°F	63.3	67.3	75.9	81.0	82.2	82.8	82.9	82.9	82.8	79.3	72.3	65.5
°F (min)	48.0	52.5	62.4	70.0	73.8	76.1	76.8	76.6	76.1	71.2	60.4	51.3
°F (max)	78.6	82.2	89.6	91.9	90.7	89.4	89.2	89.2	89.6	87.6	84.4	79.9

Fig 3.1.3 Climate table of Sreemangal region (Source: http://en.climate-data.org/location/970045/)

3.1.4 Historical data

Islam first was introduced in the Moulibazar district by the renowned Muslim saint, Hazrat Shah Jalal (RA) during 14th century AD. According to popular legends, his Uncle

Sheikh Kabir once gave him a handful of earth and instructed him to settle and preach in the region where the earth fully matched the one is his hand. Thus he ventured towards India during 1300 AD, where he met many other preachers and scholars. His teachings spread to north east India, including Assam. Finally, respecting his uncle's wishes, he settled down in Sylhet and became an eminent Muslim figure in Bangladesh. The name Moulvibazar was derived from one of the descendents of Hazrat Shah Mustafa, who was a Maulvi in that region (Kanungo, 2008).

Earlier, Sreemangal was part of the Tripura state until 1947, when India separated from East and West Pakistan to be an independent nation. During that period, Sreemangal was part of the then East Pakistan. After the independence war of 1971, Sreemangal became an independent Upazilla of the newly liberated sub division of Moulvibazar (Bangladesh Bureau of Statistics, 2015).

3.2 Site at a glance

3.2.1 Location of the site

The site is located near the Balishari tea garden in Sreemangal, Moulvibazaar, Sylhet division. It is under the ownership of the Ministry of Social Welfare, with close access to the road and rail infrastructure. It is located adjacent to a 45 bedded government Upazilla hospital for women and children, and approximately 20 km away from the main 250 bedded civil hospital in Moulvibazaar centre.

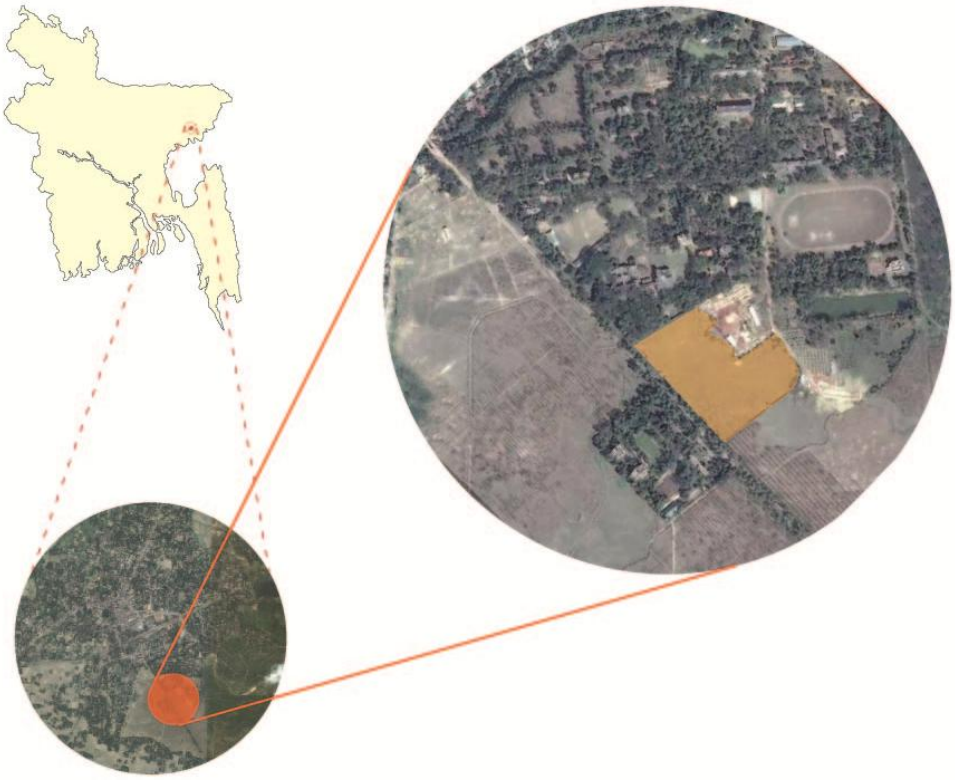


Fig 3.2.1 (Source: Google Earth)

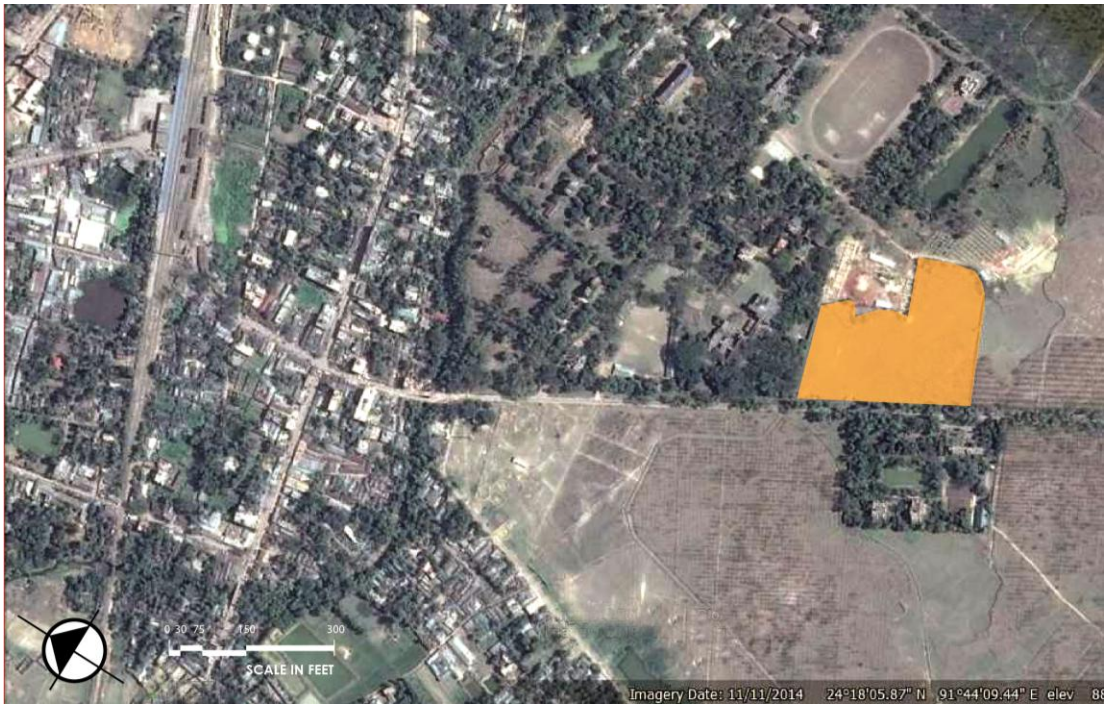


Fig 3.2.2 (Source: Google Earth)

3.2.2 Size of the site

The site area is 2, 83,140 sft or 6.5 acres.

3.2.3 Site surroundings

The site is surrounded by the headquarters and dormitories of Border Guard Bangladesh (BGB) at the north, Jalabad Gas station office and HeveaBrasiliensis rubber gardens in the south, Upazilla health complex at the west and Finley tea gardens in the east.

Fig 3.2.3 (Source: Author)

Fig 3.2.4 Existing landmarks in the area (Source: Author)

Fig 3.2.5 Existing vegetation around the site (Source: Author)

3.3 Site images

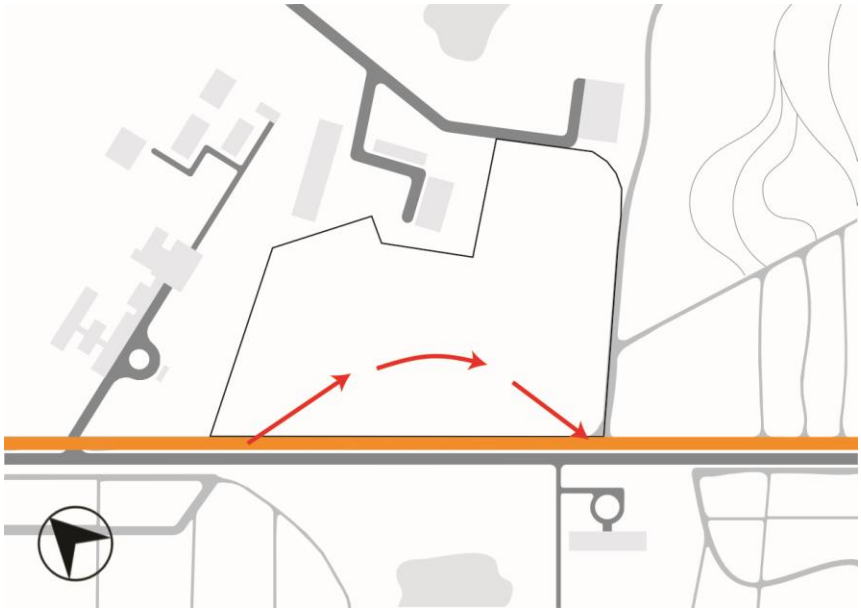
Fig 3.3.1 (Source: Author)

Fig 3.3.2 (Source: Author)

Fig 3.3.3 (Source: Author)

Fig 3.3.4 (Source: Author)

3.4 Site analysis



Following the existing traffic flow of the main road, the entry and exit routes for vehicles and pedestrians can be proposed as shown in the figure.

Fig 3.4.1 (Source: Author)

Proposed water body (marked in orange) can follow the direction of existing *chhara* at the south-east. Dense vegetation can also be incorporated on this side, following the existing vegetation pattern at the south-east.

Fig 3.4.2 (Source: Author)

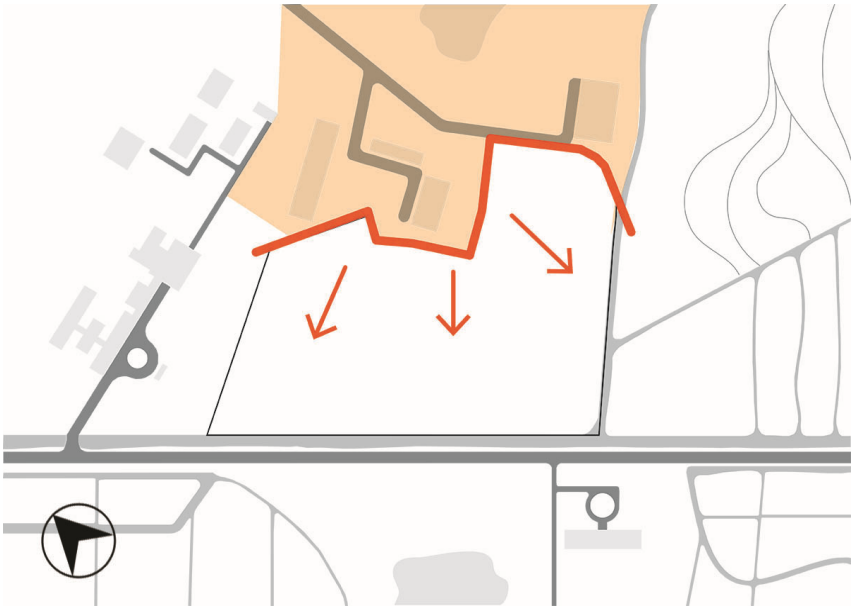


Fig 3.4.3 (Source: Author)

An edge, by means of vegetation or other barrier, should be implemented to separate the site from the private grounds of BGB. Furthermore, independent living residential quarters - requiring more privacy, can be placed here.

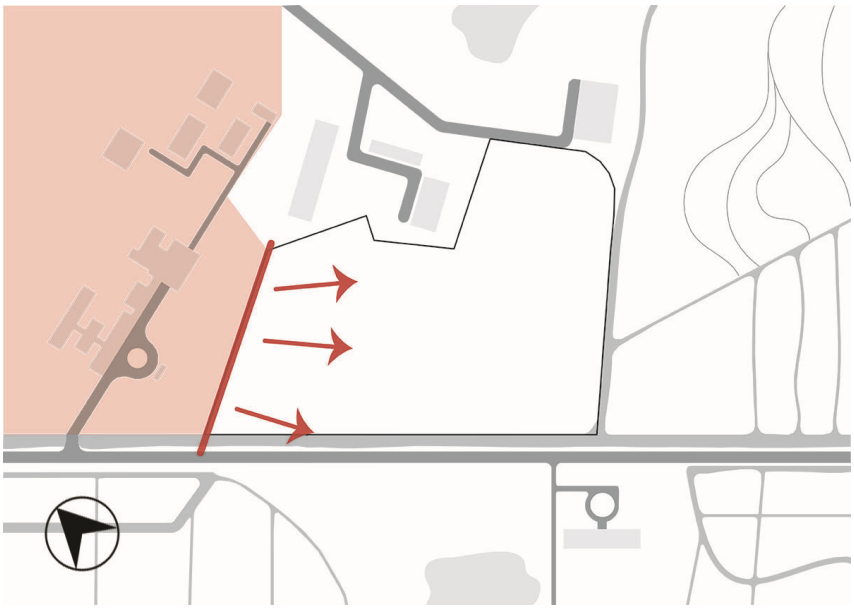


Fig 3.4.4 (Source: Author)

Assisted living residential quarters can be placed towards the north-west side of the site, close to the Upazilla health complex - so that residents of these quarters will always be in close access to further specialized medical treatment when required.

From the site analysis, it can be proposed that the public functions such as the recreational, medical and ancillary services can be placed towards the southern corner, close to the main road. Residences requiring skilled nursing along with the administration and accommodation of nurses of old age home can be placed along the north-east perimeter, close to the medical facility. The rest of the residences, which requires more privacy, can be located at the further south east side of the site, close to the natural contoured landscape and greenery.

