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## **Online Support for Education, Medication, Agriculture and Relief Work at COVID-19 Pandemic Time**

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### **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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### **ABSTRACT**

The future of Bangladesh belongs to the younger generation. All of us have to do our bit to get them involved in improving the lives of the rural poor. If we do not do so, there will be serious social conflicts. Unless we can provide basic amenities so that the rural poor can live a meaningful life, we will never become a great nation. This is a great challenge for all youngsters and it is our work's dream that they will take it up so as to make Bangladesh a better place to live and work. This work describes an organization named "Neuron Group" which contains four fields: Edu-Care (Neuron Educational Support Center), Medi-Care (Neuron Medical Support Center), Agri-Care (Neuron Agricultural Support Center) and Relief-Care (Neuron Relief Support Center). Students will have the opportunity to study with the most talented doctors and engineers of the country. The contribution of this work is to keep the students in their studies at pandemic time (covid-19 period) with the help of our website and social media such as Facebook, twitter and Instagram. Other contributions of this work are social awareness, to develop rural areas, create employment, help increase the income of poor people, raise awareness among poor people, bringing poor people into the mainstream of society, assistance in agriculture and financial assistance of poor and marginal

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farmers. In the district where the "Neuron Group will have a branch", a list of rational poor and destitute based on the wards of each Upazila of the district will be prepared and they will be given food aid from time to time.

**Keywords:** COVID-19; Pandemic; Neuron group; edu-care; medi-care; agri-care; relief-care development; poverty; refugee.

## 1. INTRODUCTION

Education, entrepreneurship, physical infrastructure, and social infrastructure all play an important role in developing rural regions [1]. *There should be ways to improve rural lives with participation of rural people themselves, so as to meet the required needs of rural communities [2]. Integrated approaches to growth are being followed in developing countries such as Bangladesh [3]. The Integrated Development Plan is a mechanism to improve the quality of live and economic well being of people living in rural areas that are relatively remote and densely settled [4].* From time immemorial, most people lived in villages and most villages were broadly alike socially and agriculturally [5]. Given this, only a small portion of the land area of the nation is covered by forests [6].

Development can be described as a series of more or less linear transitions, from traditional more modern production styles, from an everyday life marked by misery and deprivation to a more comfortable life, made possible by relatively recent advances [7]. Development is a mechanism by which community members increase their personal and institutional capacity to mobilize and allocate resources enhance their quality of life in a sustainable and fairly distributed manner, in line with their own preferences [8]. It can also be seen as a social action mechanism that encourages people, groups, and societies to participate in the goals of increased influence of individuals and communities, political efficacy, enhanced quality of life, and social justice.

It is not possible to bring any change in the society with the help of food. If we can cooperate in the education of their sons and daughters through which those poor and destitute families will be prosperous at one time, help them in their agricultural work, provide health care, then it will be possible to bring change in the society. From this idea we create this project where education through Edu-Care, Medicine through Medi-Care, Agriculture through Agri-Care and Relief-Care will help poor and needy families.

### 1.1 Edu-Care

Edu-Care is also called Neuron Educational Support Center. It is a social service organization run by students of *Bangladesh University of Engineering and Technology (BUET) and Dhaka Medical College (DMC)*. School and College Students will receive the highest quality education through Edu-Care. They will have the opportunity to study with the most talented students in *BUET and DMC*. Poor and meritorious students will be able to study here for free. The profit from Edu-Care will be given to the poor and needy families through Medi-Care, Agri-Care and Relief-Care. In the district where the "Neuron Educational Support Center" will have a branch, we will find the most meritorious students in the district through the "Talent Exploration" admission test and arrange scholarships for them.

