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HOPE

National Academy for Autism and Neuro-Development Disabilities

By
Rukaiya Binte Karim
13108013

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ABSTRACT

Autism in a mental condition, present from early childhood, characterized by great difficulty in communicating and forming relationships with other people and in using language and abstract concepts. People with Autism have to face several hardships throughout their lifetime. Even though it is not a disease, but many of us still unable to understand that an autistic person is as normal as us with just different way of communication. In Bangladesh, almost 10% of the total population have disabilities. It is high time to realize that without the contribution and participation of a large portion of our population, we cannot achieve what we want as a nation. The idea of an awareness center is to develop more interaction between general people and the people with autism. The academy will not only provide proper education to the special children and adults, but also encouraging general people to know how autistic people deal with regular activities. This project will bring the opportunity to produce more facilities to the people with autism and help them to participate socially.

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01 **INTRODUCTION**

1.1 **Project Brief:**

- **Project Title: HOPE:** National Academy for Autism and Neuro-Development Disabilities

- **Project Client:** Ministry of Education

- **Project Site:** Purbachal (sector 8) beside road number 216, Total site area of the project is 4.46 acres**.**

1.2 **Project Introduction:**

Autism in a mental condition, present from early childhood, characterized by great difficulty in communicating and forming relationships with other people and in using language and abstract concepts. People with Autism have to face several hardships throughout their lifetime. Even though it is not a disease, but many of us still unable to understand that an autistic person is as normal as us with just different way of communication. In Bangladesh, almost 10% of the total population have disabilities. It is high time to realize that without the contribution and participation of a large portion of our population, we cannot achieve what we want as a nation. The idea of an awareness center is to develop more interaction between general people and the people with autism. The academy will not only provide proper education to the special children and adults, but also encouraging general people to know how autistic people deal with regular

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activities. This project will bring the opportunity to produce more facilities to the people with autism and help them to participate socially.

1.3 **Problem Statement:**

The main problem in our country regarding autism is people's lack of awareness. Autism is not a disease which can be treated with medication. Forcing them to be something which they are not can mentally abuse them or make them more uncomfortable to communicate socially. Just by treating them in equality can make the whole communication process much easier for them. One of the main reason why the main portion of our population don't about autism is, inadequate appropriate medical services to the people with disabilities. There is no institution available in our country to do research on this sector and promote awareness among the general public. Schools and activity centers are only providing education to the special child to cope up with the modern world. But it is only their responsibility, if the general people don't know how to behave with them it is almost impossible for them to participate and communicate with others easily.

1.4 **Project Aims and Objectives:**

- Ensuring the rights and need of a special child

- The academy can work as a support system to make them "differently able" to "able".

- Providing maximum comfort of a special child for better communication with other people.

- Exploring their scope of work and interests.

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- This project is an initiative to make people with autism capable of living with being dependent on others.

- Involving general people to know more about ASD to make them aware about this issue.

1.5 **Probable Programs:**

1. Academic

2. Medical training and therapy

3. Mixed use

4. Dormitory (Separate for Students and Family member**)**

02 LITERATURE REVIEW

Mental disorders and various types of chronic disease may also qualify as disabilities. Autism (sometimes called “classical autism”) is the most common condition in a group of developmental disorders known as the autism spectrum disorders (ASDs). Autism is characterized by impaired social interaction, problems with verbal and nonverbal communication, and unusual, repetitive, or severely limited activities and interests. Other ASDs include Asperger syndrome, Rett syndrome, childhood disintegrative disorder, and pervasive developmental disorder not otherwise specified (usually referred to as PDD-NOS). Experts estimate that three to six children out of every 1,000 will have autism. Males are four times more likely to have autism than females.

There are three distinctive behaviors that characterize autism. Autistic children have difficulties with social interaction, problems with verbal and nonverbal communication,

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and repetitive behaviors or narrow, obsessive interests. These behaviors can range in impact from mild to disabling. The hallmark feature of autism is impaired social interaction. Parents are usually the first to notice symptoms of autism in their child. As early as infancy, a baby with autism may be unresponsive to people or focus intently on one item to the exclusion of others for long periods of time. A child with autism may appear to develop normally and then withdraw and become indifferent to social engagement. Children with autism may fail to respond to their name and often avoid eye contact with other people. They have difficulty interpreting what others are thinking or feeling because they can't understand social cues, such as tone of voice or facial expressions, and don't watch other people's faces for clues about appropriate behavior. They lack empathy. Many children with autism engage in repetitive movements such as rocking and

twirling, or in self-abusive behavior such as biting or head-banging. They also tend to start speaking later than other children and may refer to themselves by name instead of "I" or "me." Children with autism don't know how to play interactively with other children. Some speak in a sing-song voice about a narrow range of favorite topics, with little regard for the interests of the person to whom they are speaking. Many children with autism have a reduced sensitivity to pain, but are abnormally sensitive to sound, touch, or other sensory stimulation. These unusual reactions may contribute to behavioral symptoms such as a resistance to being cuddled or hugged. Children with autism appear to have a higher than normal risk for certain co-existing conditions, including fragile X syndrome (which causes mental retardation), tuberous sclerosis (in which tumors grow on the brain), epileptic seizures, Tourette syndrome, learning disabilities, and attention

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deficit disorder. For reasons that are still unclear, about 20 to 30 percent of children with autism develop epilepsy by the time they reach adulthood. While people with schizophrenia may show some autistic-like behavior, their symptoms usually do not appear until the late teens or early adulthood. Most people with schizophrenia also have hallucinations and delusions, which are not found in autism.

2.1 **Autism Diagnosed:**

Autism varies widely in its severity and symptoms and may go unrecognized, especially in mildly affected children or when it is masked by more debilitating handicaps. Doctors rely on a core group of behaviors to alert them to the possibility of a diagnosis of autism. These behaviors are:

• impaired ability to make friends with peers

• impaired ability to initiate or sustain a conversation with others

• Absence or impairment of imaginative and social play

• Stereotyped, repetitive, or unusual use of language

• Restricted patterns of interest those are abnormal in intensity or focus

• Preoccupation with certain objects or subjects

• Inflexible adherence to specific routines or rituals

Doctors will often use a questionnaire or other screening instrument to gather information about a child's development and behavior. Some screening instruments rely solely on parent observations; others rely on a combination of parent and doctor observations. If screening instruments indicate the possibility of autism, doctors will ask for a more comprehensive evaluation. Autism is a complex disorder. A comprehensive evaluation requires a multidisciplinary team including a psychologist, neurologist, psychiatrist,

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speech therapist, and other professionals who diagnose children with ASDs. The team members will conduct a thorough neurological assessment and in-depth cognitive and language testing. Because hearing problems can cause behaviors that could be mistaken for autism, children with delayed speech development should also have their hearing tested. After a thorough evaluation, the team usually meets with parents to explain the results of the evaluation and present the diagnosis. Children with some symptoms of autism, but not enough to be diagnosed with classical autism are often diagnosed with PDD-NOS. Children with autistic behaviors but well-developed language skills are often diagnosed with Asperger syndrome. Children who develop normally and then suddenly deteriorate between the ages of 3 to 10 years and show marked autistic behaviors may be diagnosed with childhood disintegrative disorder. Girls with autistic symptoms may be suffering from Ret syndrome, a sex-linked genetic disorder characterized by social withdrawal, regressed language skills, and hand wringing.

2.2 **Causes of Autism:**

Scientists aren't certain what cause autism, but it's likely that both genetics and environment play a role. Researchers have identified a number of genes associated with the disorder. Studies of people with autism have found irregularities in several regions of the brain. Other studies suggest that people with autism have abnormal levels of serotonin or other neurotransmitters in the brain. These abnormalities suggest that autism could result from the disruption of normal brain development early in fetal development caused by defects in genes that control brain growth and that regulate how neurons communicate with each 16 other. While these findings are intriguing, they are preliminary and require further study. The theory that parental practices are responsible for autism has now been

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disproved. Recent studies strongly suggest that some people have a genetic predisposition to autism. In families with one autistic child, the risk of having a second child with the disorder is approximately 5 percent, or one in 20. This is greater than the risk for the general population. Researchers are looking for clues about which genes contribute to this increased susceptibility. In some cases, parents and other relatives of an autistic child show mild impairments in social and communicative skills or engage in repetitive behaviors. Evidence also suggests that some emotional disorders, such as manic depression, occur more frequently than average in the families of people with autism.