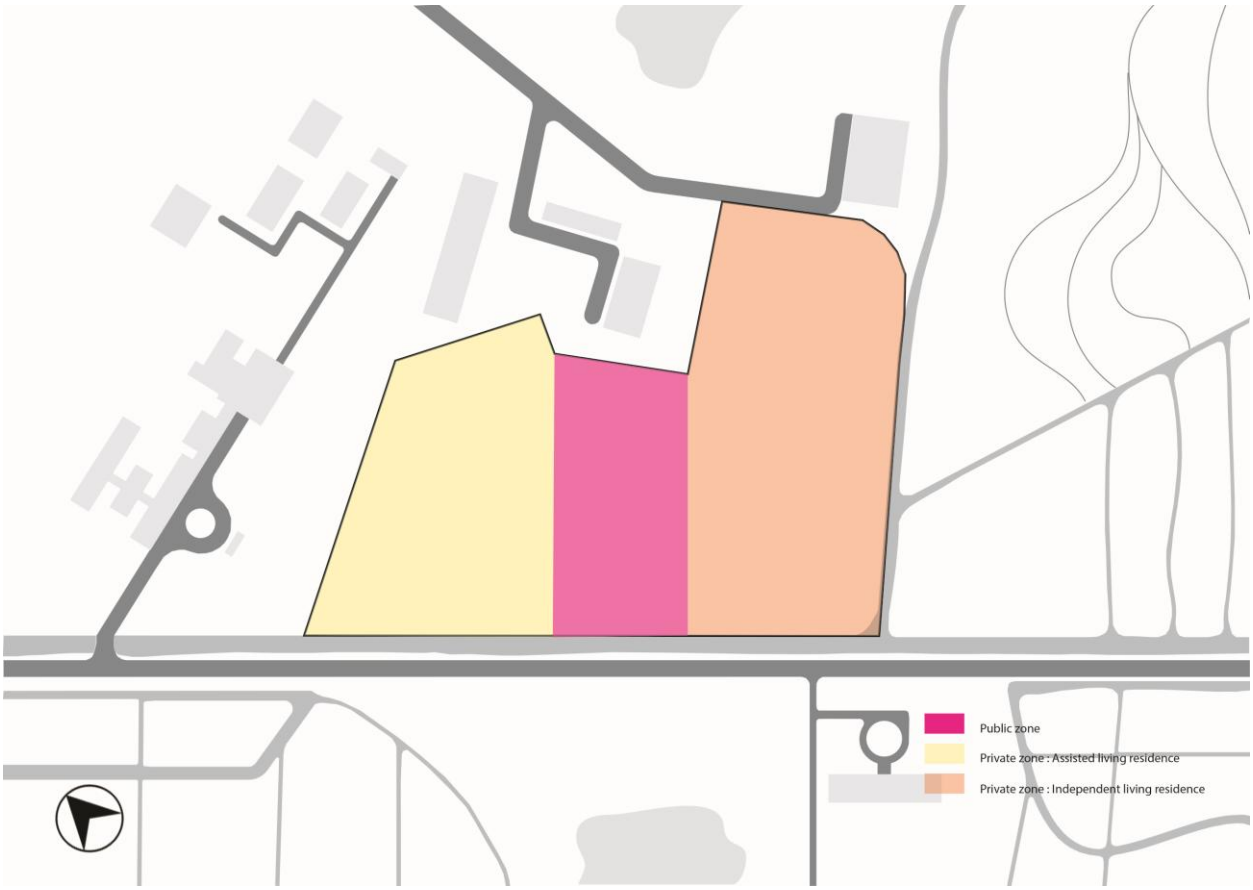


Fig 3.4.5 (Source: Author)

3.4.1 Strengths-Weaknesses-Opportunities-Threats (SWOT) analysis

Strengths of the site

- The natural environment surrounding the site is splendid.
- The site is within close proximity to the Upazilla Health complex and main civil hospital.
- The site is located only less than 1 km away from the main city centre.
- The site is readily accessible due to connection with the surrounding major primary and secondary roads.

Weaknesses of the site

- The area can become moderately submerged from heavy rainfall during monsoon season.
- Most of the basic amenities such as mosques, grocery stores, pharmacy are located further away from the site.
- The area is not safe during night time.

Opportunities of the site

- Part of the site can be developed into a beautiful civic space for the public.
- Recreational activities for the elderlies can be achieved by collaborating with the students of the nearby primary school in the area.

- The Upazilla health complex can be physically linked with the healthcare unit of the site.

Threats of the site

- Elderlies may face difficulties in crossing the main road as there is continual major vehicular flow (i.e cars, vans etc)
- If not properly maintained, the more remote parts of the site may be lost to land encroachers.

From the above SWOT analysis, it can be deduced that mobility of the elderly residents in this complex is one of the main factors to be considered while designing. Additionally, services mainly availed by the elderlies such as healthcare facilities, ancillary services such as praying space, conventional store, gymnasium etc must be located in close proximity to the residential quarters. Furthermore, the site has a major prospect of being integrated with the surrounding contoured landscape and greenery, as well as creating opportunities to be engaged with the public.

CHAPTER 4: CASE STUDY

4.1 Nursing and Retiree Home, Spain

4.1.1 Project analysis of Nursing and Retiree Home, Spain

4.2 International Case Study

4.2.1 Nursing and Retirement Home, Austria

4.2.3 Project analysis of Nursing and Retirement Home, Austria

4.3 L'arbrisseau Neighborhood Centre, France

4.3.1 Project analysis of L'arbrisseau Neighborhood Centre, France

CHAPTER 4: CASE STUDY

4.1 Nursing and Retiree Home, Spain

Location: Alava, Spain

Architect: Firma d.o.o

Project year: 2011

Site area: 7534 sft

Fig 4.1.1 (Source: http://www.archdaily.com/185030/nursing-retiree-home-firma-d-o-o/nrh-03)

The project was the first prize entry in an international architecture competition for nursing and retiree home. Two of the primary focuses of the architects for this design were respecting the surrounding landscape and rural environment. Additionally, they were cautious in fully utilizing the given site area as well as keeping all the different building blocks in close proximity to one another. Thus the idea was to create 4

“pavilions”, which would provide the feeling of a typical neighborhood atmosphere, but also ensure privacy of each of the residents when required.

Fig 4.1.2 (Source: http://www.archdaily.com/185030/nursing-retiree-home-firma-d-o-o/nrh-04)

The first pavilion consists of two stories and is positioned between the “urban plot” and the shared outdoor area. The other 3 pavilions consist of a single story, and are located in the more private regions of the site. The pavilions provide accommodation for 25 users in total – with each bedroom having an attached bathroom and other amenities. Emphasis has also been placed to make the spaces as elderly-friendly as possible, with all areas accessible to the disabled. In addition, all the pavilions are orientated towards the south, thus taking full advantage of natural wind flow and ventilation. Moreover, all the pavilions are connected together by means of a central glass corridor “spine”. Thus users can easily move from one pavilion to the other and also enjoy views of small gardens at specific intervals towards the west and east (Furuto, 2011).

Fig 4.1.3 (Source: http://www.archdaily.com/185030/nursing-retiree-home-firma-d-o-o/ground-floor-34)

4.1.1 Project analysis of Nursing and Retiree Home, Spain

The project is a remarkable example of designing in harmony with the surrounding landscape as well as understanding the special needs of the elderly residents. Some of the features of this project that were significant are as follows:

1) Connecting all the residential and other blocks through a central glass corridor. This ensures that residents can easily access all the blocks without being restricted by natural weather conditions as for example rainfall.

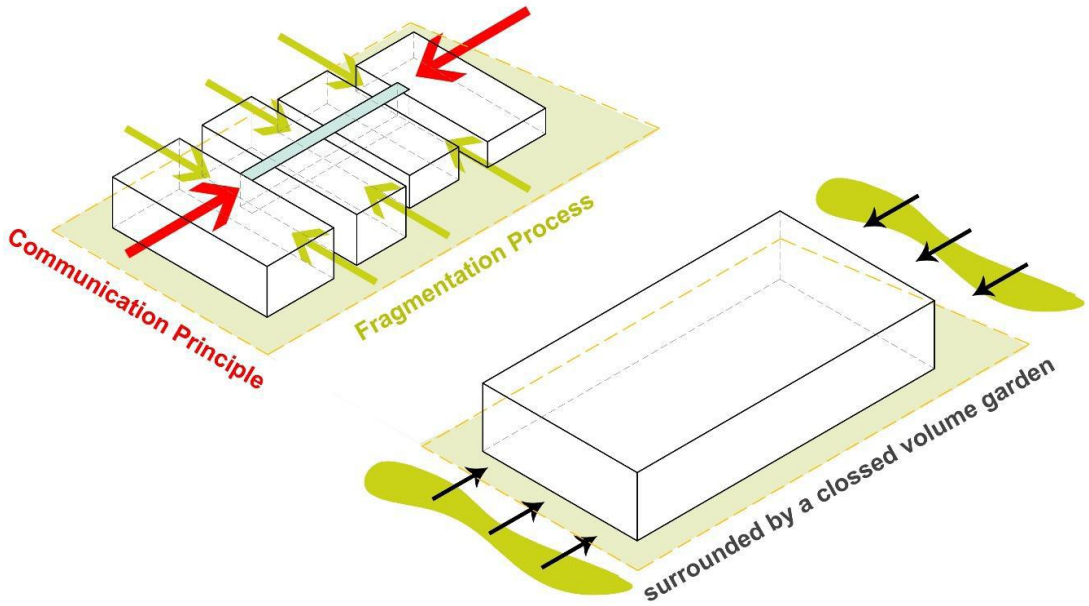


Fig 4.1.4 (Source: http://www.archdaily.com/185030/nursing-retiree-home-firma-d-o-o/s1-3)

2) Most of the residential quarters are arranged in a single or double story unit. This ensures that elderlies who have mobility difficulties can move around with ease, without having to endure the discomfort of using vertical transportation means such as stairs.

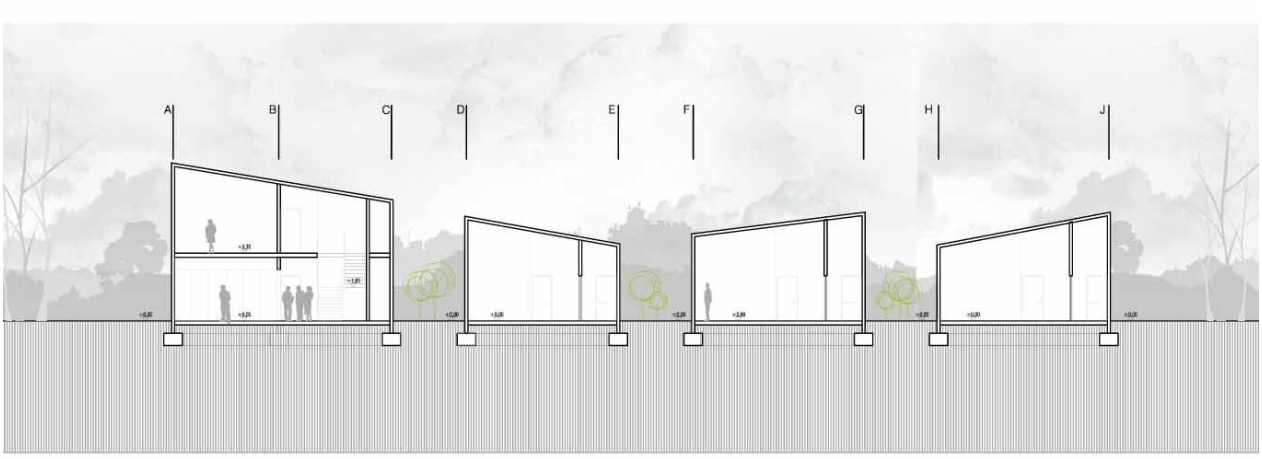


Fig 4.1.5 (Source: http://www.archdaily.com/185030/nursing-retiree-home-firma-d-o-o/section-649)

3) The residential units are orientated towards the south. Thus all the bedrooms gain the advantage of natural ventilation without having to rely much on other means of air circulation and cooling.

4) Breaking the corridor at certain intervals by implementing small gardens in between provides a period of retreat to the residents from the surrounding built environment.

4.2 Nursing and Retirement Home, Austria

Location: Leoben, Austria

Architect: Dietger Wissounig Architects

Project year: 2014

Site area: 32550 sft

Fig 4.2.1 (Source: http://www.archdaily.com/775831/nursing-and-retirement-home-dietger-wissounig-architekten/56283f0be58ece127a000344-nursing-and-retirement-home-dietger-wissounig-architekten-photo)

The nursing home is located on a private plot which boasts a massive population of mature trees. The functions in the building consists of residential units for 49 elderly citizens along with ancillary facilities such as cafeteria, kitchen and service areas, laundry, therapy rooms, a chapel and consultation rooms for various consultants. Additionally, the building itself has been divided into three distinct floors. The ground floor consists of public and semipublic areas which mostly involve administrative and ancillary services as well as outdoor gardens. The first floor is designated for accommodation of 24 residents suffering from dementia. It also houses dedicated dining areas and attached terraces. Furthermore, an additional terrace has been designed on the southern part of the building so that these patients can enjoy the outdoors in a protected environment.