### 1.2 Medi-Care

Medi Care means Neuron Medical Support Center. It contributes to the medical field. In remote areas of the country where people are deprived of medical services, they will get completely free medical services. One day a week our team of specialist doctors will go to the remote areas of each Upazila of the district where the "Neuron Medical Support Center" will be to provide medical services. Issues like counseling and motivation, assistance in diagnosis and treatment, financial assistance, eradication of illiteracy and superstition, creating a conducive environment, mental preparation of patients for the operation, arranging the funeral of anonymous, poor and deceased person, conduct social research in the medical field, to contribute in health education programs, working with the patient's family to ensure proper adjustment and reconciliation, to make good use of the quality of service of the volunteers, provide financial and other assistance such as equipment and clothing as per the needs of the patient and his family and meet other needs of the patient's family, provide training for volunteers and create social awareness about the emotional and social factors influencing medical care, provide

psychiatric treatment, recreational activities, library facilities, hobbies and some handicraft training etc, counseling on alcohol and drug abuse, counseling on emotional issues, do family counseling, career and industry counseling are on main focus. Neuron Medical Support Center will contribute to the following medical field-

*Free Health Care: Neuron Medical Support Center will raise awareness about the health of people in the society by setting up free medical camps in different unions of every Upazila of the districts in which the Neuron Group has branches in Bangladesh through senior specialist doctors of Dhaka Medical Hospital and other government medical hospital of the country.*

*Prevention and Discussion: It is easier to prevent disease than to cure it. How to be health conscious, what kind of food to eat, what foods increase immunity, how to stay clean, what to do if not, how to keep healthy people away from unhealthy habits and build healthy habits. Our specialist doctors will give free advice. The Neuron Medical Support Center will provide free treatment to those who have already been affected by any disease and refer them to a specialist doctor for treatment.*

*Awareness: Healthy people can form an ideological and modern family, society, state and world. If a person is not clean and conscious and healthy, then how can he give the gift of a good and modern family, society, state and the world. In this regard, Neuron Medical Support Center is working as a social reformer.*

*Free Blood Grouping: Neuron Medical Support Center will arrange free blood grouping. In society, patients need blood from time to time, but it is very difficult for them to get blood at that time, many patients die due to lack of blood at that time. Because the blood group is not known to the family members, they are not aware that the blood is in the patient's family members. That's why the Neuron Medical Support Center will inform the people of the society by making blood group data.*

*Free Treatment: Neuron Medical Support Center will provide free treatment to poor and helpless people by creating health data.*

### **1.3 Agri-Care**

Agri-Care is Neuron Agricultural Support Center. Agri-Care is also committed to contribute to Agriculture. If the farmer survives, the country will

survive. Neuron Agricultural Support Center has launched "Agri-Care" for farmers. The farmers of the country will get this service completely free of cost. One day a week, a team of our expert agriculturists (having completed Honors-Masters from Bangladesh Agricultural University) will go to the agriculture-dominated areas of each Upazila of the district where the Neuron Educational Support Center will have a branch to provide Agricultural Services. *Issues like agricultural information and communication technology support, assistance in quality seed production, assist in rat eradication activities, provide assistance in marketing of agricultural products, provide advice on dealing with natural disasters, provide assistance in compliance with tree planting rules, assist in agricultural rehabilitation, provide technical assistance, assist in the creation and management of orchards, agricultural Materials Assistance, provide integrated extension services, irrigation management, encouragement to cultivate vegetables in the backyard are on main focus. Seminars will be held every one month in the major agricultural regions. The members of our Agri-Team will provide free services to the farmers through seminars on how farmers can benefit from cultivating land, how to cultivate high quality crops, how to minimize farmers' farming costs. We want to create a union based list of poor, destitute and marginal farmers to be published on our website and help them with free agricultural equipment.*

### **1.4 Relief-Care**

Relief-Care is the Neuron Relief Support Center. It works to alleviate hunger and poverty. In the district where we have a branch, a list of rational poor and destitute based on the wards of each Upazila of the district will be prepared and they will be given food aid from time to time. Issues like services are provided to the poor affected by the disaster and to the poor at normal times, rational beneficiary selection and enlistment through our union volunteer committee, provide food grains to every family among the listed elderly, widows, crippled, disabled, natural disaster victims and distressed families, to develop rural areas, create employment, help increase the income of poor people, raise awareness among poor people, bringing poor people into the mainstream of society through cooperation are on main focus. We will make a union-based list of poor, destitute, helpless old people, widows, orphans, disabled people and publish it on our website and give them food aid

every 3 months. During the Corona virus Pandemic, the staff of Neuron Relief Support Center carried out public awareness campaign in about 150 villages of every Upazila of Sirajganj district. The steps taken by the Neuron Relief Support Center during the corona virus Pandemic.