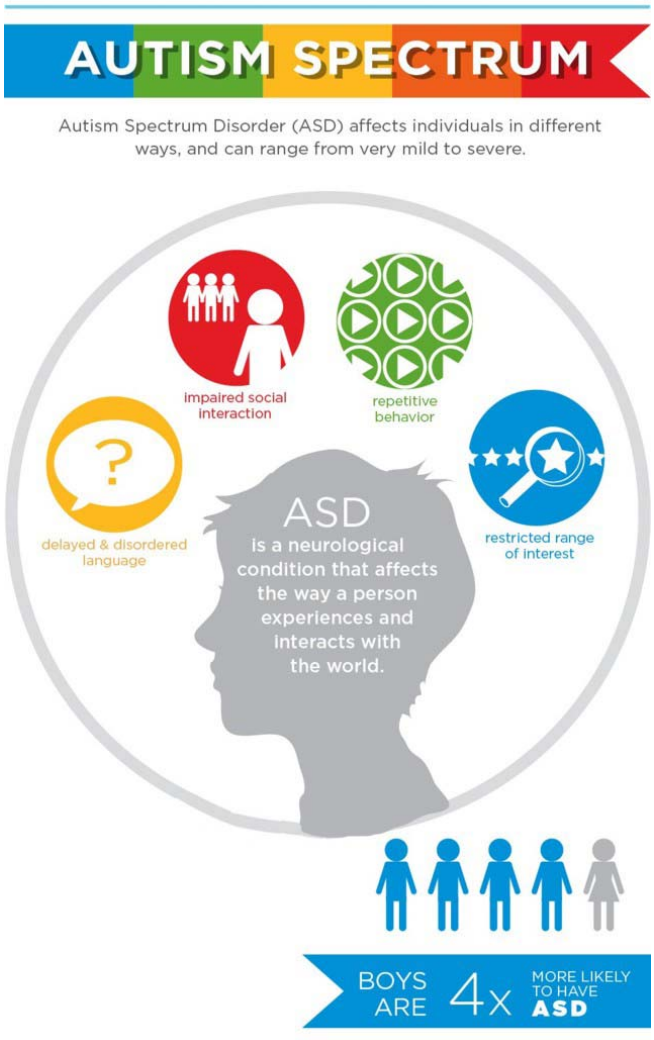

Figure 1. Symptoms of ASD (Autism Spectrum Disorder)

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2.3 **How Autistic people should be treated:**

There is no cure for autism. Therapies and behavioral interventions are designed to remedy

specific symptoms and can bring about substantial improvement. The ideal treatment plan coordinates therapies and interventions that target the core symptoms of autism: impaired social interaction, problems with verbal and nonverbal communication, and obsessive or repetitive routines and interests. Most professionals agree that the earlier the intervention, the better.

• **Educational/behavioral interventions**: Therapists use highly structured and intensive skill-oriented training sessions to help children develop social and language skills. Family counseling for the parents and siblings of children with autism often helps families cope with the particular challenges of living with an autistic child.

• **Medications**: Doctors often prescribe an antidepressant medication to handle symptoms of anxiety, depression, or obsessive-compulsive disorder. Anti-psychotic medications are used to treat severe behavioral problems. Seizures can be treated with one or more of the anticonvulsant drugs. Stimulant drugs, such as those used for children with attention deficit disorder (ADD), are sometimes used effectively to help decrease impulsivity and hyperactivity.

• **Other therapies**: There are a number of controversial therapies or interventions available for autistic children, but few, if any, are supported by scientific studies. Parents should use caution before adopting any of these treatments.

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2.4 **Signs of Autism:**

• Lack of or delay in developing spoken language.

• Stereotyped or repetitive use of language.

• Little or no eye contact.

• Lack of interest in peer relationships.

• Lack of spontaneous or make-believe play.

• Repetitive motor mannerisms e.g., hand-flapping, finger-flicking, twirling objects.

• Persistent preoccupation with parts of objects.

• Inflexible adherence to specific, nonfunctional routines or rituals.

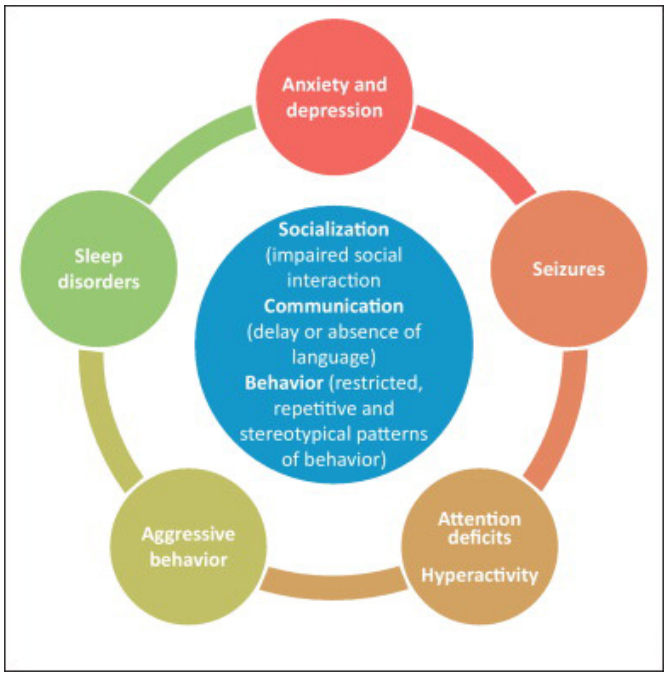

Figure 2. Behavioral patterns

2.5 **Analysis of Autistic spectrum disorder (ASD):**

Autism Spectrum Disorder (ASD) is a group of complex neurobiological, developmental disorders that are typically diagnosed in childhood with symptoms that often last throughout a persona€™s lifetime. Characterized by varying degrees of symptom

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severity and impact ranging from mild to quite severe, the hallmark characteristics of ASD include deficits in social behavior and communication as well as restricted and/or repetitive behaviors. ASD not only impacts individuals but typically affects the health and wellbeing of the entire family. The most recent findings from the US and UK indicate that approximately 1% of children have an ASD and this figure has been commonly cited as the estimated prevalence of autism globally. However in 2011, investigators found that a remarkable 2.64% of a general population sample of school-aged children in South Korea had an ASD. This study suggests that ASD may be under-diagnosed with individuals going unrecognized and without interventions in many parts of the world. Available evidence suggests that Ads€™s transcend social, cultural and geographic boundaries. However, ASD is currently not well documented in many countries around the world. There is no reliable estimate of autism prevalence in Bangladesh to date.

2.6 **Psychology of people with ASD (Autism Spectrum Disorders)**

- **trouble with organizational skills**

  People with autism have trouble with organizational skills, regardless of their intelligence and/or age. Even a "straight A" student with autism who has a photographic. memory can be incapable of remembering to bring a pencil to class or of remembering a deadline for an assignment.

- **problems with abstract and conceptual thinking**

  People with autism have problems with abstract and conceptual thinking. Some may eventually acquire abstract skills, but others never will. When abstract concepts must be

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used, use visual cues, such as drawings or written words, to augment the abstract idea. Be as concrete as possible in all your interactions with these students.

- **An increase in unusual or difficult behaviors probably indicates an increase in stress**

  Sometimes stress is caused by feeling a loss of control. Many times the stress will only be alleviated when the student physically removes himself from the stressful event or situation.

- **Regular misbehavior are not intentional**

  The high-functioning person with autism is not a manipulative, scheming person who is trying to make life difficult. They are seldom, if ever, capable of being manipulative. Usually misbehavior is the result of efforts to survive experiences which may be confusing, disorienting, or frightening.

- **use and interpret speech literally**
- Most high-functioning people with autism use and interpret speech literally. Until you know the capabilities of the individual, one should avoid.
- idioms (e.g., save your breath, jump the gun, second thoughts);
- double meanings (most jokes have double meanings);
- sarcasm (e.g., saying, "Great!" after he has just spilled a bottle of ketchup on the table);
- nicknames

- **facial expressions and other social cues may not work**

  Most individuals with autism have difficulty reading facial expressions and interpreting "body language."

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- **more easy to understand by smaller steps**

  If the student does not seem to be learning a task, **break it down into smaller steps** or present the task in several ways (e.g., visually, verbally, physically).

- **cannot handle verbal overload**

  Use shorter sentences if you perceive that the student is not fully understanding you. Although he probably has no hearing problem and may be paying attention, he may have difficulty understanding your main point and identifying important information.

- **cannot convey important messages**

  Since these individuals experience various communication difficulties**,** do not rely on students with autism to relay important messages to their parents about school events, assignments, school rules, etc.

2.7 **What is our responsibility and how we can help**

1. We should not judge them too easily. Their autism is part of who they are, not all of who they are.

2. Try to understand their difficulties with every small thing that can possible disturb them. If their senses are out of sync this means ordinary sights, sounds, smells, tastes, and touches that we may not even notice can be downright painful for them.

3. Try to give them clear instruction. It isn't that I don't listen to instructions. It's that I can't understand you, but instead of saying something from distance, go to them and say things clearly. This tells them what you want them to do and what is going to happen next.