Fig 4.2.2 (Source: http://www.archdaily.com/775831/nursing-and-retirement-home-dietger-wissounig-architekten/56283e11e58ecee6f0000362-nursing-and-retirement-home-dietger-wissounig-architekten-photo)

Fig 4.2.3 (Source: http://www.archdaily.com/775831/nursing-and-retirement-home-dietger-wissounig-architekten/56283df6e58ece127a00033f-nursing-and-retirement-home-dietger-wissounig-architekten-photo)

Fig 4.2.4 (Source: http://www.archdaily.com/775831/nursing-and-retirement-home-dietger-wissounig-architekten/56283e2ae58ece127a000340-nursing-and-retirement-home-dietger-wissounig-architekten-photo)

The second floor comprises of a further accommodation area for 25 elderlies in addition to a common dining area, recreational space and another terrace that faces towards the south. These two upper floors also consist of two balconies that intersect at right angles. This provides a circulation path within the building as well as outwards towards the gardens. Hence, a visual connection is created between the interior and the exterior spaces (Wissounig, 2015).

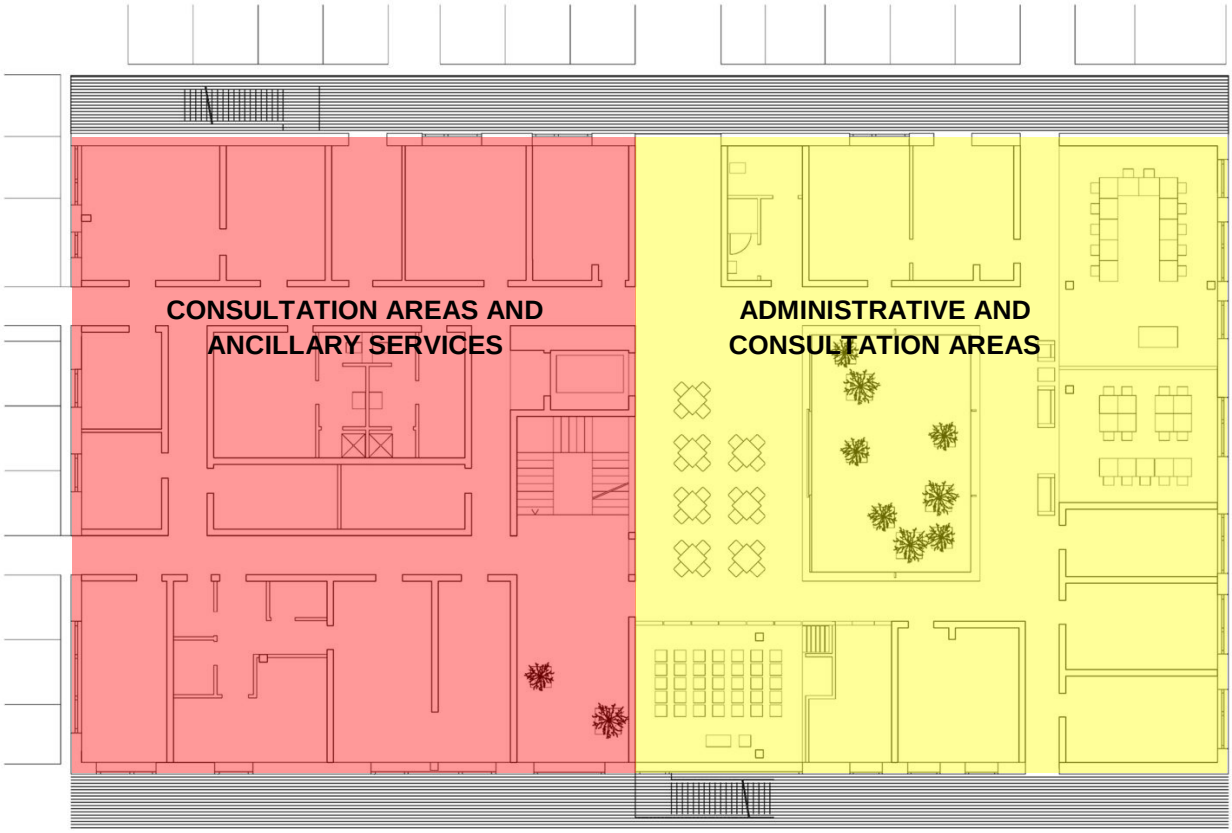


Fig 4.2.5 Ground floor plan showing the administrative and ancillary service areas (Source: http://www.archdaily.com/775831/nursing-and-retirement-home-dietger-wissounig-architekten/56284110e58ecee6f000036b-nursing-and-retirement-home-dietger-wissounig-architekten-ground-floor-plan)

Fig 4.2.6 First floor plan showing the residential units and common spaces (Source: http://www.archdaily.com/775831/nursing-and-retirement-home-dietger-wissounig-architekten/56284110e58ecee6f000036b-nursing-and-retirement-home-dietger-wissounig-architekten-ground-floor-plan)

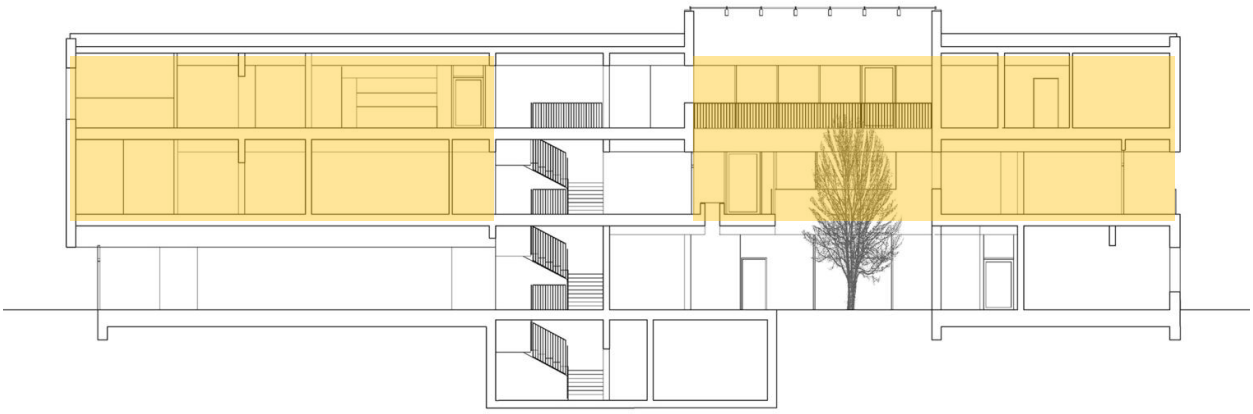


Fig 4.2.7 Longitudinal section showing the residential units (Source: http://www.archdaily.com/775831/nursing-and-retirement-home-dietger-wissounig-architekten/5628411ee58ece127a000349-nursing-and-retirement-home-dietger-wissounig-architekten-longitudinal-section)

4.2.1 Project analysis of Nursing and Retirement Home, Austria

The distinct layout of all the functions in the three stories as well as the spatial and visual connection between the indoors and outdoors makes this project an exemplary case in its own field. Significant features of this project include:

1) The public and private zones of this project have been distinctively divided into different zones. This makes it easier for users to navigate around the building. In addition, the elderly residents can effortlessly access into public zones and retreat into private areas as required.

2) Important functions such as medical consultation areas, administrative department, cafeteria, laundry and religious chapel have been incorporated in the ground floor and thus in one building. As a result, residents can avail these services fast without having to travel to another building.

3) Terraces have been designed on all floors, facing towards the gardens. This is especially beneficial to skilled nursing residents, who are sick often and are unable to go outdoors to enjoy the scenery.

4) All the rooms of the top and bottom floors are spatially connected to each other by means of a central courtyard space. As a result, not only can residents communicate with other tenants, but nurses and staff can also monitor the activities of all floors efficiently.

4.3 L’arbrisseau Neighborhood Centre, France

Location: Lille, France

Architect: ColbocFranzen and Associates

Project year: 2011

Fig 4.3.1 (Source: http://www.archdaily.com/152243/l%25e2%2580%2599arbrisseau-neighborhood-centre-colboc-franzen-associes/5014f4f228ba0d5828000eb5-l%e2%80%99arbrisseau-neighborhood-centre-colboc-franzen-associes-photo)

The L’arbrisseau Neighborhood Centre is one of the most standout buildings in the quiet suburban area of Lille. The project resulted from a successful collaboration of ideas between the neighborhood people and the city council. It aims to provide recreational facilities to all ages in the society, and creates a common platform for young people and

adults and elderlies to meet and communicate. The functions present inside have been proposed by the community, including elderlies. For example, aquariums and a library have been integrated into the final design after the youth and elderly raised their opinions on them. Even the name “L’arbrisseau” has been derived from the French word “arbre” which translates to tree – and the community planted a 12 meter tall tree in the centre to mark it as a symbol of their neighborhood. Thus the community spirit is revived, and elderlies get a chance to engage in various activities and interact with their younger counterparts successfully. (Franzen, 2011)

Fig 4.3.2 (Source: http://www.archdaily.com/152243/l%25e2%2580%2599arbrisseau-neighborhood-centre-colboc-franzen-associes/5014f4d328ba0d5828000eb0-l%e2%80%99arbrisseau-neighborhood-centre-colboc-franzen-associes-photo)

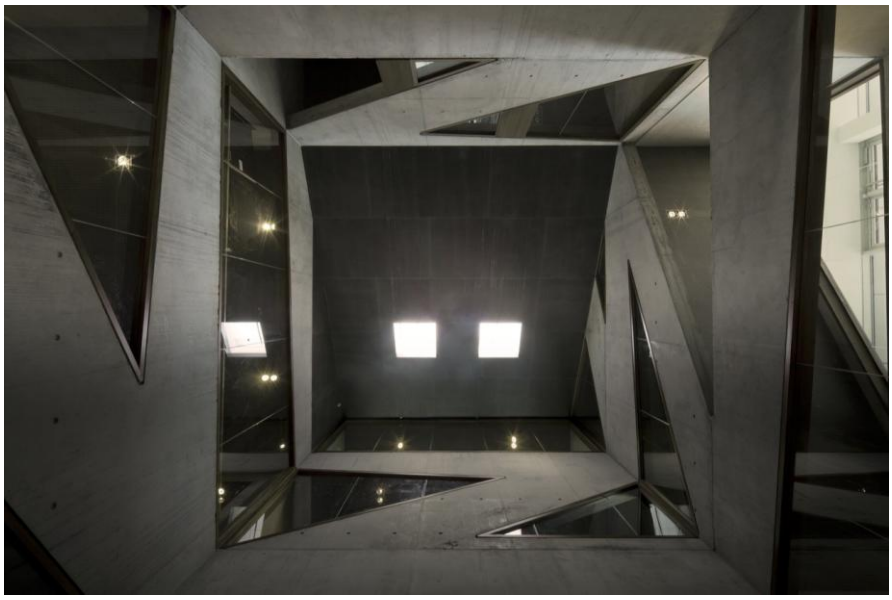


Fig 4.3.3 (Source: http://www.archdaily.com/152243/l%25e2%2580%2599arbrisseau-neighborhood-centre-colboc-franzen-associes/5014f4e328ba0d5828000eb3-l%e2%80%99arbrisseau-neighborhood-centre-colboc-franzen-associes-photo)

The functions inside the building have been arranged around a central atrium. The plain aluminum cladding of the interior as well as exterior walls allows the building to reflect the sun's rays across all the areas – thus illuminating the whole space dramatically. Functions inside have been distinctively divided into three main floors, and they cater to all ages, including elderlies. On the ground floor, space has been assigned for a mother and child care centre catering to 0-4 years old children. The first floors cater to older children aged 4-12 years, and it houses an infant day care centre, activity rooms and reading corner. The second floor is dedicated to adults and elderlies. It contains a multipurpose hall, and classrooms where elderlies can learn new skills as well as teach old ones to other younger visitors such as cooking, computing etc. Finally, the third floor contains all the administrative departments.

All the floors are connected to one another by means of split level areas. For example, the ground floor and first floor are connected by an accessible split level garden; the first and second floor are connected by a double story library and split level terrace overlooking the outdoor gardens. Additionally, the functions have been placed separately in all the floors so that distinct spaces are created according to age groups. However, they are connected by the central atrium. Services such as staircases, lifts and toilets have been congregated in a single concrete tower. The interior staircase mimics the cut-out exterior façade, allowing the sun to shine through the tower like tree branches to produce a complex range of shadows in the central atrium. The exterior spiral staircase has a landing on each floor and each linked to the next by flight of steps. Thus, elderlies and young people can entertheir respective spaces from outside and also access the rooftop, where they come across a panoramic viewof the L'Arbrisseau

neighborhood with the tower of Lille City Hall in the distance. This connects the L'Arbrisseau area into the cityscape of Lille as well as strengthening its local backgrounds (Franzen, 2011).