- *Collected information of returnees abroad and confirmed their home quarantine.*
- *Hat-bazaars located within our workplaces have taken steps to close shops other than daily necessities (groceries and raw material bazaars, etc.), drug stores and other emergency service providers; If necessary, the Upazila administration has provided information about the violators of the law.*
- *Has taken steps to maintain social distance.*
- *Has taken precautionary measures against the corona virus.*
- *Prepared a list of low-income people and assisted the Upazila administration in implementing the "Food Assistance Program".*
- *Has participated in other activities taken by the district administration, Sirajganj to prevent corona virus.*
- *The Neuron Relief Support Center has provided food assistance to 1,000 poor and needy families in the Corona virus Pandemic in Sirajganj district.*

We desire a society of hope, peace with social justice, where all people live with dignity and protection, where poverty has been conquered. Education is our main focus. We know that until all citizens provide equal rights and opportunities, we cannot solve poverty. Within the village and our own organization, we believe in urgent action, creativity and the need for change. We are accountable to the people and stakeholders we humbly represent, communicating our outcomes, stories and lessons transparently. We know that by embracing differences, actively incorporating a plurality of voices, and joining together, we can overcome the country's toughest challenges. We encourage ourselves to the highest level of learning and achievement, utilizing the best of the human spirit to produce impact. We hope in the equal dignity in each human being as well significance of respecting and honoring every person; we recognize that through people, change occurs. Researchers will use the results effectively to perform research in the related fields in the best interest of society.

The development of any community to a certain extent depends on meaningful research findings made available to the public. This study will also ascertain the extent to which Neuron Group project have had positive impacts on the rural development effort in Bangladesh.

The outcomes of the research would also be useful in raising public awareness of the Neuron Group's role in the socio-economic growth of our rural areas. It will also serve as context information for more rural development analysis and policy formulation. This study will assist governments, regional planners, non-governmental organizations (NGOs) and community-based organizations (CBOs) to strengthen and make their development programs and projects more efficient. Government at all levels would find it useful and sufficiently put to use the findings of the research to contribute more on areas of felt needs of the community people because community development cannot take place in a vacuum, it should be done based on the felt needs of the people within a geographical area.

The rest of the paper is organized as follows. Chapter 2 gives Literature Review. Chapter 3 performs Methodology. Result and discussions are carried out in chapter 4. The paper in concluded in chapter 5.

## 2. LITERATURE REVIEW

This chapter explores one of the key concepts of the research, 'sustainable development', examining its definition, its evolution and how it is used in national strategies. Through examination of the relevant literature, the chapter aims to identify the main principles of sustainable development.

The theory on which this study is based is the group behavior theory by Kurt Lewin's which states that "People support what they help create". Rural people are far more likely to accept and support ideas and change if they participated in the decision-making process or helped conceive the idea in the first place. For this work, the implication of Lewin's research is to involve rural dwellers in building and sustaining their communities. Participatory development aims to include local communities in initiatives for development. Since it originated in the 1970s, when it was adopted as an integral part of the "basic needs approach" to development, participatory growth has taken a

variety of forms [9]. Most manifestations of Participatory Development aim to "give the poor a role in initiatives designed to benefit them" in the expectation that if local communities are active in the development process, development projects would be more sustainable and effective.

Participatory development is becoming an increasingly recognized form of practice for development and is used by a number of organizations [10]. It is also viewed as an alternative to "top-down" conventional development. Ecological theory by Urie Bronfenbrenner emerged from the premise that administrative institutions in the developing nations are weak, thereby being incapable of developing their communities, as a result of ecological constraints that impinge on them [11]. Network theory of social power posits that interpersonal interaction and agreement are ubiquitous in social groups and fundamental for persons to form their attitude.