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4. They are concrete thinker. You may confuse them by saying, "Hold your horses, cowboy!" when what you mean is, "Stop running." Don't tell something is "a piece of cake" when there's no dessert in sight and what you mean is, "This will be easy for you".

5. Listen to all the ways they are trying to communicate. It's hard for them to tell you what I need when they don't have a way to describe my feelings. They might be hungry, frustrated, frightened, or confused but right now they can't find those words. Be alert for body language, withdrawal, agitation or other signs that tell you something is wrong.

6. They are visually oriented. Show them how to do something rather than just telling. And be prepared to show them many times with lots of patient.

7. Focus and build on what one can do rather than what one can't do. Look for individual's strengths and you will find them. There is more than one right way to do most things.

8. Help them with social interactions. It may look like they don't want to play with the other kids on the playground, but it may be that they simply do not know how to start a conversation or join their play. Teach them how to play with others. Encourage other children to invite me to play along. they might be delighted to be included.

9. Identify what triggers their meltdowns. It may varies person to person. Meltdowns and blow-ups are more horrid for them than they are for us. They occur because one or more of their senses has gone into overload, or because they have been pushed past the limit of their social abilities. If you can figure out why their meltdowns occur, they can be

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prevented. Keep a log noting times, settings, people, and activities. A pattern may emerge.

10. Love them unconditionally. They didn't choose to have autism. Remember that it's happening to them, not with us. Without our support, their chances of growing up to be successful and independent are slim. View their autism as a different ability rather than a disability.

In our lifetime, we will probably know more people and families affected by autism. We can choose and be part of the solution by helping a friend, family member or neighbor. We can take time to learn not just about autism, but the individual child. Make the decision to accept children with disabilities and teach our children how they can help children with autism by being a friend too. Making the choice to support a family affected by autism is one of the greatest gifts we can give. It is also very likely that our act of kindness may turn out to be one of the greatest gifts we may receive back as well. Being a friend in our good times is easy. During the difficult times too, that's how we learn who our real friends are**.**

2.8 **Situation analysis of autistic children**

Children with Autism have clearly been among the most marginalized in Bangladesh when it comes to their education, health and social care and life opportunities. Lack of resources for children with disabilities such as qualified and trained teachers, appropriate infrastructure, teaching materials and assistive technology as well as stigma associated with disability are daunting barriers to special education and health care for special need children. Education for children with disability like Autistic Spectrum Disorder(ASD) is

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viewed as charity rather than as a right. Protection of Human Right is to ensure right to education as well as to ensure the equal right and opportunity for the people with disability. Human rights would be meaningless if they were not assigned a place within the social order in which they are to be exercised. The children with autism are always becoming the victim of discrimination and disparity. In Bangladesh, though Government has taken many initiatives to ensure the easy access to education but very unexpectedly autistic children are completely out of those consideration and privileges. Most of the Government Primary schools directly refuse to accommodate the autistic children in their institutions. Though, there are a number of organizations in Bangladesh working with various fields of disability, there is hardly any quality institution developed exclusively for the autistic children. The problem is further aggravated with the unavailability of centers to train trainers or teachers to work with autistic children. In addition. the available institutions in Bangladesh relating to autistic children are not effective.

Medical professionals in Bangladesh for a long time did not have proper understanding of neurodevelopment disorder like Autistic Spectrum Disorder(ASD). In the western developed countries, the medical and educational intervention for Autistic children started in the 1970s. Where as in Bangladesh, Autistic children was not even recognized as a specific category of disabled children even a few years back. Bangladesh adopted disability legislation 'Persons with Disability Welfare Act' in 2001. This legislation defines persons with disability that identifies those with physical disabilities, visual impairment, hearing impairment, mental retardation/illness. Unfortunately, the Act does not include Autistic Spectrum Disorder and therefore the act does not cover any protection for Autistic children. Autistic children used to exist in Bangladesh, but their

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need has been ignored in Bangladesh because of lack of knowledge and expertise. As these children did not receive attention in the education and health sectors of the country, no professional expertise and infrastructure has been developed. Autistic children are the most marginalized as Government has not built special schools for them. In Bangladesh NGOs are claiming to be working with children with ASD. But the centers they are operating are not registered as special schools under Depart of Education. They do not follow any national curriculum. They do not have any standing or accreditation as a special school. NGOs depend on donor funding to support the school they operate, which is not dependable in the long run. The right of children with ASD to health care is not realized due to absence of universal health care coverage in Bangladesh. There are lack of relevant medical professionals and drugs to address the special medical need of Autistic children.

Although Bangladesh has made significant progress towards achieving Education for All(EFA) with net enrolment of 95 percent in primary schools, the perspective of education for students with disabilities provide a different story. Mainstream school authorities refuse to enroll students with Autism In Bangladesh and children with Autism are out of schooling. Despite constitutional ground, lack of knowledge and awareness regarding disability remains one of key challenges to enacting a complete legislation for persons with disabilities in Bangladesh. Disability has been perceived as charity by policy makers and due to welfare attitude towards disability, the education for students with disability have not been considered as a right.

The initiative of the Government of Bangladesh to address the need of Autistic children has been so far limited to screening and diagnosis of Autism. Very little progress has

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been visible in intervention through regular schooling, medical and social care for these special need children. Bangladesh is yet to develop professional capacity, tools, mechanism, modules to address the special need of the Autistic Children. As Autism is a lifelong condition, special education, health and social care should be effective and sustainable. As a resource constrained country with several development challenges, the need of the Autistic Children have not been prioritized in the country.

There is no nationwide statistics of Autistic Children in Bangladesh. As per global prevalence rate, 1 percent of world population have autism. Since there are 55 million children in Bangladesh below age 14, there should be 550,000 autistic children in Bangladesh. To provide education for all these children, there should be at least 5000-10,000 special schools in Bangladesh with geographic coverage. But it is a frustrating situation that only a few private centers are found to be working with Autistic children and those do not have the status of a school. We do not find any public special school for Autistic children. Moreover establishing special school is not enough. If these schools are not linked with specialists services and clinical treatments in health sectors, the special need of the children cannot be met. Education, Health and Social care sectors need to work in partnership to provide specialist support to children with Autism. But such partnership does not exist in Bangladesh.

To protect the right of the children with neurodevelopment disorder, it is necessary to put in place governmental protective legislation, policies and monetary funding. In Bangladesh education and health departments have not put in place any standard or statutory provision which will be legally binding on schools and medical centers to ensure education and health care for special need children with complex need. In

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developed countries, there are statutory requirement to make Learning Disability Assessment (LDA) and Health and Care Plan for every child with disability to identify their learning and medical needs and make provision required to meet those needs. Local municipality/city council, special schools, clinics, hospitals, social care services work in collaboration to fulfill the statutory requirement. Unfortunately such provision does not exist in Bangladesh.

In Bangladesh, Government must take giant steps to develop special schools and medical centers all over the country with public fund and only then state can formulate code of practice for the protection of the rights of special need children. While in a mainstream schools, teacher to student ratio can range from 1:15 to 1:30, for special schools the teacher to student ratio should be in the range 1:2 to 1:4. Moreover teaching a special need child is a challenging and difficult task. Teachers of special school must receive higher remuneration than teachers of mainstream schools otherwise teachers will not be motivated to take the challenging profession. Therefore significant funding is required for maintenance of special schools. In Bangladesh there are a few private organizations for Autistic children, but private organizations cannot be brought under legally binding provision. Government should take the responsibility to establish the legal framework, infrastructure, facilities and regular budget for education and care for Autistic children.

The World Report of World Health Organization has put Bangladesh in the category of countries having ' an absent or dysfunctional health-care infrastructure'. Bangladesh spends only US $ 16 per capita for health annually, a part of which again comes from development partner. The country's tax base is small, only 9 per cent of GDP.

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The public hospitals in Bangladesh has perennial problem of absenteeism of doctors and medical staffs and corruptions. The Public hospitals also lack equipment, facilities, proper infrastructure, adequate doctors/nurses, proper monitoring mechanism and system of accountability. Absence of strong local government system has made the public hospitals and health centers guardian-less. There is currently neither monitoring mechanism for seeking redress against the violation of right to health, nor for holding the violators accountable. The doctors and other service providers, therefore, get immunity of their negligence, inefficiency or wrong treatment causing severe health hazards and suffering of patients. When the general mass of the country are not receiving proper and quality health care, we can imagine worse situation for the disabled children in Bangladesh. Health care system of the country must improve to make provision of good health care support and intervention for the special need children.