Fig 4.3.4 Ground floor plan of the building showing the central atrium, service core and activity spaces (Source: http://www.archdaily.com/152243/l%25e2%2580%2599arbrisseau-neighborhood-centre-colboc-franzen-associes/5014f46028ba0d5828000e9a-l%e2%80%99arbrisseau-neighborhood-centre-colboc-franzen-associes-floor-plan)

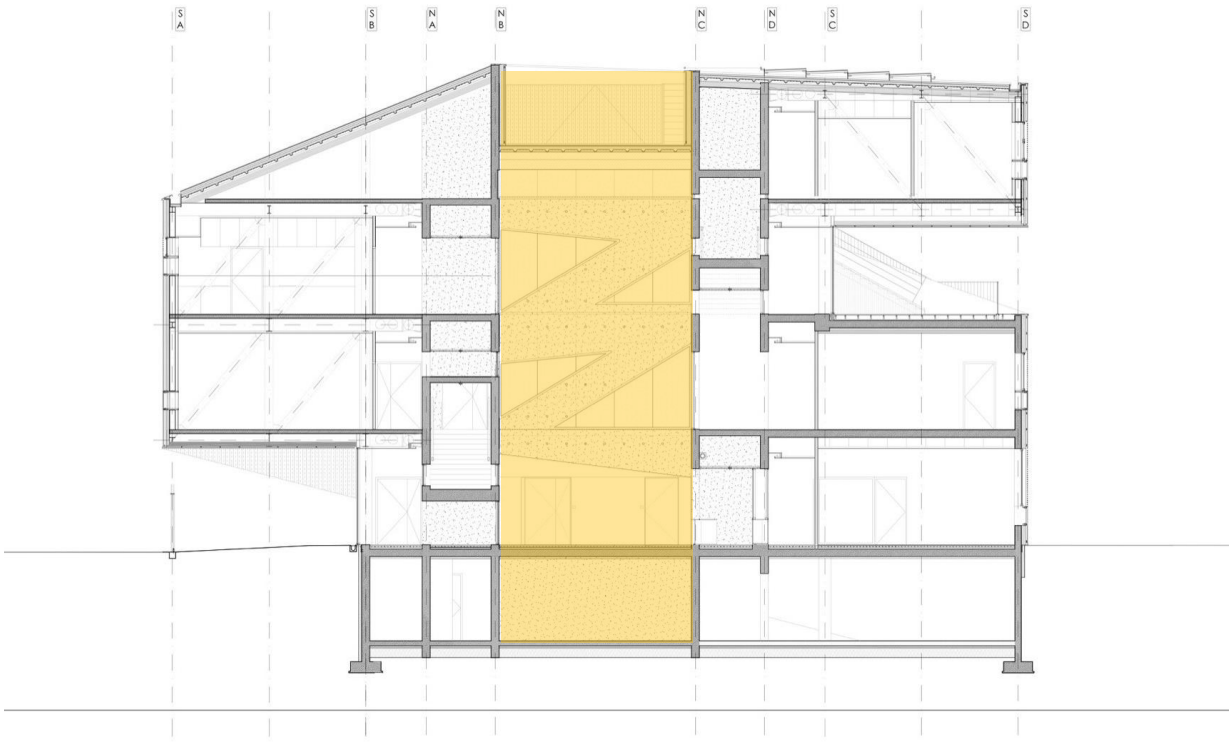


Fig 4.3.5 Longitudinal section showing the distinct activity levels according to age groups (Source: http://www.archdaily.com/152243/l%25e2%2580%2599arbrisseau-neighborhood-centre-colboc-franzen-associes/5014f47f28ba0d5828000ea1-l%25e2%2580%2599arbrisseau-neighborhood-centre-colboc-franzen-associes-floor-plan)

4.3.1 Project analysis of L'arbrisseau Neighbourhood Centre, France

This project underlines the importance of engaging the elderly community into suitable activities as well as giving them a platform to interact and engage with their younger counterparts. Some of the significant features of this project are as follows:

1) The project caters to the needs of all ages, including elderlies. Thus elderlies in the community have a chance to engage in their favorite activities such as cooking, pottery etc and also have the opportunity to pass on these skills to their younger members of the community.

2) The functions have been divided in different levels according to age groups and the services have been grouped together in a single concrete block. Thus navigation through the building is relatively easy for all ages, including the elderlies.

3) All the levels have a visual connection with each other through the central atrium, split level spaces and the interconnecting outdoor spiral staircase. Thus elderlies can look out and communicate with all ages groups via the terraces, and the authority can keep an eye on ongoing activities with more efficiency.

The case studies mentioned above gives another outlook on the recent trends being followed in old age homes abroad and also outlines how elderlies can be engaged in particular activities continually with other members of the society. One of the most important factors pointed out through these case studies is the importance of visual connection indoors and between the interior and the exterior. As most of the elderlies are unable to go outdoors on a daily basis, this visual connection allows them to engage with the outdoor environment without having to leave their abodes. Additionally, care has to be taken in segregating all functions in separate levels as well as respecting the needs, problems and challenges faced by the elderly community.

CHAPTER 5: PROGRAM DEVELOPMENT

5.1 Program rationale

5.1.1 Rationale for chosen approach

5.2 Program development

5.2.1 Relationships between various functions inside the complex

5.3 Square feet and area for program

5.3.1 Space standards for old age home

5.3.2 Final developed programs

CHAPTER 5: PROGRAM DEVELOPMENT

5.1 Program rationale

As mentioned in section 1.5 of this document which underlines the requirements proposed by the client, it could be summarized that the main functions developed in this project are the medical facility, residential facility, recreational facility and ancillary services. As the client have mentioned in their clause that any programs for the recreational facility can be introduced in this facility apart from library and workshops and classrooms for elderly, it has been thus proposed that workshops and training centre for elderlies as well as multipurpose hall, amphitheatre and cafeteria can be incorporated into the program list.

5.1.1 Rationale for chosen approach

In recent times, concern on the absence of adequate healthcare facilities, residential facilities and specialized services especially for underprivileged elderlies have not been yet raised and resolved by the government or other NGOs in Bangladesh. Healthcare and living spaces are one of the primary needs of any human being, and an elderly person is no exception. Thus a medical facility has been proposed by the client. As elderlies require more consultation services than surgical facilities, the healthcare facility will house a larger proportion of consultation chambers for diseases, some of which are mentioned in section 2.3 of this document and occupational therapy, physical therapy and counseling rooms as therapy based medical services are of major importance for the welfare of elderlies at this age range.

On the other hand, as the proposed program from client in section 1.5 mentions the residential facility to be a type of eldercare facility, the residential quarters would be divided into 2 main units – assisted living facility for elderlies who only need support in at least one activity, and independent living facility for those who can continue their daily activities with no assistance. In Sylhet, the percentage of elderly male population is 51.4% and percentage of elderly females is 43.6% (see Fig 2.1.1). As only 21.3% of the elderly population in Sylhet is aged 75 years and above (see Fig 2.1.2) and thus more vulnerable to diseases, the number of beds allocated for assisted living facility would be 32 – 16 rooms for females and 16 for males, with each room housing 2 residents. Hence, a total of 32 beds are allocated for assisted living facility.

Consequently, 40 beds have been allocated for independent living quarters. In the context of this country's culture and society, males and females refrain from sharing the same residential quarters as there is always a reservation of discussion and activities in mixed gender groups. Thus the 40 remaining quarters would be divided into 3 blocks – one for males, one for females and one for married couples. As 80% of the elderly population is widowed and 38.92% widowers (see Fig 2.1.3), 8 rooms i.e around 30% of the remaining 40 quarters would be allocated for married couples. Accordingly, the 32 remaining quarters would be divided among individual male and females residents, with 8 rooms allocated for males and 8 rooms allocated for females - each room housing 2 residents each.

Around 66.8% of all elderlies suffer from any one form of physical and mental disability. As a result, they often are unable to travel long distances outside of their abode.

Consequently, they sometimes cannot avail basic services such as shops, mosques etc. Hence in this project, ancillary services such as conventional store, prayer hall, laundry etc has been incorporated so that the elderlies do not face any difficulties in availing these amenities whenever required.

Even though most of the elderlies do not want to continue their jobs after a certain period, but they strongly wish to remain involved in activities that would make them feel productive. They also yearn for affection and support from the younger members of the society. However, society's perception of the elderly population as a liability to the community is one of the main reasons behind the huge social gap between the elderlies and the younger community. Additionally, increased susceptibility to diseases and difficulties face while coping with technological advancement have resulted in society viewing elderlies as not being fit enough to do any activity and hence any type of jobs. As a result, younger individuals tend to neglect their elderly counterparts and hesitate to engage or communicate with them in the long run. It is important that this predefined perception of society towards the elderly population should change in order to improve the current situation.

In response to the challenge mentioned in the above paragraph, training centers and workshops have been proposed inside the complex which would serve various functions periodically. For example, it can serve as a space for elderlies to take tuition classes for underprivileged children studying in Class 1 to Class 5. As 46.12% of elderly females and 39.3% elderly males have at least completed primary school level education, they would be easily able to teach the mentioned class range students in this proposed

school. Furthermore, elderlies have earned a lot of experience in their lifetime which cannot be bought elsewhere – and they are eager to share their experiences with others. Thus elderlies can share their knowledge in various skills to the community in these training centers, where elderly females can teach domestic skills such as cooking, knitting, crafts etc to younger females. Elderly males can also participate and share their knowledge on careers, politics etc to the younger generation. As a result, elderlies would constantly engage and interact in various activities and would feel productive in their day to day lives while residing there.

5.2 Program development

Based on the study, findings and ideas discussed in section 5.1, it can be said that the functions proposed for this project should not only address the basic needs and requirements of an elderly's daily life, but also allow them to engage and interact in a social environment. Thus the proposed functions are broadly classified into 4 categories which are as follows:

1) Healthcare facilities

- Out Patient Department (OPD) consisting of consultation based services
- Therapy based services
- Diagnostic services (sampling room for blood and urine)
- Administration department

2) Eldercare facilities (Residential facilities)

- Independent living residence for 48 elderlies
- Assisted living residence for 32 elderlies
- Accommodation for live-in employees such as nurses, ward boys etc
- Living, dining and outdoor areas
- Services such as main kitchen, laundry etc

3) Recreational facilities

- Workshops and training centre for elderlies
- Library
- Multipurpose Hall
- Cafeteria
- Amphitheatre
- Fishing area

4) Ancillary services

- Conventional store
- Prayer hall
- Guest accommodation
- Staff accommodation

5.2.1 Relationships between various functions inside the complex

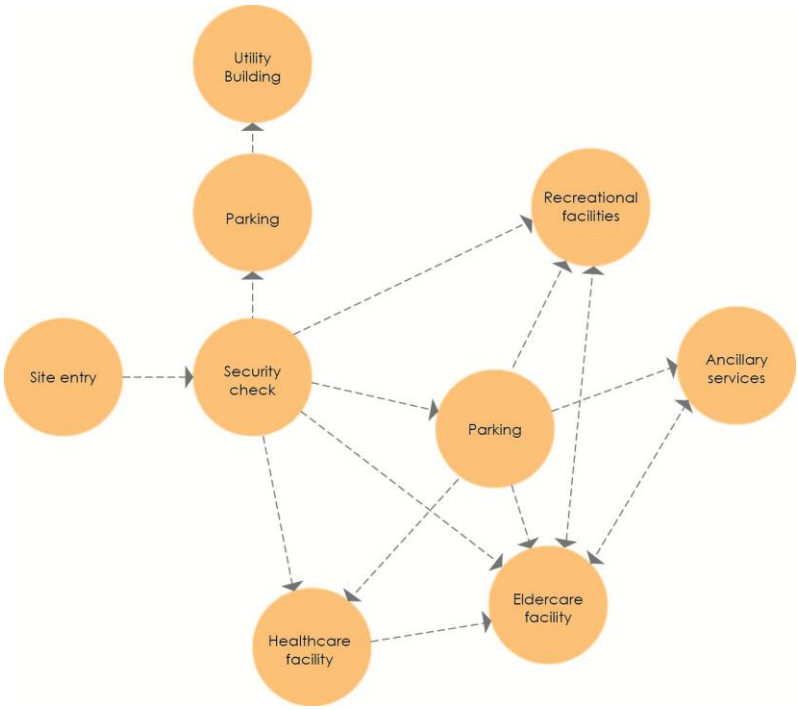


Fig 5.2.1 Functional flow of the whole complex (Source: Author)

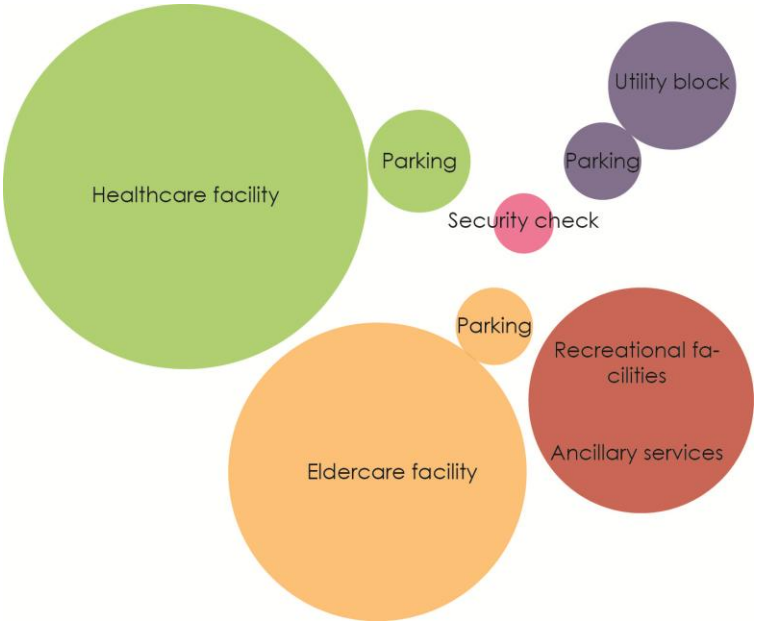


Fig 5.2.2 Bubble diagram of the whole complex (Source: Author)