With around 2.2% of worldwide people, Bangladesh is the world's 8th-most populated country [12]. The estimated population at 161.3 Million during 2016, according to the 2019 World Population Prospects revision [13]. The economy of Bangladesh is a developing market economy [14]. In the first quarter of 2019, Bangladesh was the 7th fastest growing economy, with an annual growth rate of 8.3 percent of real GDP [15].

Bangladesh conducted a socialist economy soon after independence from Pakistan by nationalizing all factories, showing to be a crucial blunder undertaken by the government of the Awami League. During the nineteenth and twentieth centuries, some of the same variables that made East Bengal a prosperous area were disadvantageous [16]. As life expectancy improved, land restrictions and annual floods became increasingly impediments to economic growth. Modern agricultural methods have become barriers to agricultural modernization. The design and maintenance of a modern transport and communication infrastructure has been severely restricted by geography.

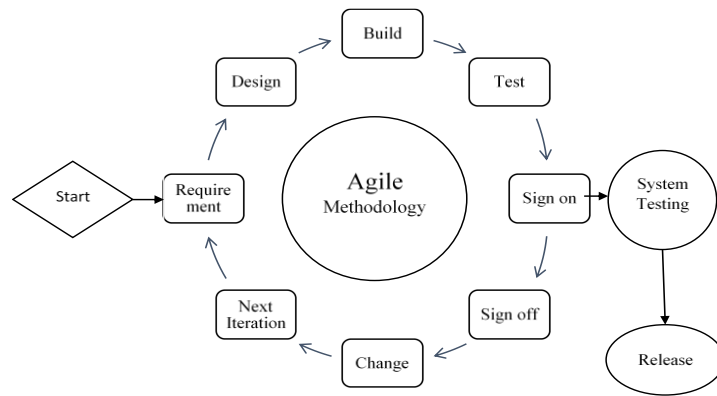
In the first months after Bangladesh gained independence from Pakistan, India came forward immediately with critically calculated economic assistance. India contributed US\$232 million in donations to Bangladesh during December 1971 to January 1972 through the political-economic aid India obtained from the US and the USSR. The official disbursement number is still undisclosed [17]. After that, the leaders of

Bangladesh started to concentrate on building new manufacturing capacity and recovering its economy [18]. Many state-owned companies, such as banking, telecommunications, aviation, newspapers, and jute, have been privatized. However, public sector inefficiency has been steadily increasing; external resistance to the development of the world's richest natural assets is increasing; and income activity has been decreasing in all power sectors, including infrastructure [19]. Poverty has fallen by about one-third in the last decade, with substantial increases in the index of human growth, literacy, life expectancy and food consumption per capita. Since 1992, upwards of 15 million people have migrated out of poverty, with the economy rising by almost 6 percent per year [20].

This chapter gives a brief outline of 'Social Development' and then explores the concept and the characteristics of '**socioeconomic model and socioeconomic characteristics of rural people in Bangladesh**'. It explores development practices in various parts of the world as well as Bangladesh. The chapter also reviews the relevant literature on the key features of integrated development: public involvement, the role of social community and institutional capacity. By using integrated means of development, the life quality of rural people can be improved through the optimal utilization of the human and natural resources of a specific region. Only through the optimal use of available resources can environmental harmony, the upliftment of poor people, employment opportunities, and production and distribution processes be enhanced. Without improving the local communities, the development of rural areas is not complete. It will ensure that each family in a village contributes to an increased income and also to the growth of the village by building self-sustaining and self-reliant communities.