2.9 **General design considerations for Autism Friendly Structure**

- Large single-pane windows and large areas of glass in glazed doors should be avoided on safety grounds.
- Key locks should be provided to external doors, to each bedroom, any office(s), food stores, kitchen, boiler rooms, domestic chemical stores (including cupboards used for that purpose) and rooms/cupboards containing electrical switchboards. To minimize the number of keys carried by staff and to enable residents to use keys, a lock system should be adopted as follows:
- A master key system should be used for individual locks on all bedroom doors, food stores, kitchens, boiler rooms and electrical switchboards.
- A separate master key system for locks to external doors should be provided.

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- Separate keys for chemical stores and offices should be provided.
- Multiple-use WC and bath/shower rooms should have a sliding bolt lock that can be opened from the outside in case of emergency.
- External and ground floor doors and ground floor corridors must be wide enough to permit access by wheelchair, either for people with multiple disabilities or for access by staff using wheelchairs to assist someone recovering from an epileptic seizure. Where ground and floor levels change, shallow ramps should be provided in preference to steps.
- Where building layout permits, a minimum of one ground floor room should be available for use as a bedroom for a wheelchair user.
- The need to offer personal support, supervision and training in aspects of personal hygiene requires that at least some WC pans, hand basins and baths are positioned so that staff can stand beside the person they are assisting. All general use bathrooms or WCs must provide this additional space.
- The dignity and privacy of individual residents in the building requires that they be offered en-suite washing/WC/shower or bath facilities where possible. Each self-contained housing unit should provide a majority of en-suite facilities, with a minimum of one bathroom and one separate WC also available for general use.
- 'Push bar to open'-type fittings on external doors are unacceptable due to the risk of residents absenting themselves from the building at night.
- Mechanical door-closers are a continual maintenance problem due to the high proportion of people with autism who try to close the door against the braking mechanism. Swing free closers are cheaper in the long-run.

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2.10 **Types of Neuro-development disabilities**

a) Autism

b) Down syndrome

c) Cerebral palsy

d) Learning disabilities

e) Mental Retardation

f) Developmental delay

g) Low vision

h) Hearing Impairment

03 **SITE AND CONTEXT ANALYSIS**

Purbachal (sector 8) beside road number 216, Total site area of the project is 4.46 acres.

The site is located in Purbachal .The total area of Purbachal is 6150 acres. "Purbachal New Town Project" is situated at Rupgonj thana of Narayangonj district and Kaligonj thana of Gazipur district in between river Balu and Sitalakhya at a distance of 16 KM from zero point of Dhaka. The Township will be linked with 8(eight) lane wide express way from the Airport Road/Progati swarani crossing . The distance is only 6.8 km. There will be provision of about 26,000 residential plots of different sizes, 62,000 apartments with all necessary infrastructure and urban facilities. Going to the site from 300' road is just about ten minutes distance. hence, the connection network will be better and easily accessible. . RAJUK intends to plan and develop the area as self-contained New Township with all modern facilities and opportunities .38.74% land used for Residential ,25.9% for Road ,6.41% for Administrative and Commercial ,3.2% for Institution and

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Industrial Park ,6.6% for urban Green and Open spaces , 7.1% for Lakes and canals,2.5% for sports, 6% for Education, Health and Social Infrastructure.

Figure 3. Location of the site in Purbachal model town

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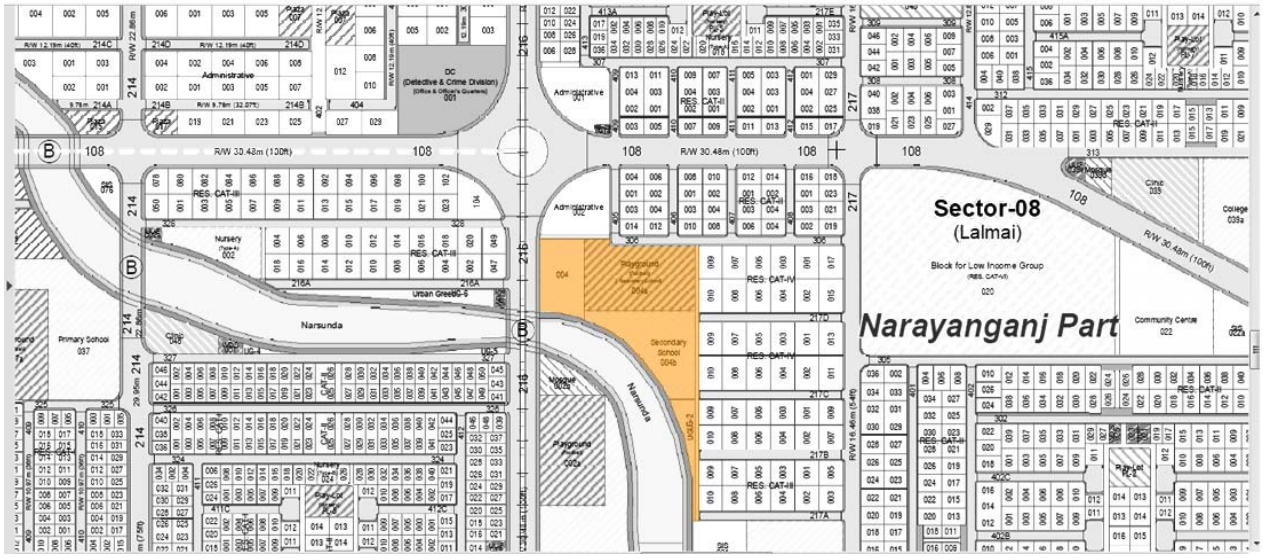

Figure 4. Site location

3.1 **Existing site surrounding**

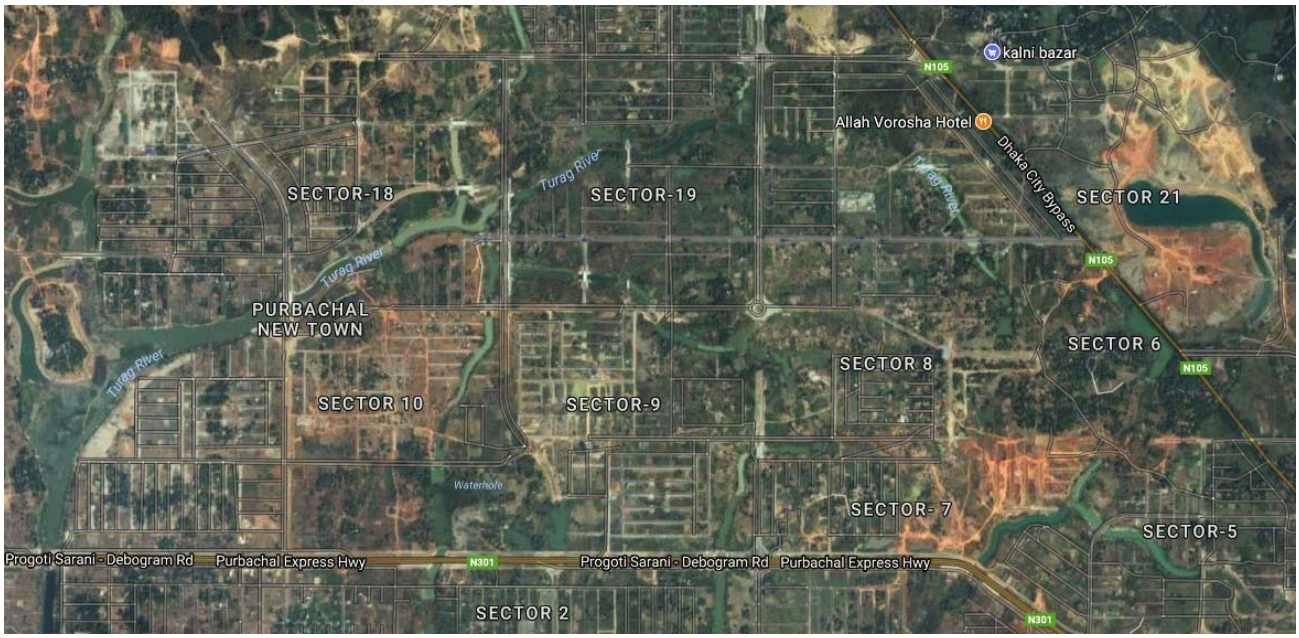

Figure 5 .Current situation of Purbachal Model Town

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3.2 **Future Scenario of site surroundings**

Figure 6.Influences of educational institutions near site

3.3 **SWOT Analysis**

- **Strength**

Future prospect of Purbachal Model Town is very much bright. There will be many Residential, Commercial, Governmental, Educational and Public Institution and Research centers in this area. Those will have a great impact on the project "NAAND". After few years, population will increase surely and this kind of institution will contribute surely in our country. Also Purbachal is now not so far from the center of Dhaka City as there are many flyovers, roads have been constructed in the recent past years. Soon it will be more connected with the rest of the city.