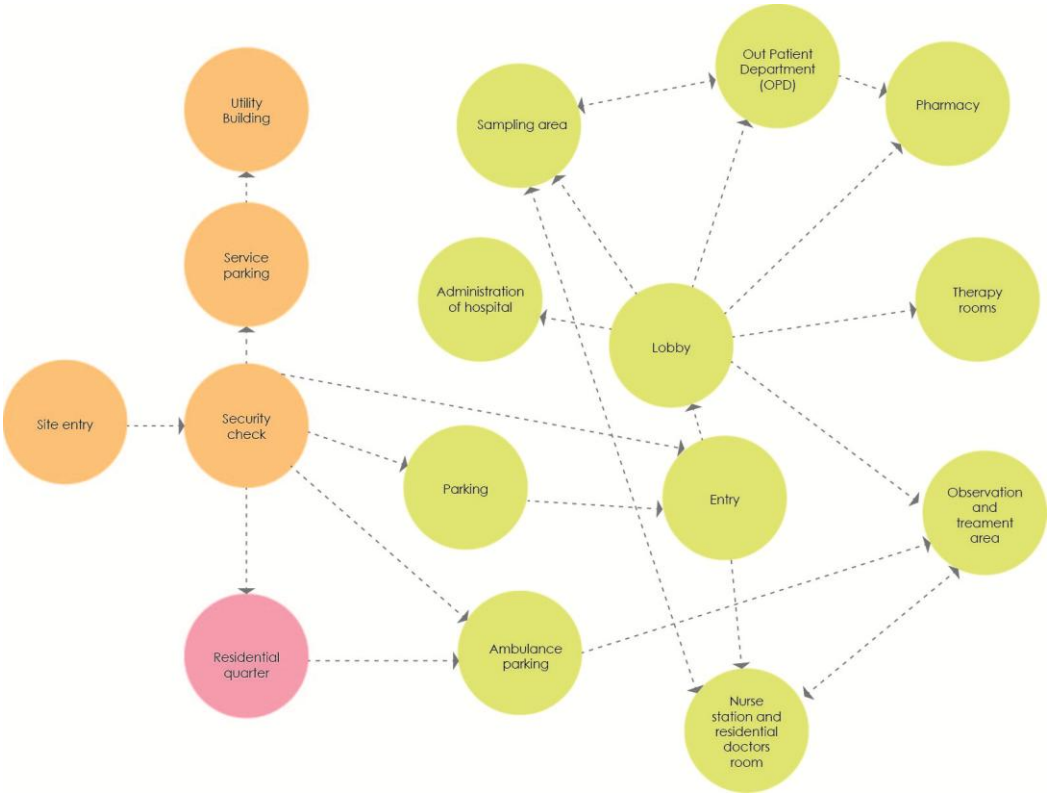


Fig 5.2.3 Functional relationship of healthcare facility (Source: Author)

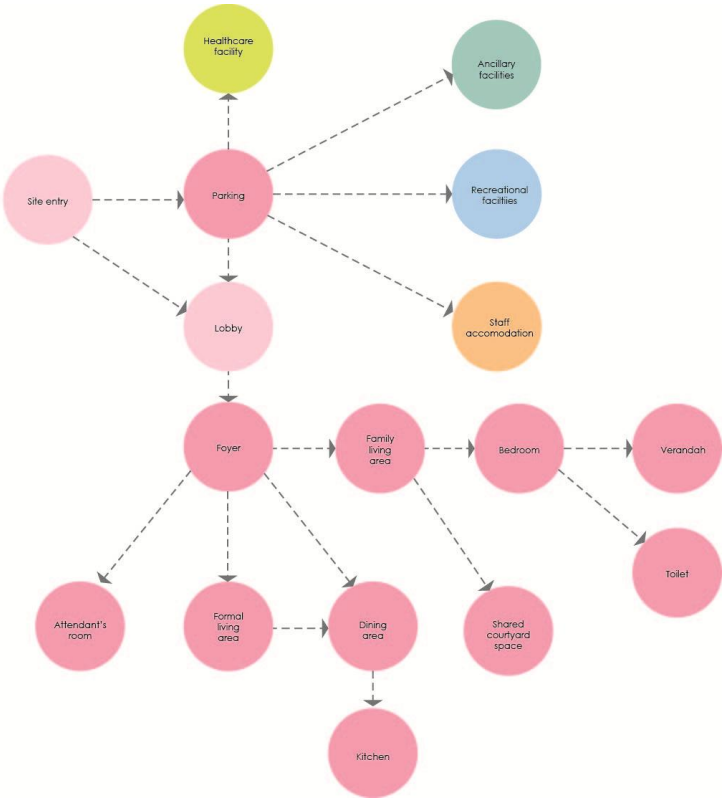


Fig 5.2.4 Functional relationship of residence and ancillary service (Source: Author)

Fig 5.2.5 Functional relationship of recreational facilities (Source: Author)

5.3 Square feet and area for program

5.3.1 Space standards for old age home

As well as ensuring minimum appropriate space standards for all of the functions, special attention must be paid to the needs of elderly persons, especially those who are physically disable and use some form of mobility tool such as wheelchair. Some of the space allowances are mentioned below.

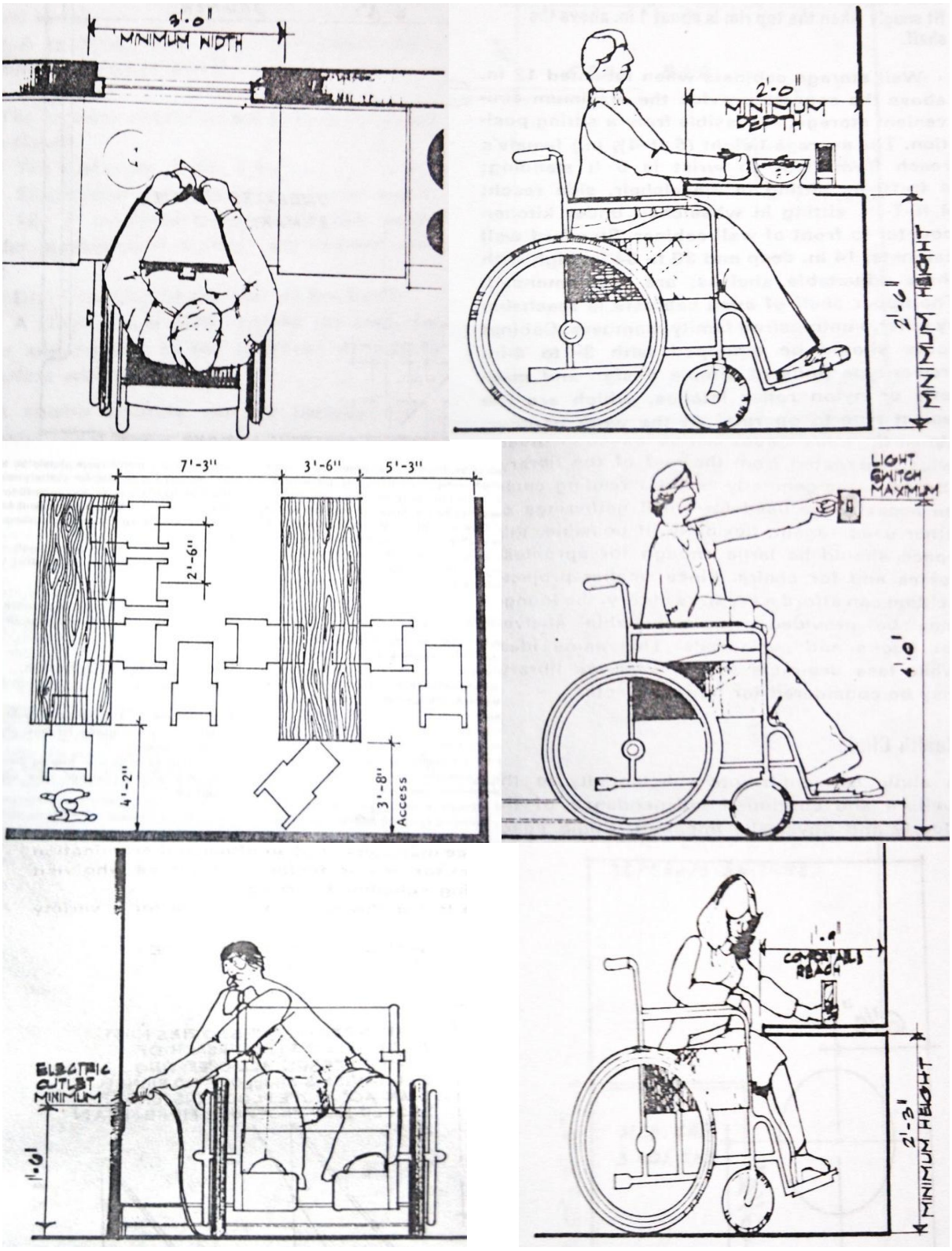


Fig 5.3.1 Space requirements for wheelchair users (Source: Time Savers Standard for Building Types)

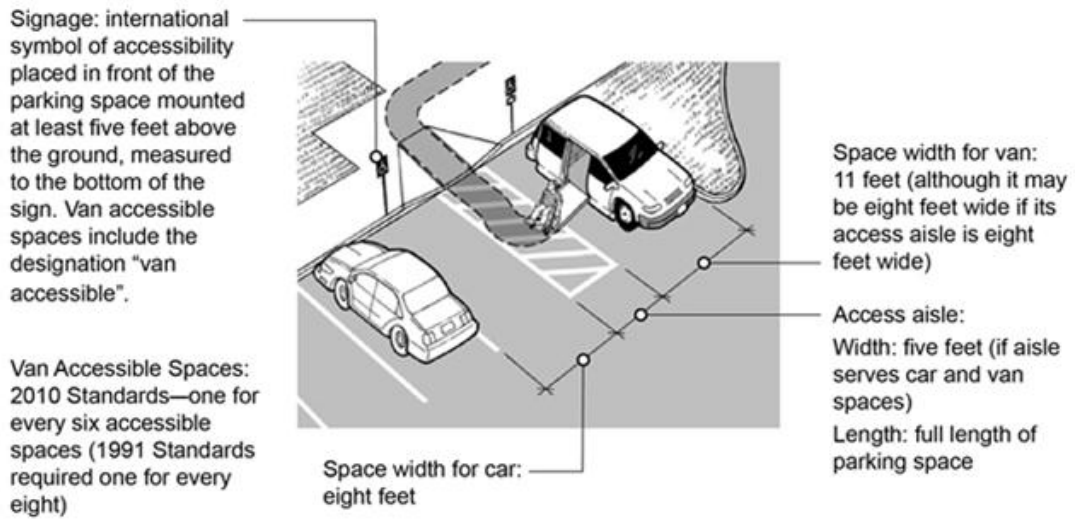


Fig 5.3.2 Space requirement for accessible parking (Source: https://adata.org/factsheet/parking)

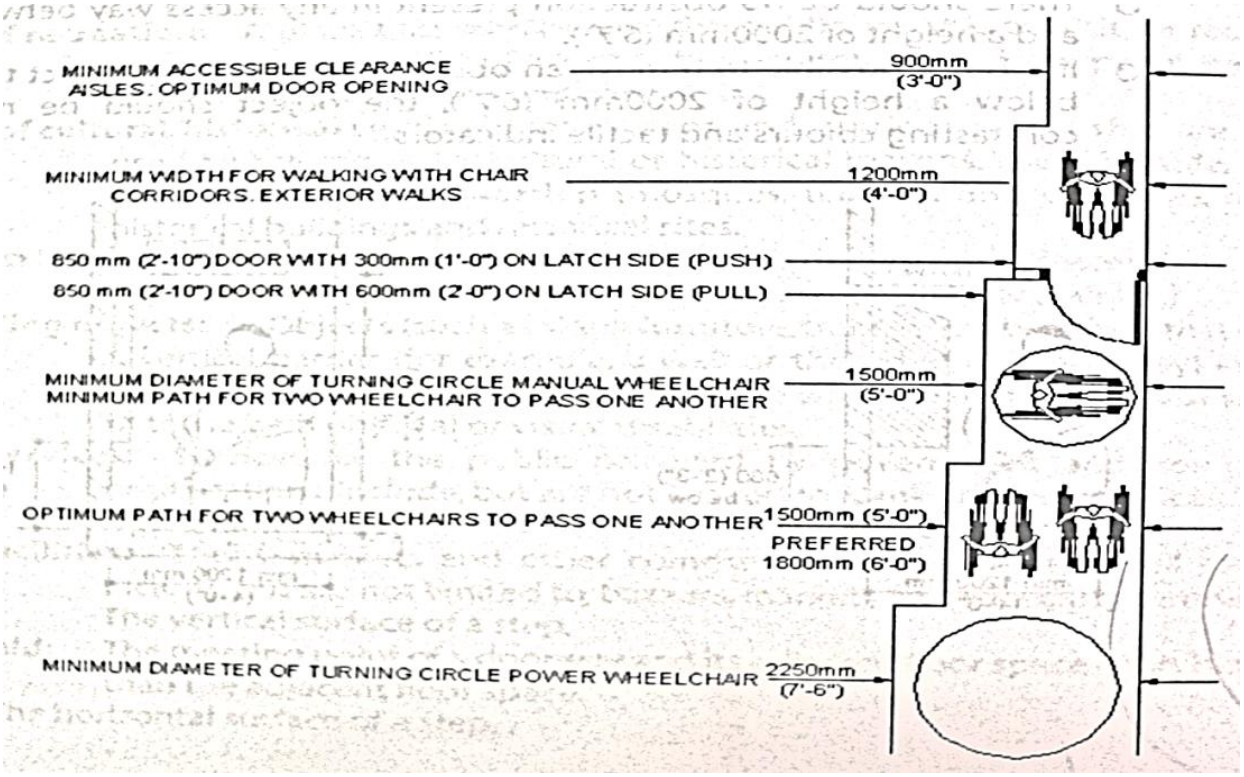


Fig 5.3.3 Space requirement of corridors for wheelchair users (Source: Time Savers Standard for Building Types)