### 3. METHODOLOGY

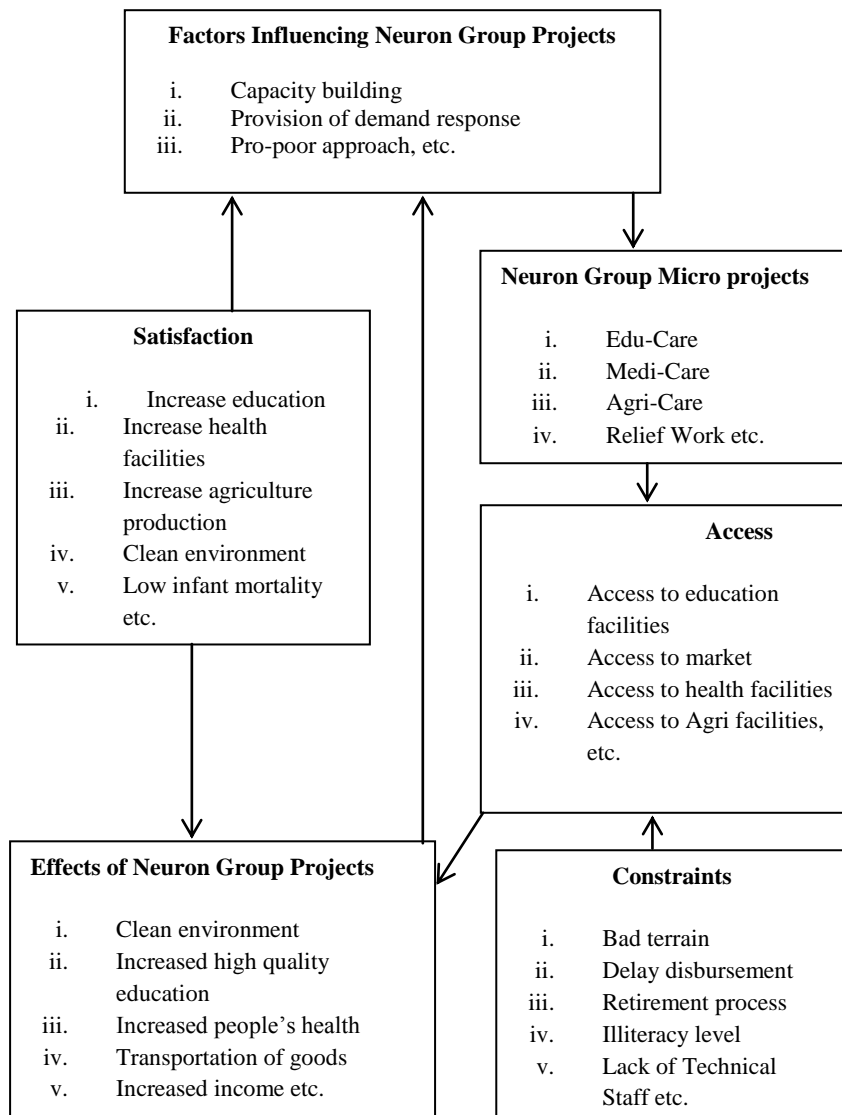
This chapter addresses methodology, Requirement Analysis, Market Solution Choices, Feasibility Research, Architectural Design, System Design and Analysis process of the research. It is necessary to choose the correct methodology because it determines how we work [21]. An Agile approach [22] is appropriate for this project because the project is operating in a dynamic setting where there is an appetite for evolution and change. Fig. 1 shows the Agile Model.



**Fig. 1. Agile model**

### 3.1 Structural Frame Work

The structural frame work for the research is as presented in Fig. 2.



**Fig. 2. The structural frame work for this project**

### 3.2 System Model

In order to do the research work, we have proposed a model whose block diagram is shown in the below figures.