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- **Weakness**

  As Purbachal is not fully developed currently so establishment of this kind project will be time consuming. Many part of Dhaka city were not having good access to the site. Recent implementation of Kuril flyover have reduced this lack of communication to some extent. There are no existing structure or urban life present to predict the future possibilities.

- **Opportunity**

  Purbachal area has the capability of controlling the urban growth which will direct to a new urbanization in the coming years. This type of project (NAAND) will put more value to the community and work as a source of icon in this new township.

- **Threats**

  Too many infrastructure may damage the current natural amenities, and disrupt the environment. With the rising population this township has the possibility of becoming crowded like Dhaka city.

04 **CASE STUDIES**

4.2 **North Brother Island School for Autistic Children / Ian M. Ellis & Frances Peterson**

Designed by architecture students, **Ian M. Ellis** and **Frances Peterson**, their proposal for the North Brother Island School for Autistic Children in New York City aims to provide a necessary resource for the Bronx, which is heavily underserved in terms of school for children with Autism Spectrum Disorder. The project is also designed with the intention that it will dissolve the negative stigma of the island, stabilize its naturalized growth as

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habitat for the birds, and introduce research and education programs to provide a cutting edge learning environment for the public, parents, and children

This unusual mix of program, site, and clients (neuro-typical children, autistic children, researchers, educators, and birds) actually reinforce and enable the success and growth of each other, reacting to the various needs of hypersensitive or hyposensitive occupants – human or bird.

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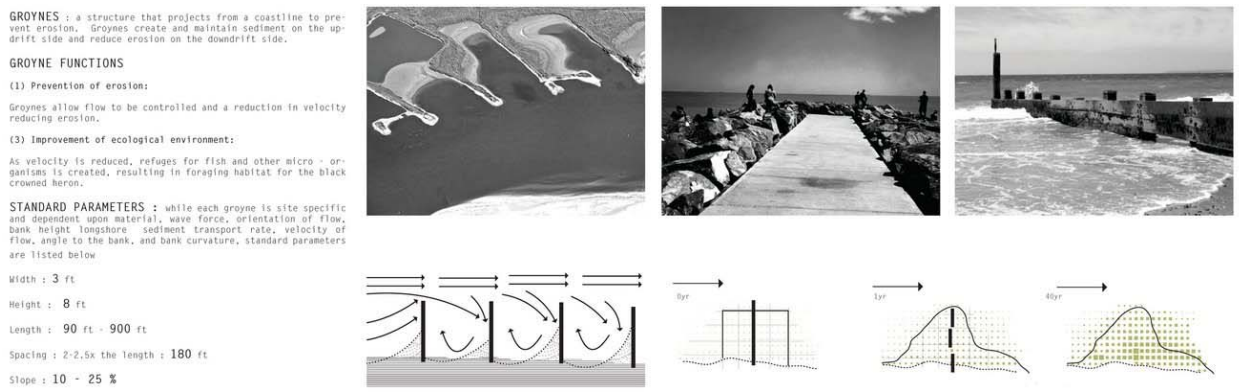

GROYNE EXPERIENCE

LIVING CRIB

Just as autism isn't a predictable or similar disorder, the school and its designed landscapes are unique and crafted to be best suited for different types of users. Hypersensitive children need control, similarity, predictability and a safety. Hyposensitive children seek discovery, texture, sound, and sensory experience. The school responds to this with three clusters of classrooms looking out onto three unique courtyards. The West cluster is for children that are somewhere near the middle of the spectrum – hypo or hyper. This courtyard is strange yet safe, allowing for discovery and exploration near the safety of classrooms, the library, and break area.

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HYPO GARDEN

HYPER GARDEN

4.2 **Sweetwater Spectrum Community / LMS Architects**

Sweetwater Spectrum is a new national model of supportive housing for adults with autism, offering life with purpose and dignity. Designed by **Leddy Maytum Stacy**

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Architects, the 2.8-acre site provides a permanent home for 16 adults and their support staff. The four 3,250-square-foot four-bedroom homes include common areas as well as a bedroom and bathroom for each resident. Sweetwater Spectrum also incorporates a 2,300-square-foot community center with exercise/activity spaces and a teaching kitchen; a large therapy pool and spas; and an urban farm, orchard, and greenhouse.

Major design strategies included the following:

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Legibility: A straightforward and consistent spatial organization provides clearly defined transition thresholds between public, semi-public, semi-private, and private spaces.

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Experiential Hierarchy: The design offers a layered or "nested" experiential hierarchy, beginning with the individual room; expanding to a residential wing with two bedrooms and then to the house with four residents; expanding outward to the sub-neighborhood of two homes, the community center and commons, and the other two homes; and finally extending to the broader community.

Preview and retreat: Residents have the opportunity to preview spaces and activities, and they can access places of retreat for quiet and calm.

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Predictability: All four homes are similar in design so that residents feel comfortable visiting each other or relocating to a different house on the site.

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05 **PROGRAMME AND DEVELOPMENT**

5.1 **Administration**

1. Entry + Entry Lobby = 500 sft

2. Administration + Office rooms = 2000 sft

3. Reception+ Information + Inquiry = 400 sft

4. Toilets + Stores = 1000 sft

Total = 3900 sft

5.2 **Medical care & Therapy Units**

1. Lobby = 200 sft

2. Doctors chamber = 200 sft

3. Psychological assessment room = 600 sft

4. Staff room = 200 sft

5. Occupational therapy = 700 sft

6. Hydro therapy = 700 sft

7. Yoga therapy = 500 sft

8. Dance therapy = 500 sft

9. Auditory room = 300 sft

10. Dark room therapy = 300ft

11. Toilets + stores = 1000 sft

Total = 5200 sft

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5.3 **Special Education (for 200 children)**

1. Class room assuming 200 students = 10000 sft

(approx.) at a time with the capacity of 20 people (students and instructors) in a class (10 nos x 1000 sft)

2. Relative equipment's + Store = 300 sft

5. Principal's room = 300 sft

6. Teachers Common Room = 800 sft

7. Care givers Room = 800 sft

8. Parents Room = 300 sft

9. Toilets + Store = 1000 sft

Total = 13500 sft

5.4 **Vocational Training units**

1. Computer Training Lab = 300 sft

2. Arts & Crafts = 500 sft

3. Tailoring workshop= 500 sft

4. Packaging workshop = 500 sft

5. Toilets + stores = 1000 sft

Total = 2800 sft

5.5 **Food Zone & Entertainment Zone**

1. Cafeteria + Kitchen & Pantry = 2500 sft

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5.6 **Day care Facilities**

1. Lobby + waiting = 500 sft

2. Classrooms = 1500 sft (02 rooms)

3. Toilets + stores = 1000 sft

Total = 3000 sft

5.7 **Temporary Accommodations (For 30 people)**

1. Lobby + reception room = 400 sft

2. Rooms + Toilets = 8000 sft

(4 person for each room)

3. Caregiver's room + toilet = 2000 sft

(for each floor)

4. Medical Room = 500 sft

Total = 10900 sft

5.8 **Sensory integration and bird sanctuary**

1. Special Outdoor Spaces for Activities and Life-skill training = 1000 sft

2. Meditation Gardens = 1600 sft

3. Bird Sanctuary = 5000 sft

Total = 7600 sft

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Area: 4.46 acre or 194277.6 sqft

Total built Area = 49400 sft

Circulation Area = 14820 sft

(30% of total Built Area)

In Total = 64220 sft area

For Public Places = 8604F0 sft (open area)