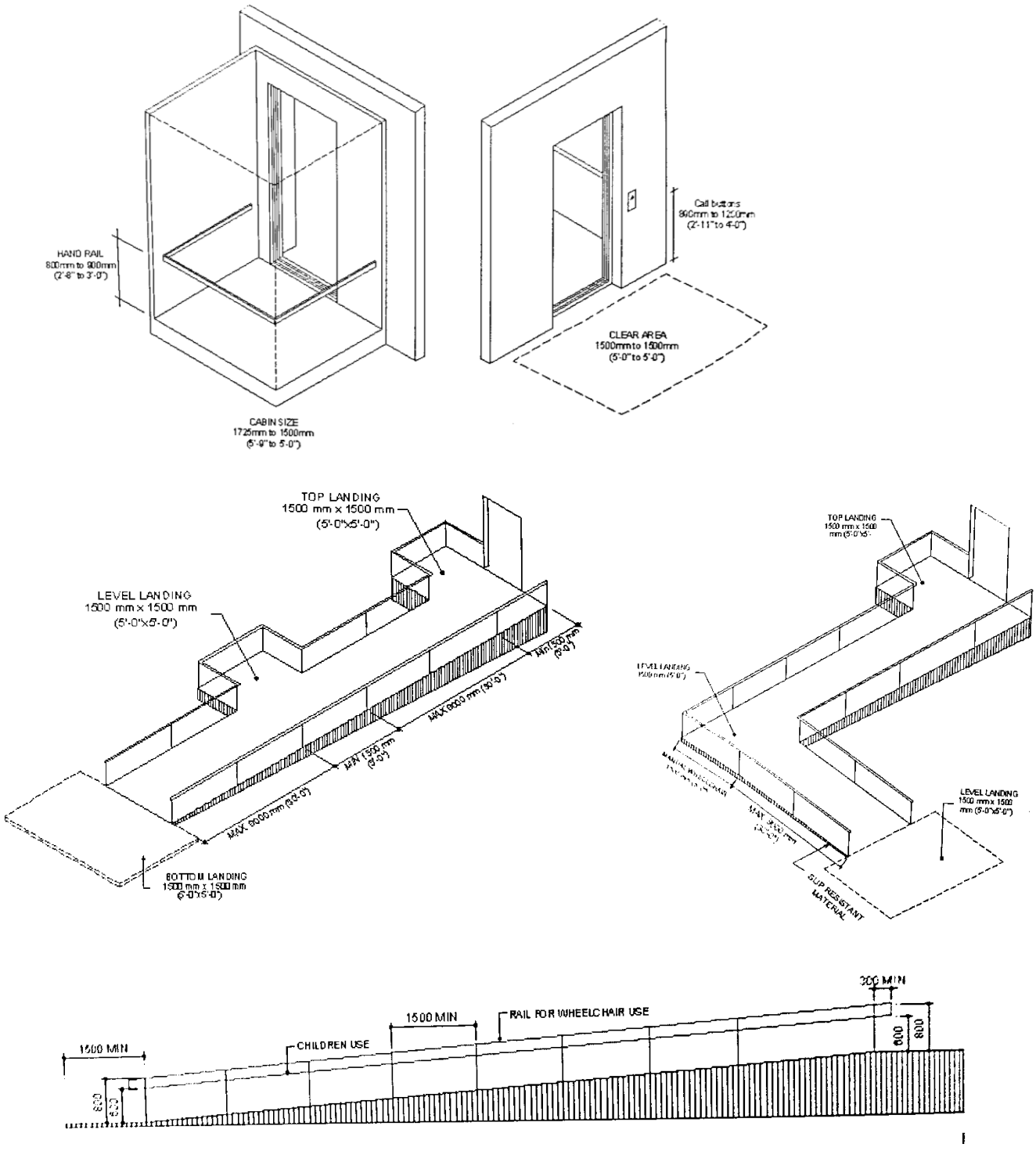
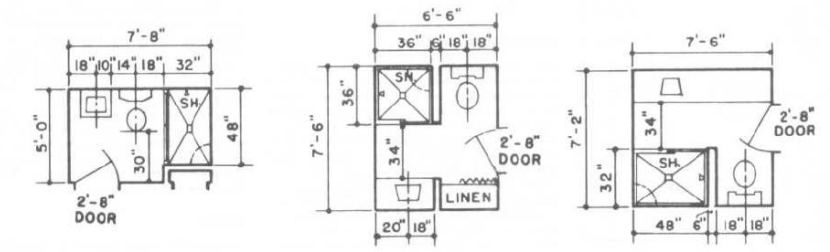


Fig 5.3.4 Space requirements for elevators and ramps (Source: Time Savers Standard for Building Types)



Bathrooms with showers.

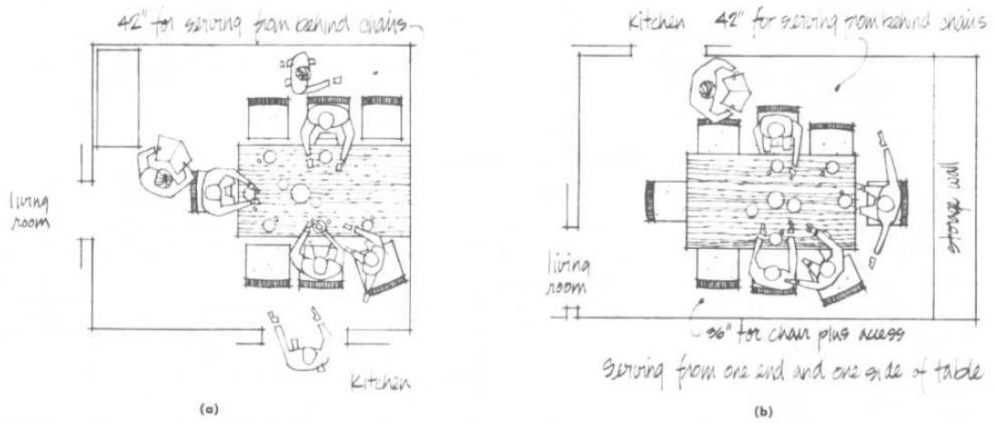


Fig. 9 Minimum clearances for dining areas: (a) one end of table against wall; (b) serving from one end and one side of table

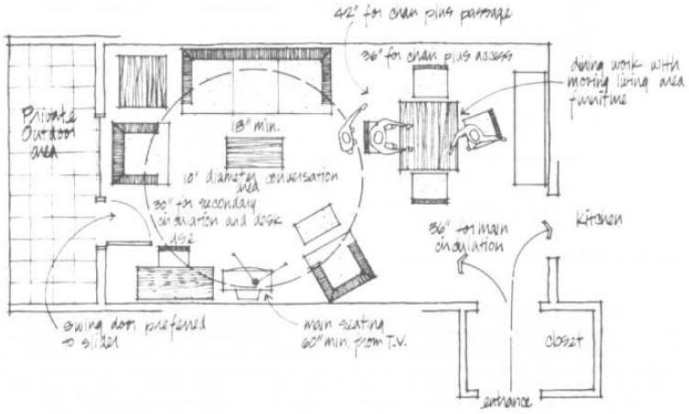


Fig. 11 Minimum clearances, circulation, and conversation areas for living rooms.

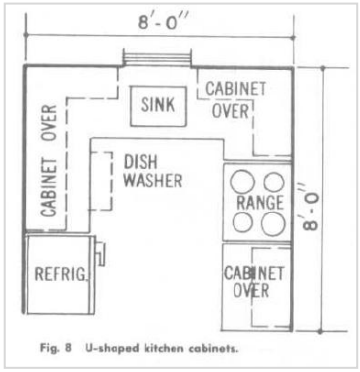


Fig. 8 U-shaped kitchen cabinets.

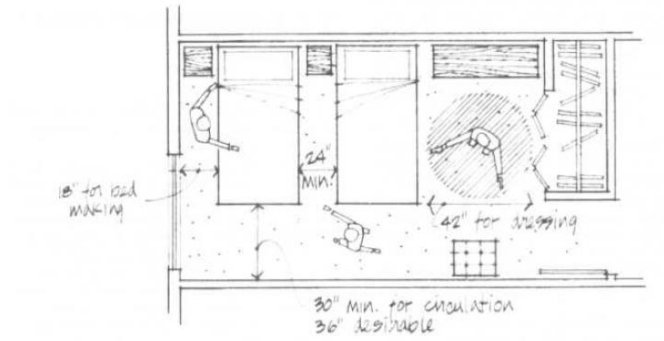


Fig. 17 Typical standard bedroom—with twin beds.

Fig 5.3.5 Space requirements for bedroom, bathroom and kitchen (Source: Time Savers Standard for Building Types)

5.3.2 Final developed programs

Parking				
Function	No of users	SFT per unit	No. of units	Total SFT
Ambulance (hospital)		180	2	360
Covered van (utility building)		128	2	256
Surface parking		128	8	1024
Sub total area				1640
ADDING 30% CIRCULATION				**2132**

Utility block				
Function	No of users	SFT per unit	No. of units	Total SFT
Substation and generator room		400	1	450
Garbage disposal room		300	1	300
Motor room		450	1	450
Sub total area				1200
ADDING 30% CIRCULATION				**1560**

Recreational and ancillary activities				
Function	No of users	SFT per unit	No. of units	Total SFT
Multipurpose hall	96	2750	1	2750
Backstage of multipurpose hall		750	1	750
Washroom (male)	6			250
Washroom (female)	3			200
Workshop and training area	20	650	3	1950
Amphitheatre		6000	1	6000
Fishing area		900	1	900
Cafeteria	40	1800	1	1800
Kitchen and store		340	1	340
Chief librarian office	1	100	1	100
Staff office	2	150	1	150
Main library area		1300	1	1300
Cyber café	6	200	1	200

Washroom (male)	4			150
Washroom (female)	2			80
Convenience store		600	1	600
Prayer hall (male)		1500	1	1500
Prayer hall (female)		650	1	650
Washroom (male)	4			150
Washroom (female)	2			90
Ablution area (male)		300	1	300
Ablution area (female)		175	1	175
Sub total area				22535
ADDING 30% CIRCULATION				**29295**

Medical area				
Function	No of users	SFT per unit	No. of units	Total SFT
Lobby	2	300	1	300
Reception area (info)	2	200	1	200
Waiting area	80			500
Washroom (male)	6			250
Washroom (female)	3			200
Pharmacy	2	300	1	300
Sampling area (blood and urine)	2	250	1	250
Residential medical officer's room	1	150	1	150
Nurse station	6	200	1	200
Staff lounge	10	200	1	200
Medicine store		100	1	100
Equipment store		200	1	200
Treatment room		150	2	300
Consulting chambers		220	4	880
UPS room		60	1	60
Sub total area				8430
ADDING 30% CIRCULATION				**10960**

Main administration				
Function	No of users	SFT per unit	No. of units	Total SFT
Receptionist's area	3	200	1	200
Waiting area	10	150	1	150

Meeting room		400	1	400
Washroom (male)	6			250
Washroom (female)	3			200
Accounts department	4	200	1	200
Cash assistant's room	1	100	1	100
HR department	4	200	1	200
Boarder attendants department	2	150	1	150
Director's office	1	200	1	200
Attached washroom		30	1	30
PA to director's area	1	150	1	150
Deputy director's office	1	150	1	150
Assistant director's office area	1	150	1	150
Executive lounge		200	1	200
Sub total area				2650
ADDING 30% CIRCULATION				**3445**

Residential quarters (assisted living+independent living)				
Function	No of users	SFT per unit	No. of units	Total SFT
Formal living area		430	1	430
Dining area	16	425	1	425
Kitchen		190	1	190
Servant's washroom		30	1	30
Kitchen verandah		60	1	60
Attendant's bedroom	1	150	1	150
Attached bathroom	1	30	1	30
Family living area	16	450	1	450
Bedroom	2	300	8	2400
Attached bathroom		70	8	560
Sub total area				4775
ADDING 30% CIRCULATION				**6300**
TOTAL AREA FOR 5 QUARTERS				**31500**

Guest accommodation				
Function	No of users	SFT per unit	No. of units	Total SFT
Reception and waiting area		400	1	400

Attendant's bedroom	1	150	1	150
Attached bathroom		30	1	30
Storage area		20	1	20
Cafeteria	24	800	1	800
Kitchen with storage area	1	250	1	250
Guest bedroom	2	300	8	2400
Attached bathroom		60	8	480
Sub total area				4530
ADDING 30% CIRCULATION				**5900**

Staff accommodation				
Function	No of users	SFT per unit	No. of units	Total SFT
Office area	4	200	1	200
Store		150	1	250
Laundry		400	1	400
Dining area	24	750	1	750
Kitchen		275	1	275
Staff bedroom (male)	3	320	4	1280
Staff bathroom (male)		60	4	240
Staff bedroom (female)	3	320	4	1280
Staff bathroom (female)		60	4	240
Sub total area				4915
ADDING 30% CIRCULATION				**6390**

Total space required: 110250 sft

Grand total area of the project (including 30% circulation area): 143325 sft

CHAPTER 6: CONCEPTUAL STAGE AND DESIGN DEVELOPMENT

6.1 Introduction

6.2 Concept

6.3 Design development

6.4 Zoning

6.4.1 Zoning inside the public block

6.4.2 Basic zoning inside the residential block

6.5 Architectural drawings

6.6 Rendered images

6.7 Model images

CHAPTER 6: CONCEPTUAL STAGE AND DESIGN DEVELOPMENT

6.1 Introduction

The aim of this project was to present a retreat to the elderly population of this country that would not only provide accommodation and medical opportunities but also attend to the recent lack of activity centers and workshops that would let the residents and other elderly visitors to be continually occupied – ensuring their overall physical and mental well-being. In most of the retirement homes present in Bangladesh, the residents experience constant isolation as no opportunities are present that would allow them to interact with the outside community. Moreover, due to the absence of appropriate activities and recreational facilities, residents of these abodes often feel unproductive and redundant in their daily lives. The project intends to create a bridge between the elderly residents and the outside community that would help to enhance the relationship between the two groups.