#### 3.2.1 System model for neuron group

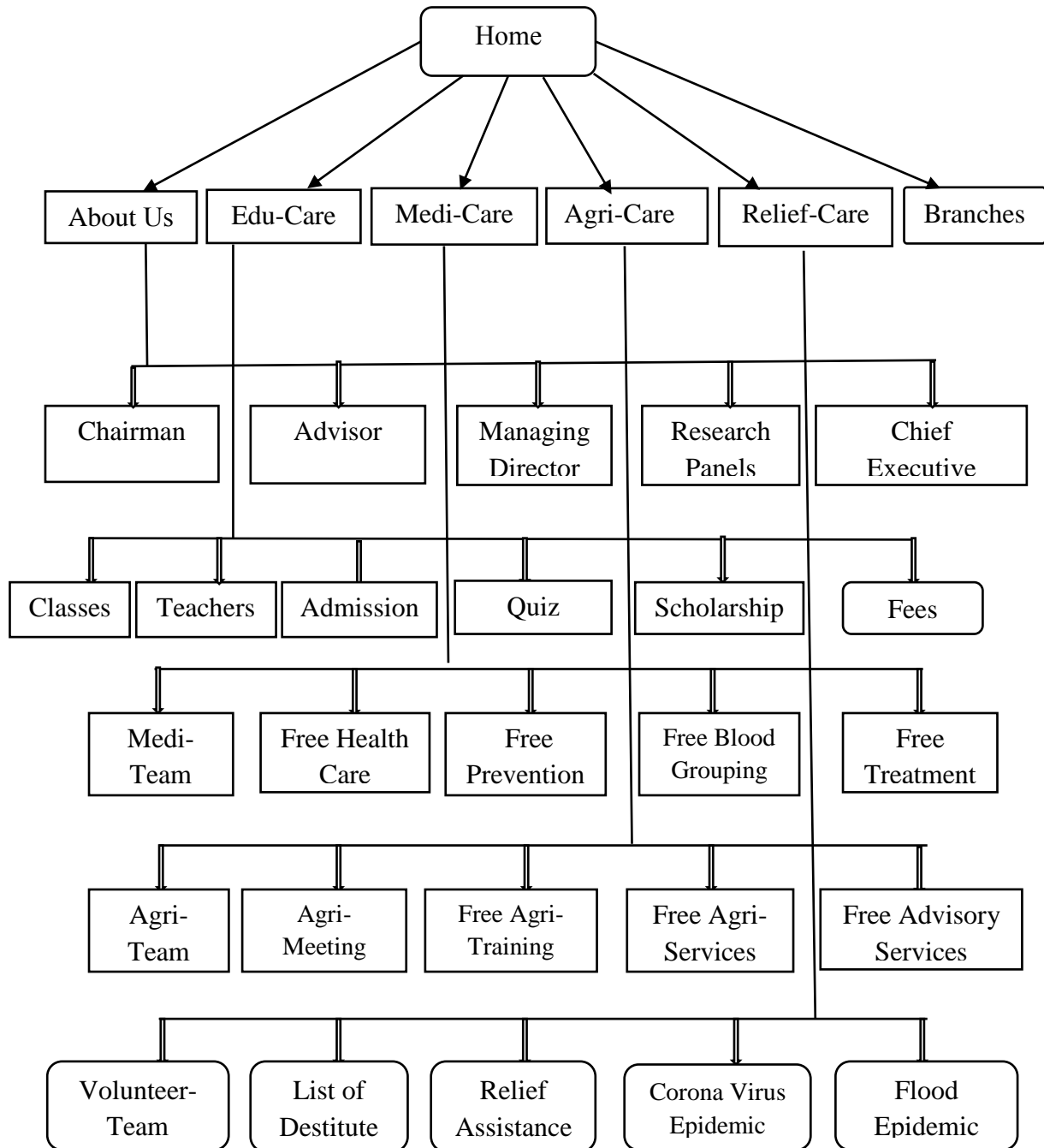


Fig. 3. System model for neuron group

3.2.2 System model for neuron educational support center

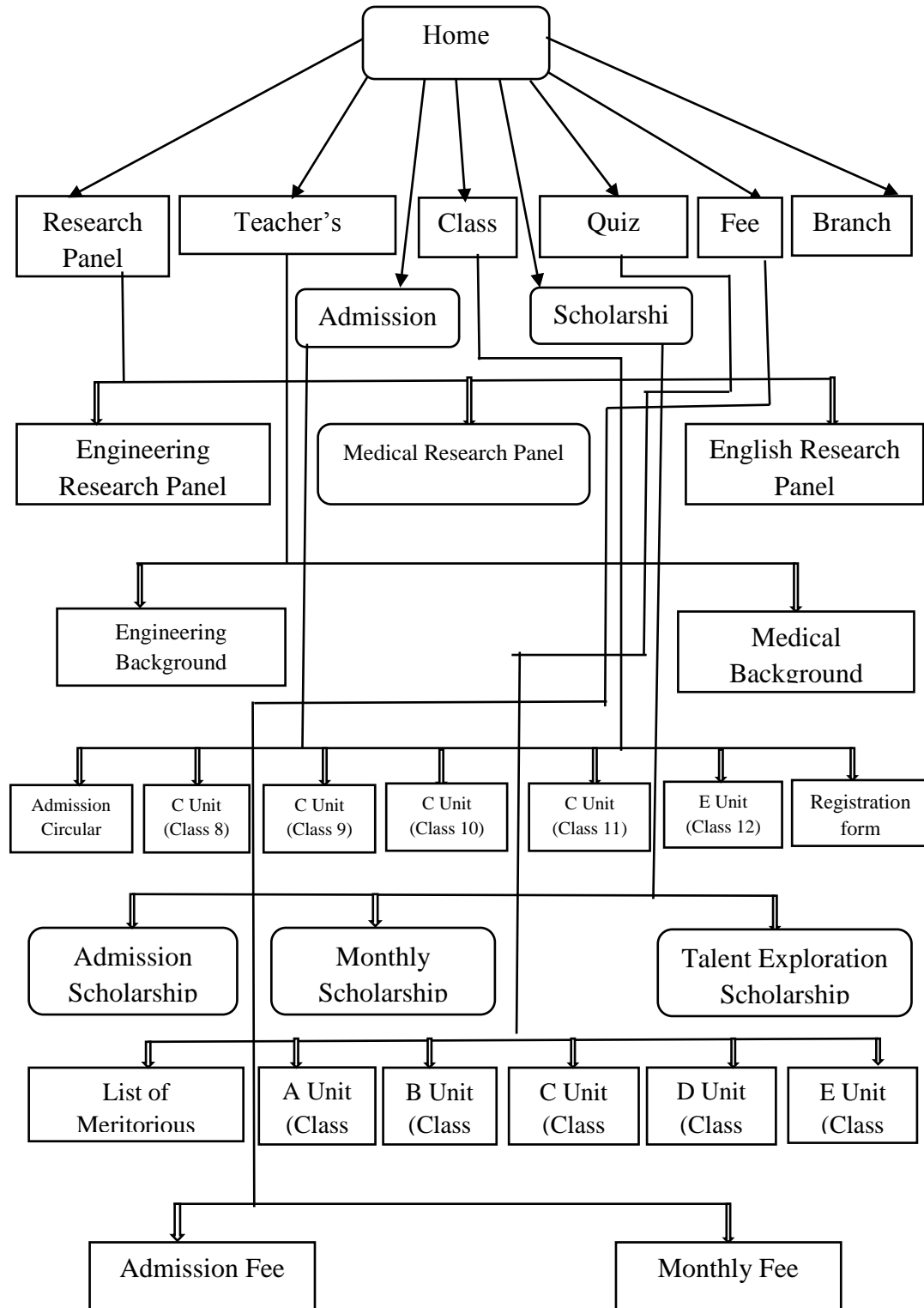


Fig. 4. System model for neuron educational support center



### 3.3 Data Flow Diagram

The entities participating in Neuron Group such as member, group member, volunteer, anonymous has logical relationship among them, which can be represented by an entity relationship model as follows:

#### 3.3.1 E-R Diagram

E-R Diagram stands for Entity Relationship Diagram, also known as ERD is a diagram that displays the relationship of entity sets stored in a database [23]. In other words, ER diagrams help to explain the logical structure of databases. Fig. 5 shows the E-R Diagram of the project.

#### 3.3.2 Use-case Diagram

A use case diagram at its simplest is a representation of a user's interaction with the system that shows the relationship between the user and the different use cases in which the user is involved. It is a methodology used in

system analysis in identify, clarify and organize system requirements. A use case diagram can identify the different types of users of a system and the different use cases and will often be accompanied by other types of diagrams as well. The use cases are represented by either circles or ellipses. The purpose of the use case diagrams is simply to provide the high level view of the system and convey the requirements in laypeople's terms for the stakeholders. Additional diagrams and documentation can be used to provide a complete functional and technical view of the system. Fig. 6 shows the Use-case Diagram for this project.