5.9 **Supporting Functions**

1. A platform for children's to participate their cultural events,

2. Drop off point of students taking public transport.

3. Car parking as much close to code requirement.

4. Pedestrian walkways for access to school building as much may be incorporated.

5. Vehicular drop off under porch of school building.

6. Courtyard + landscaped sitting for Students.

7. Workshop Spaces for Inclusive Education

8. Open Platform for Awareness Programs

9. Exhibitions Spaces to Display various works

10. Sanctuary garden and playground placement properly.

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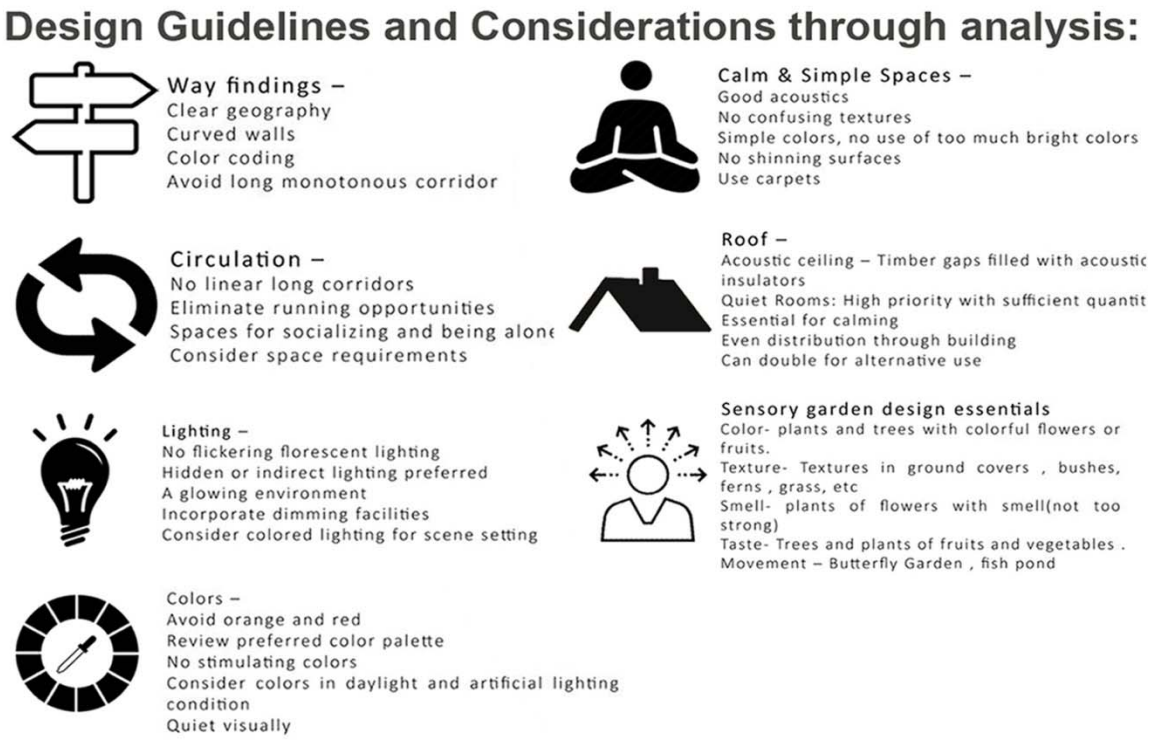
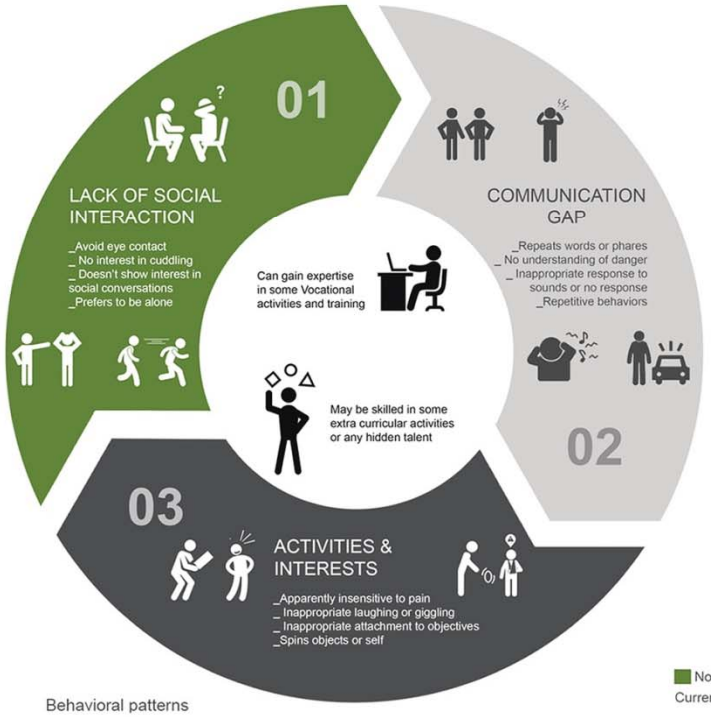
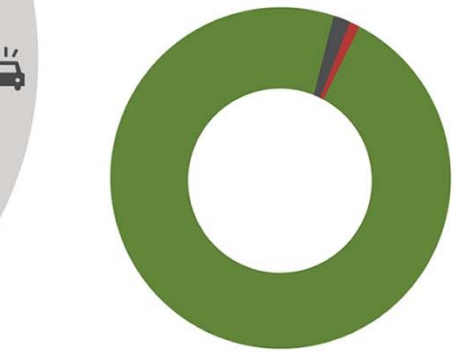
06 **CONCEPTUAL STAGE AND DESIGN DEVELOPMENT**

6.1 **Concept & Design Considerations**

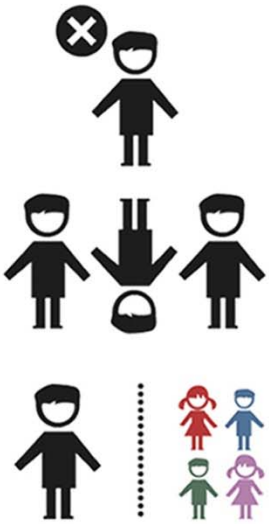




Behavioral patterns



Current status in Bangladesh



Lack of or delay in spoken language

Different & unique behaviora patters

Lack of social interactions

50%

Of children with Autism are not in the kind of school their parents believe best supports them.

40%

Of children with Autism have been bullied at school.

1 in 5

Of children with Autism have been excluded from school. Many, more than once

cost of lifelong care can be reducesd by 2/3 with early diagnosis and intervention

Occupational therapy

Physio therapy

Hydro therapy

Sensory garden

Auditory therapy

Dance therapy

Yoga therapy

Dark room therapy

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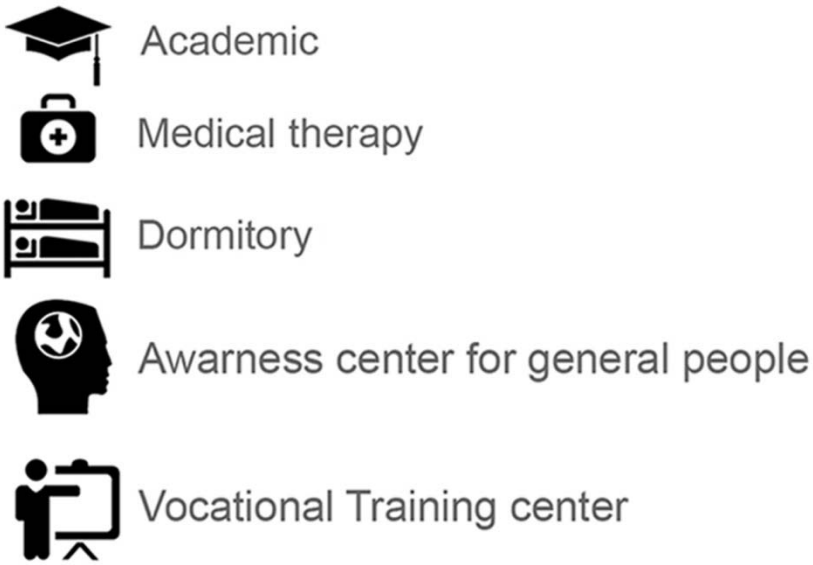
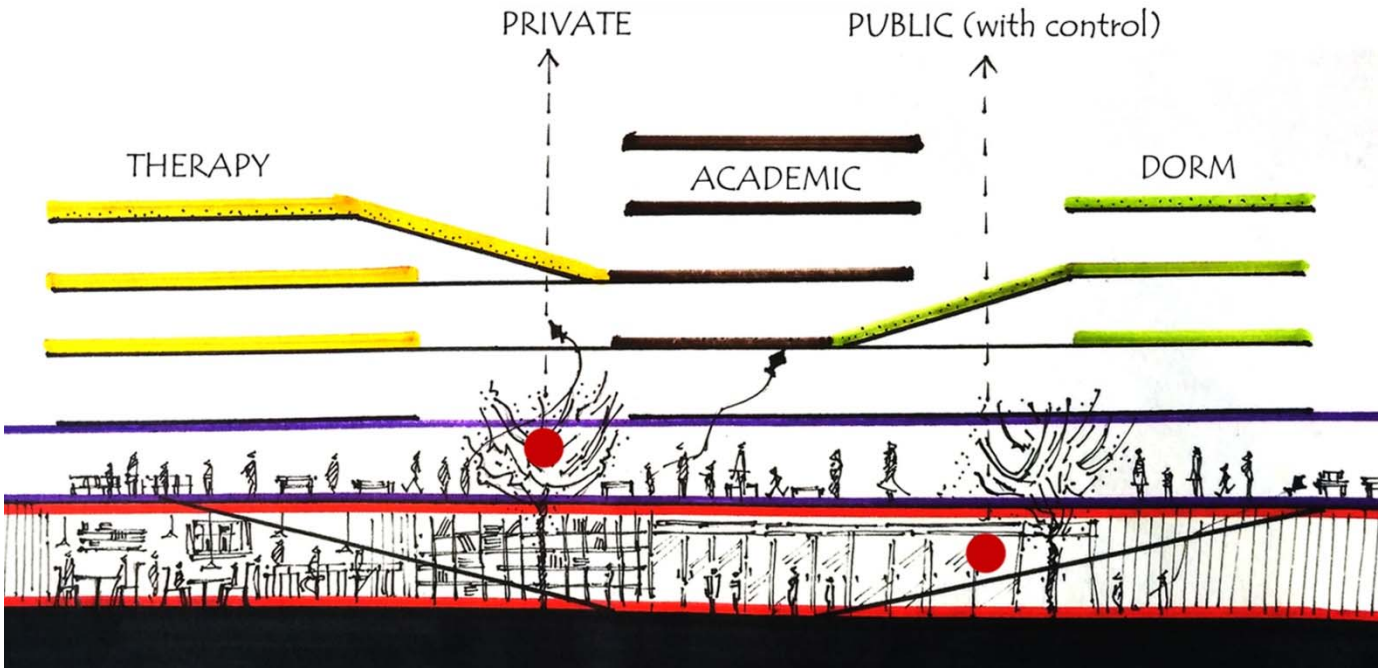
6.2 **Program development**