6.2 Concept

The main idea for the project was to increase interaction and engagement of the elderly residents with the community. In Bangladesh, most old age homes cater only to the basic needs of an elderly person such as shelter, food, sleeping and hygiene. However, all individuals possess certain other needs apart from the basic ones that help them accomplish as a whole satisfied person. For example, desires for socializing, engaging in a hobby or helping someone in need are not amongst the basic needs of a person - but nevertheless it serves an important purpose in enhancing one's physical and mental

well being. In regions outside of Bangladesh, these issues have been recognized and implemented in various retirement homes. Most retirement homes abroad in recent times offer opportunities to the elderly residents to interact with the outside community by means of various public functions (as shown in section 4.3 of this paper). In these projects, both the residential and recreational aspects of the complex are given equal prominence and have been successful in the long term. Similarly, the primary scheme was to introduce a similar concept to the project that would aid in addressing these impending issues. Likewise, it is expected that this concept would later on be replicated in other future retirement home projects in various other parts of the country.

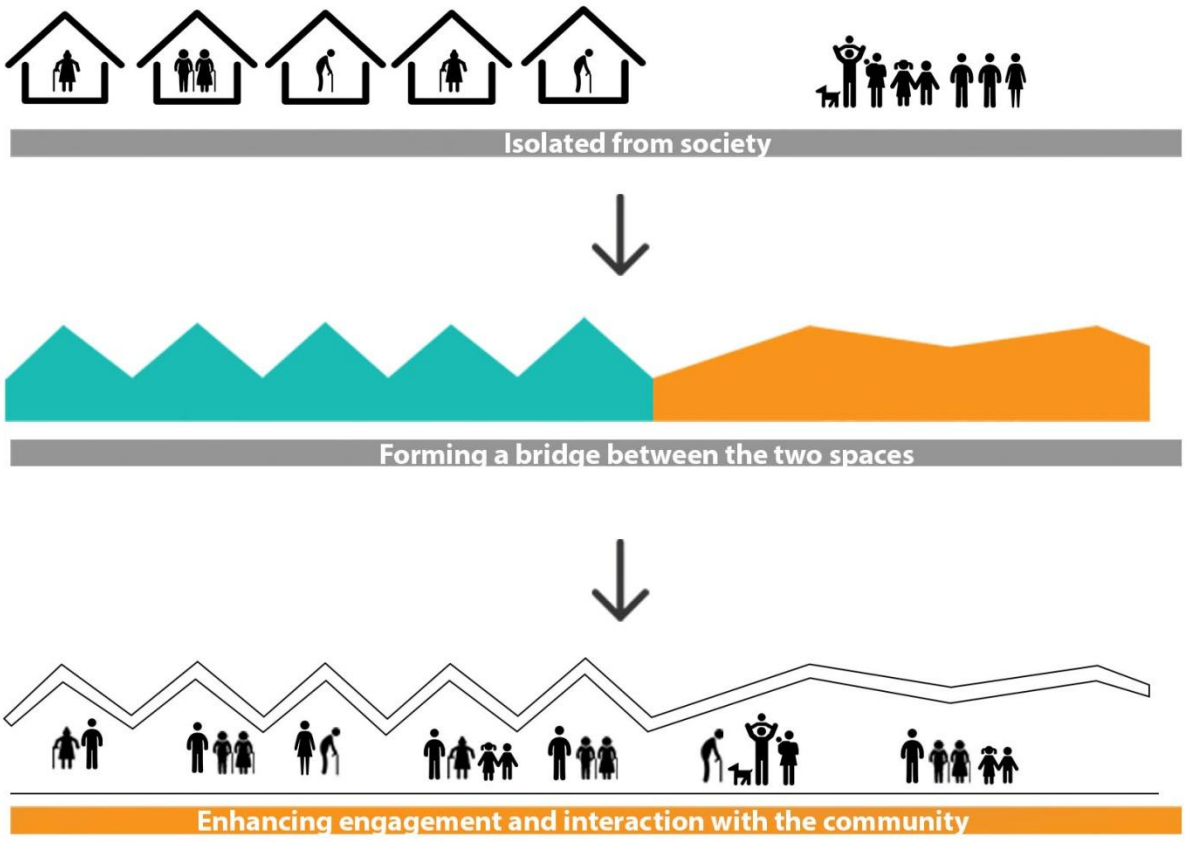


Fig 6.2.1 (Source: Author)

Another important factor was the type of activities that would be offered to the elderly residents in this complex. It has been mentioned earlier in section 2.4 that most elderlies arriving at his facility had jobs previously and were retired. Thus the activities proposed in this project would serve as an extension of their earlier careers. For example, a retired doctor living in this retreat may sometimes attend to patients at certain periods in the medical facility proposed, a retired school teacher may offer tuition classes to the neighborhood children, a retired athlete may offer training to ambitious young players and so on. Additionally, opportunities for hobbies that can be easily pursued by elderlies such as gardening, fishing etc have also been provided in this complex.

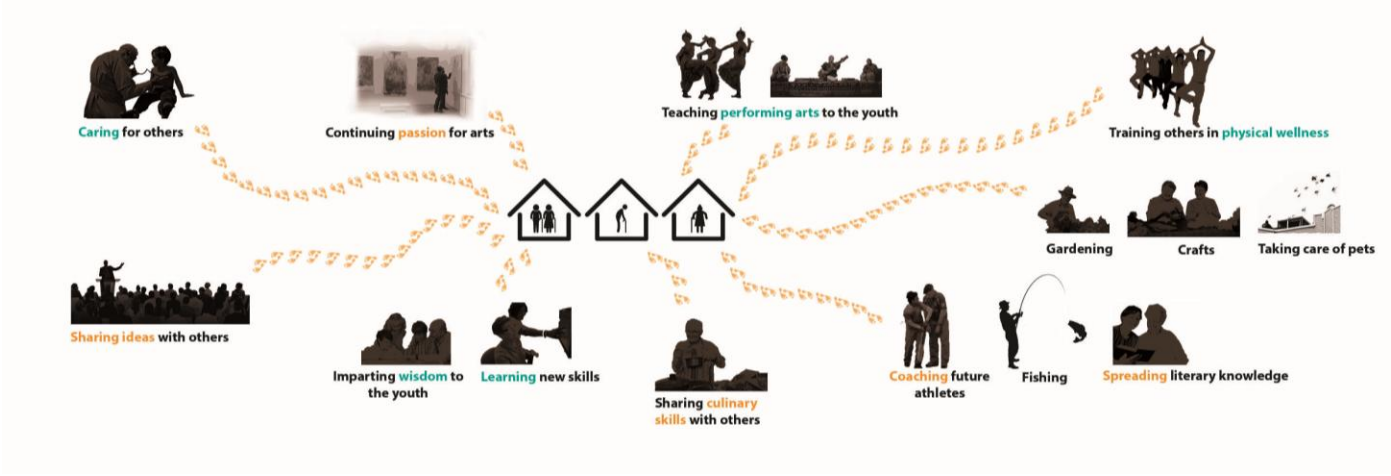


Fig 6.2.2 (Source: Author)

6.3 Design development

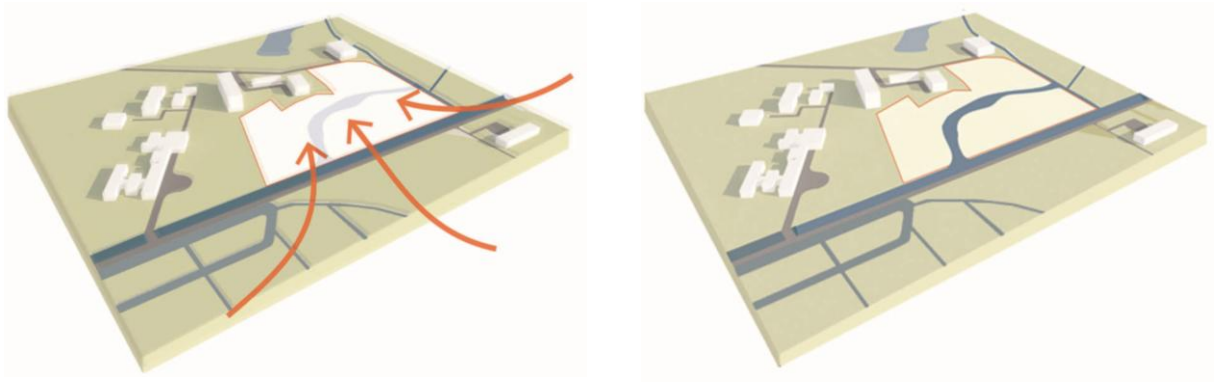


Fig 6.3.1 (Source: Author)

1. The main idea was to integrate the outside community into the site. Thus public functions were placed at the very centre of the site.

2. The existing water channel at the south-west and south-east corners of the site have been connected by introducing a secondary water channel inside the site. Additionally, this channel acts as a natural barrier to separate the public, semi public and private zones inside the site.

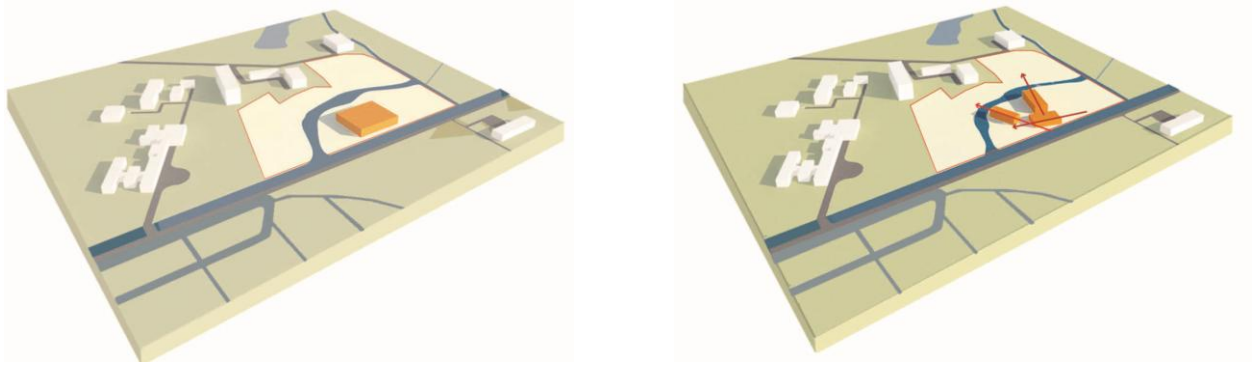


Fig 6.3.2 (Source: Author)

3. The public block - considered as the "heart" of this project - has been placed centrally towards the south west side of the site.

4. The public block was divided along three distinct axes to form three separate zones - one housing the multipurpose hall, the second consisting of training and workshop centers and cafeteria and the latter comprising of medical and administrative areas.

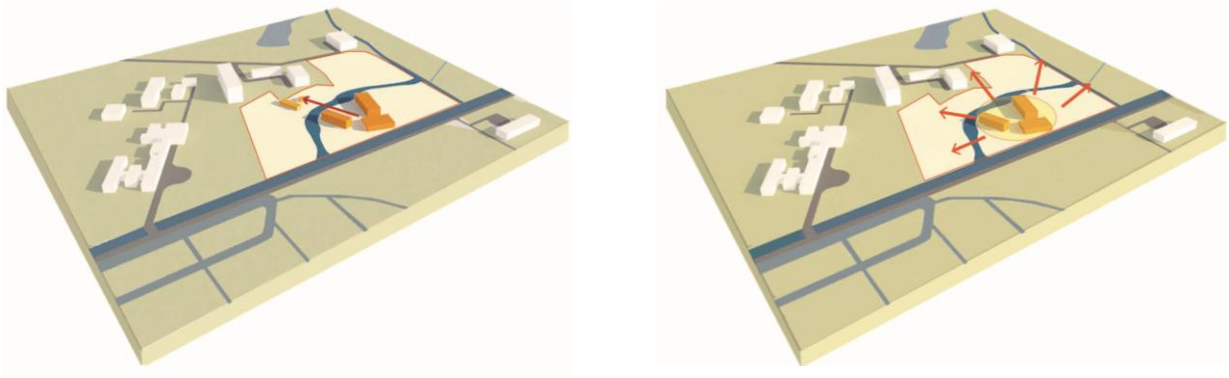


Fig 6.3.3 (Source: Author)

5. The axis of the block housing the training and workshop areas terminate across the other side of the water channel to a semi public block containing the library and convenience store.

6. Keeping the main public block at the centre, the rest of the functions were placed by following a radial pattern along it.

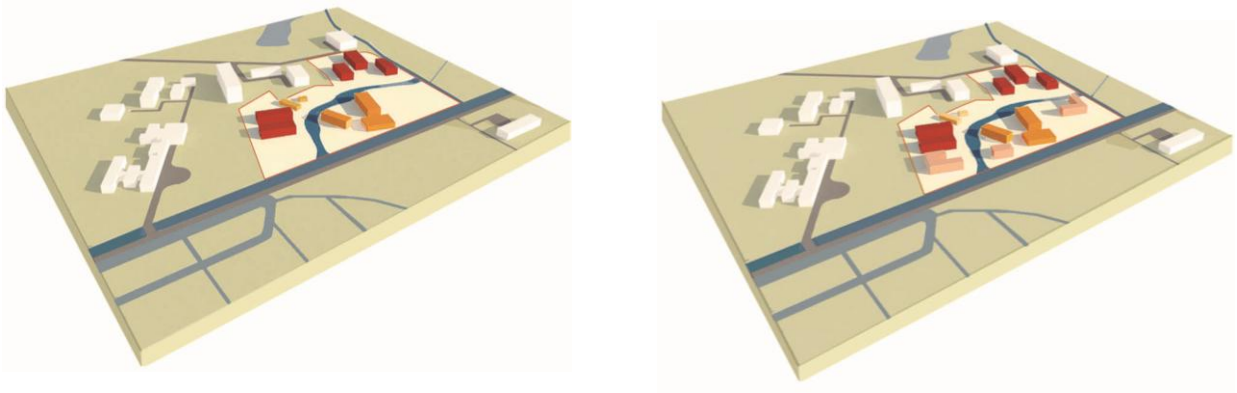


Fig 6.3.4 (Source: Author)

7. The residential blocks (marked in red) were placed in close proximity to the public block. The two residential block at the north side are the assisted living quarters, while the three independent living residential blocks have been placed towards the south east side of the site.