6.3 **Conceptual sketch**



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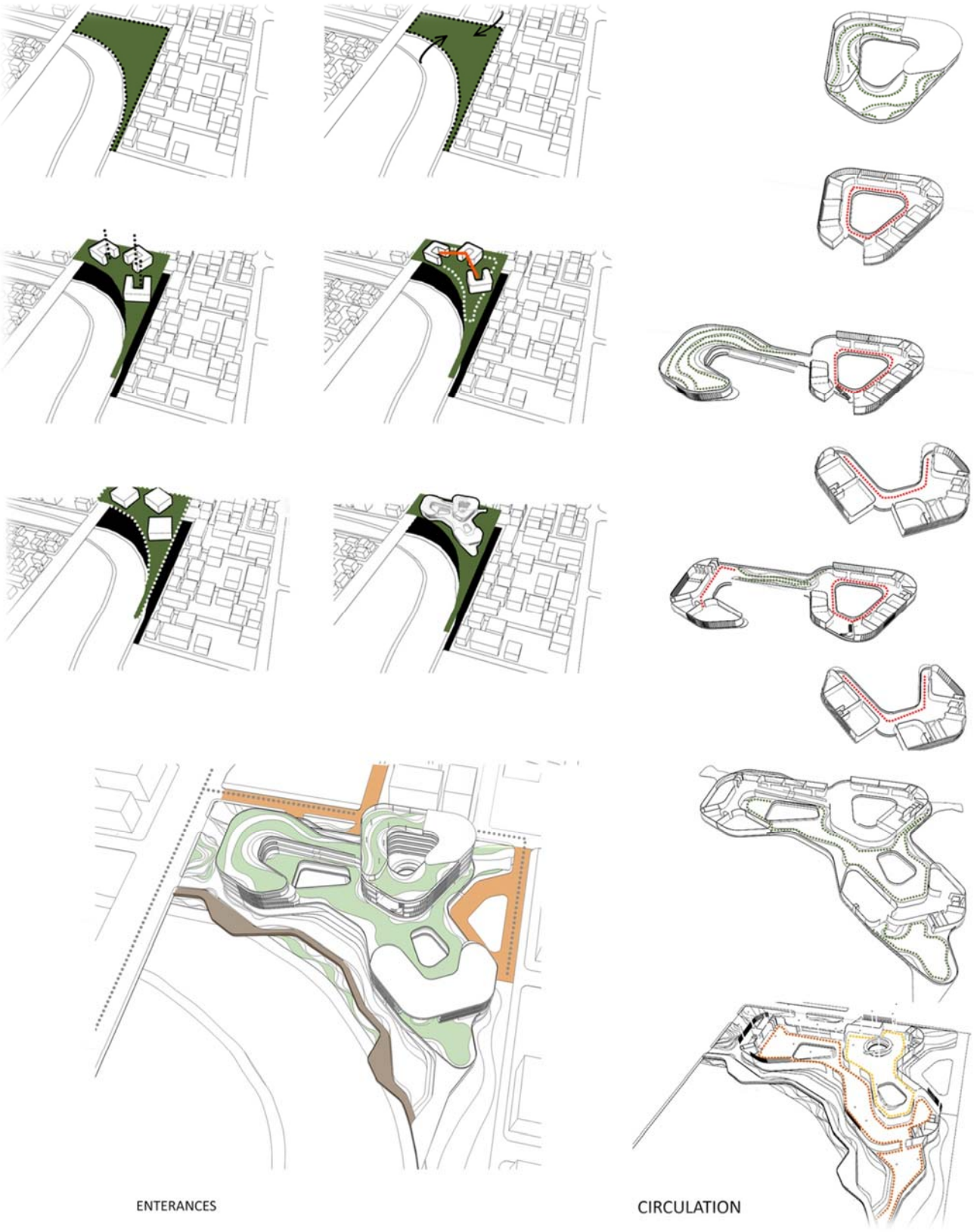
6.4 **Mass development**



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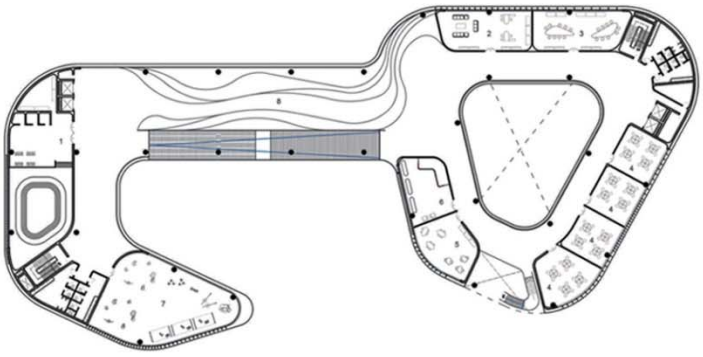
6.5 **Plans**


A
A'
B
B'
1
2
3
4
5
GROUND FLOOR PLAN
1 LOBBY
2 EXHIBITION SPACE
3 WORKSHOP GROUND
4 OPEN PLATFORM
5 BOOK SHOP

FIRST FLOOR PLAN

1 OFFICE
2 ADMIN
3 DOCTORS CHAMBER
4 STAFF ROOM
5 PARENT ROOM
6 STORE
7 CAFE
8 PSYCHOLOGICAL ASSESSMENT
9 DAYCARE
10 OPEN TERRACE



SECOND FLOOR PLAN

1 HYDRO THERAPY
2 STAFF'S ROOM
3 TEACHER'S ROOM
4 CLASS ROOM
5 AUDITORY
6 DARK ROOM
7 DANCE THERAPY
8 STORE
9 FEMALE DORM
10 MEDICAL
11 CARE GIVING ROOM

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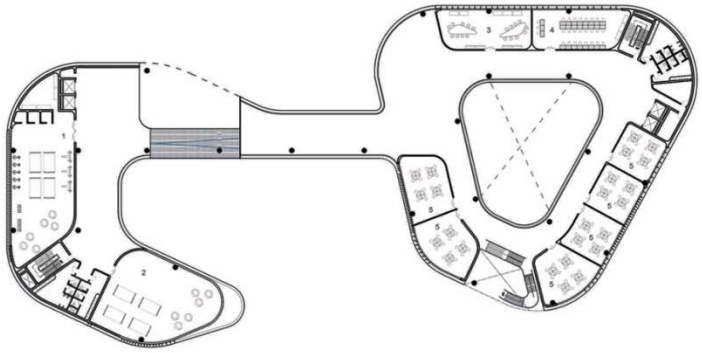
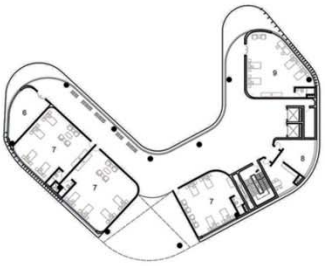