8. The rest of the ancillary facilities (marked in pink) were also located radially along the public block.

6.4 Zoning

Fig 6.4.1 (Source: Author)

6.4.1 Zoning inside the public block

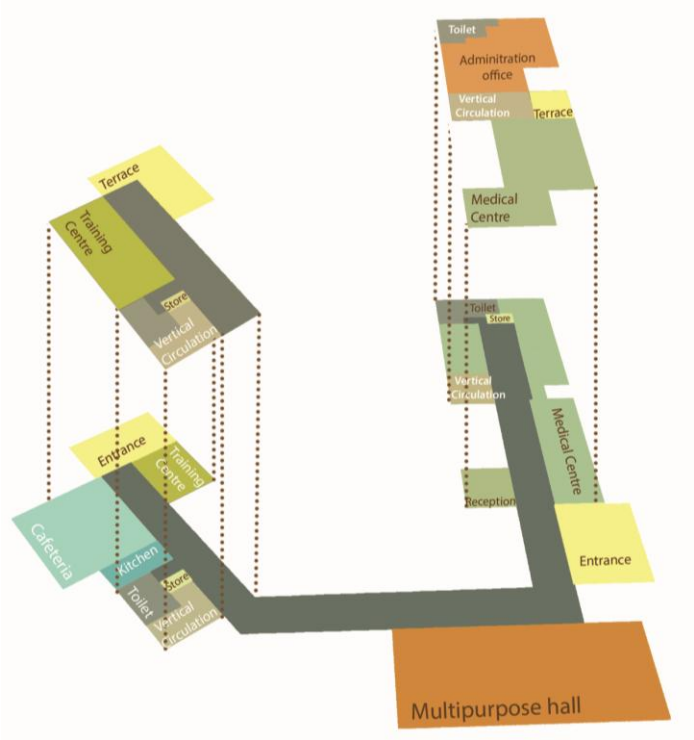
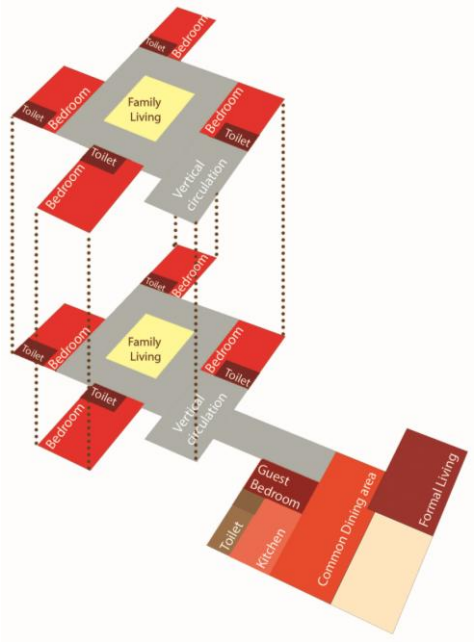
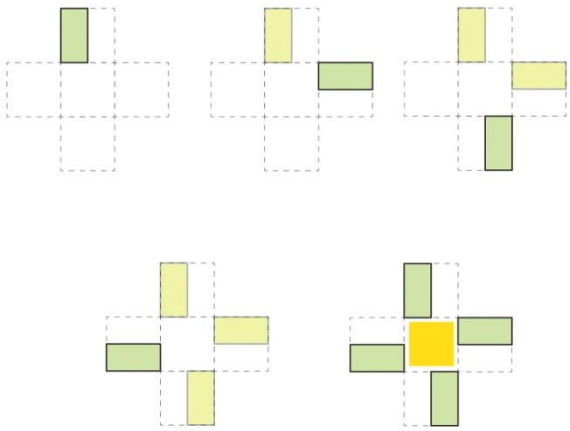


Fig 6.4.2 (Source: Author)

6.4.2 Basic zoning inside the residential block





The bedrooms are arranged around a pinwheel courtyard shape so that they surround a common engaging family living area.

Fig 6.4.3 (Source: Author)

6.5 Architectural drawings

Fig 6.5.1 Site plan (Source: Author)

Fig 6.5.2 Ground floor plan (Source: Author)

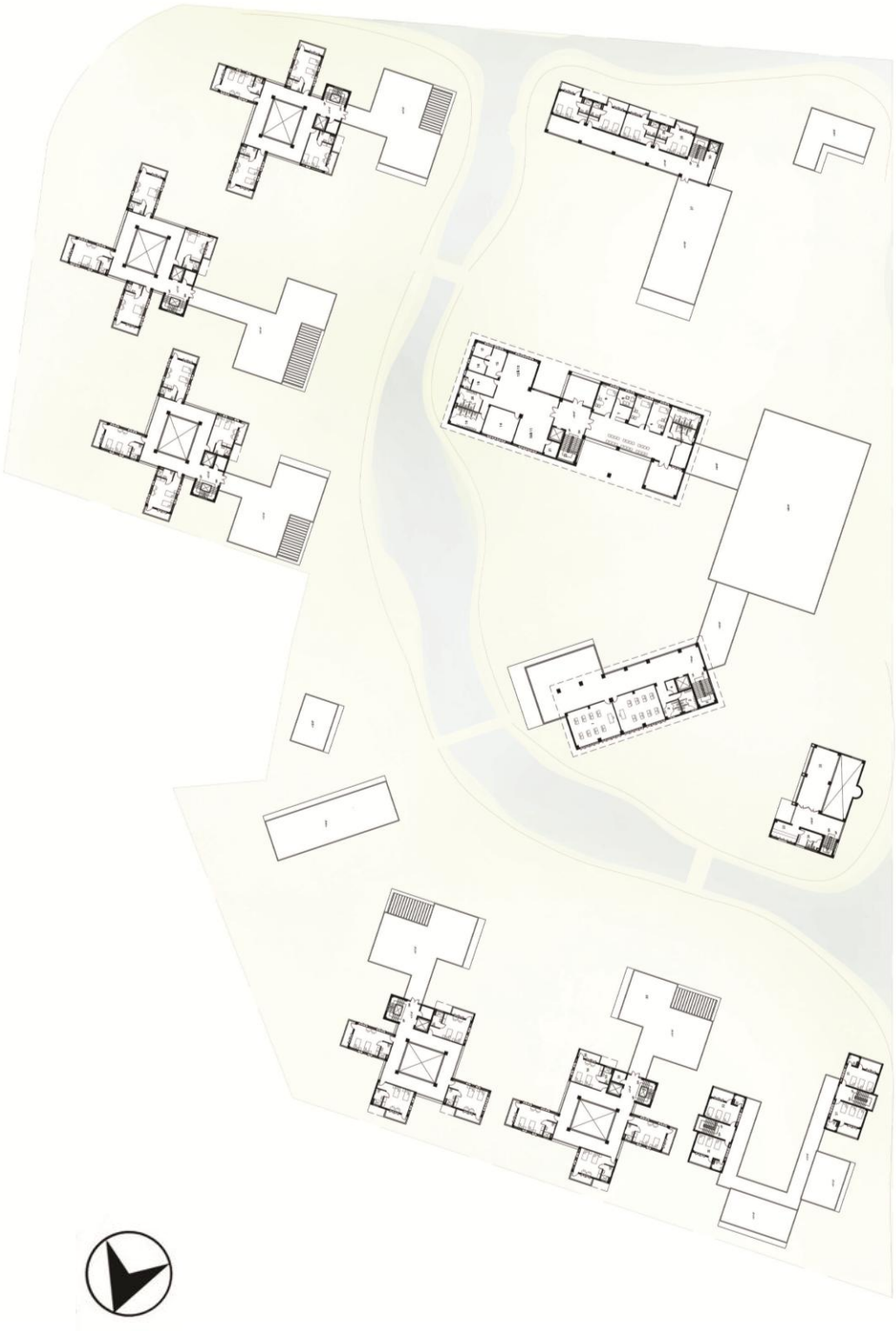


Fig 6.5.3 First floor plan (Source: Author)

Fig 6.5.4 Section AA' and section BB' through the public and semi public block
(Source: Author)

Fig 6.5.5 Section DD' and section EE' through the residential block (Source: Author)

6.6 Rendered images

Fig 6.6.1 View of amphitheatre (Source: Author)

Fig 6.6.2 View of semi public zone (Source: Author)

Fig 6.6.3 View of outdoor deck of dining area of residence (Source: Author)

Fig 6.6.4 View of family living area of residence (Source: Author)

Fig 6.6.5 View of courtyard of residence (Source: Author)

6.7 Model images

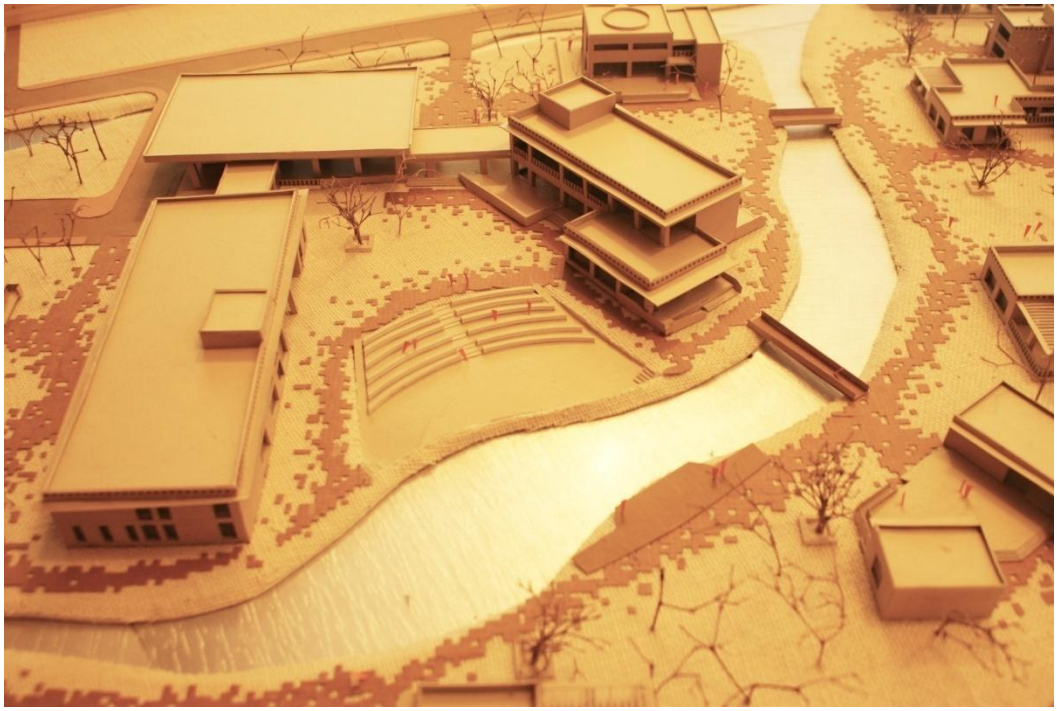


Fig 6.7.1 (Source: Author)

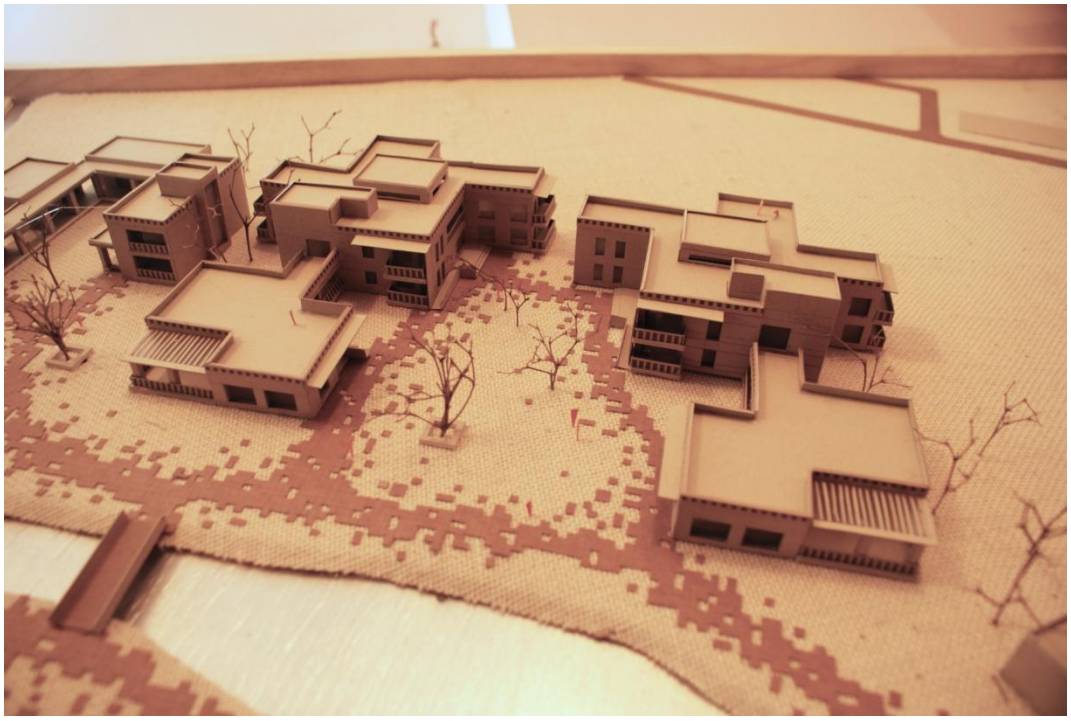


Fig 6.7.2 (Source: Author)

Fig 6.7.3 (Source: Author)

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