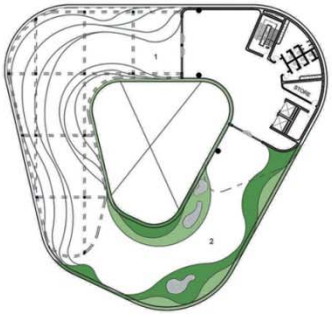
THIRD FLOOR PLAN

1 OCCUPATIONAL THERAPY
2 YOGA THERAPY
3 TEACHER'S ROOm
4 IT LAB
5 CLASSROOM
6 STORE
7 MALE DORM
8 MEDICAL
9 CARE GIVING



FOURTH FLOOR PLAN

1 ARTS & CRAFTS
2 TAILORING
3 TEACHER'S ROOM
4 PACKAGING
5 CLASS ROOM



FIFTH FLOOR PLAN

1 BIRD SANCTUARY
2 OPEN TERRACE

6.6. **Elevation**

SOUTH -EAST ELEVATION

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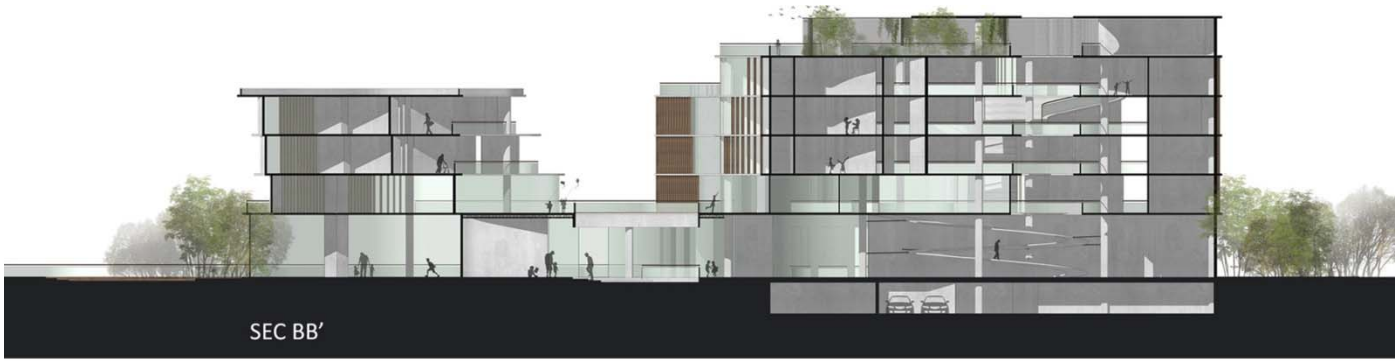
6.7. **Sections**



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6.9 & 6.8 Model Images and 3D Views & Render

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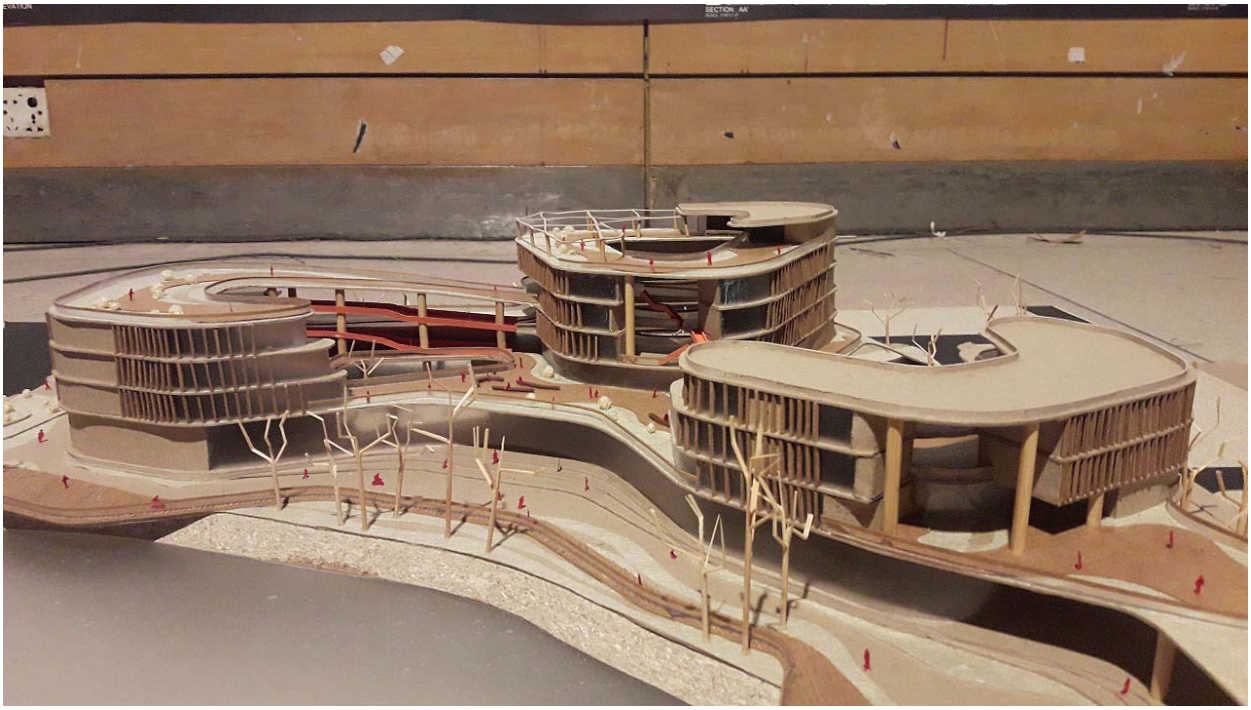

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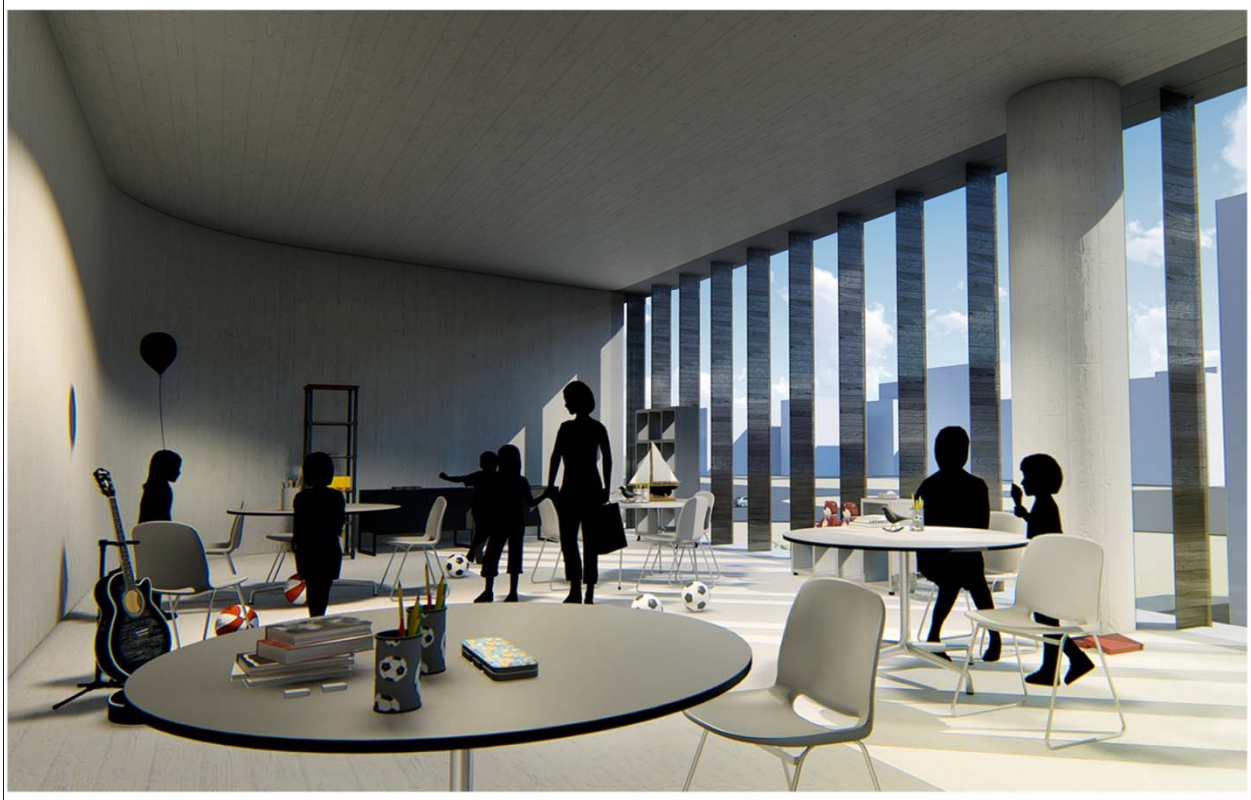

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CONCLUSION

In our lifetime, we will probably know more people and families affected by autism. We can choose and be part of the solution by helping a friend, family member or neighbor. We can take time to learn not just about autism, but the individual child. Make the decision to accept children with disabilities and teach our children how they can help children with autism by being a friend too. Making the choice to support a family affected by autism is one of the greatest gifts we can give. It is also very likely that our act of kindness may turn out to be one of the greatest gifts we may receive back as well. Being a friend in our good times is easy. During the difficult times too, that's how we learn who our real friends are.

This paper is a step by step solution of the project which reflects what would be a satisfying environment for the people of special needs and providing them a better space to embrace their life.

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