#### 3.3.3 Class diagram

Class is act as a template to create several objects. In this context, a class defines the methods and variables in an object which is a specific entity in a program or the unit of code representing that entity. Fig. 7 shows the Class Diagram for this project.

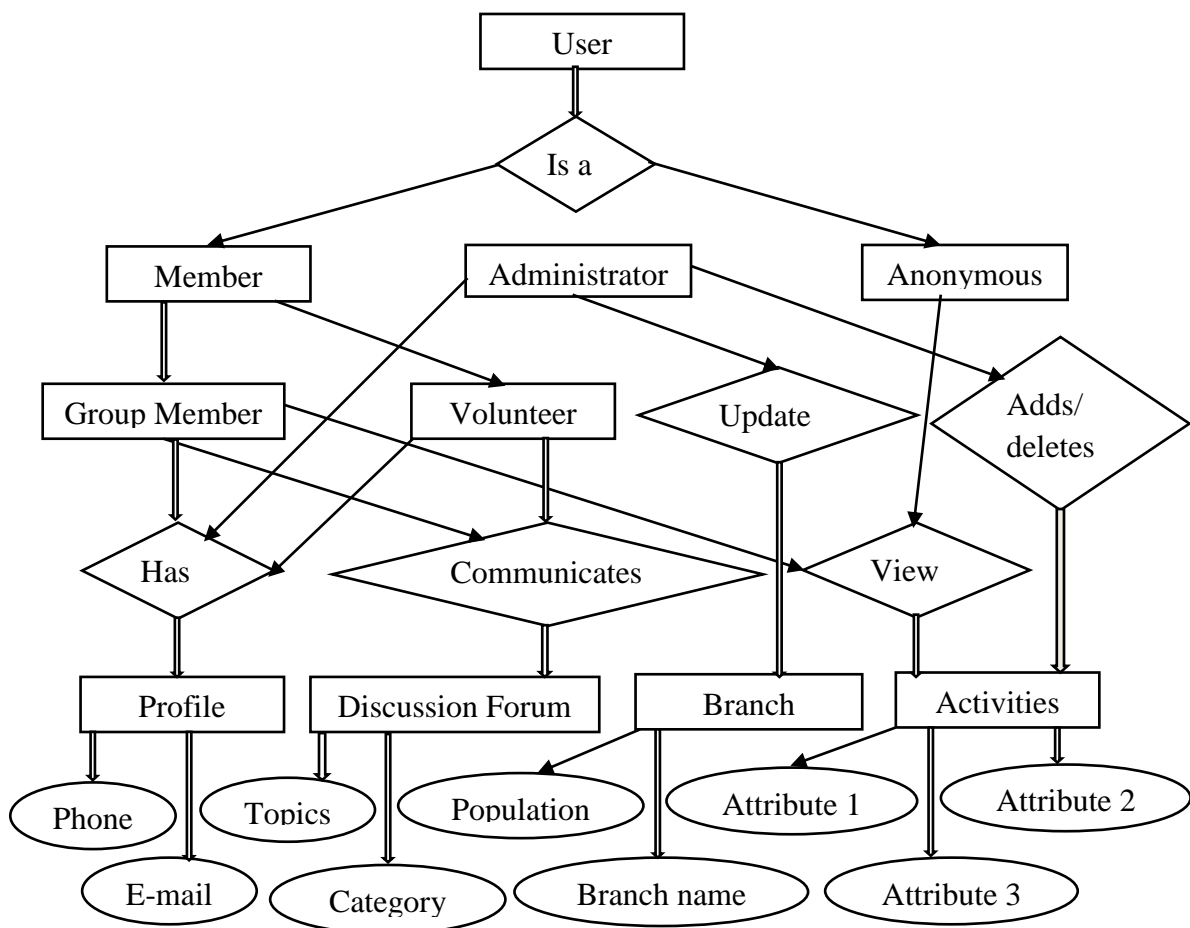
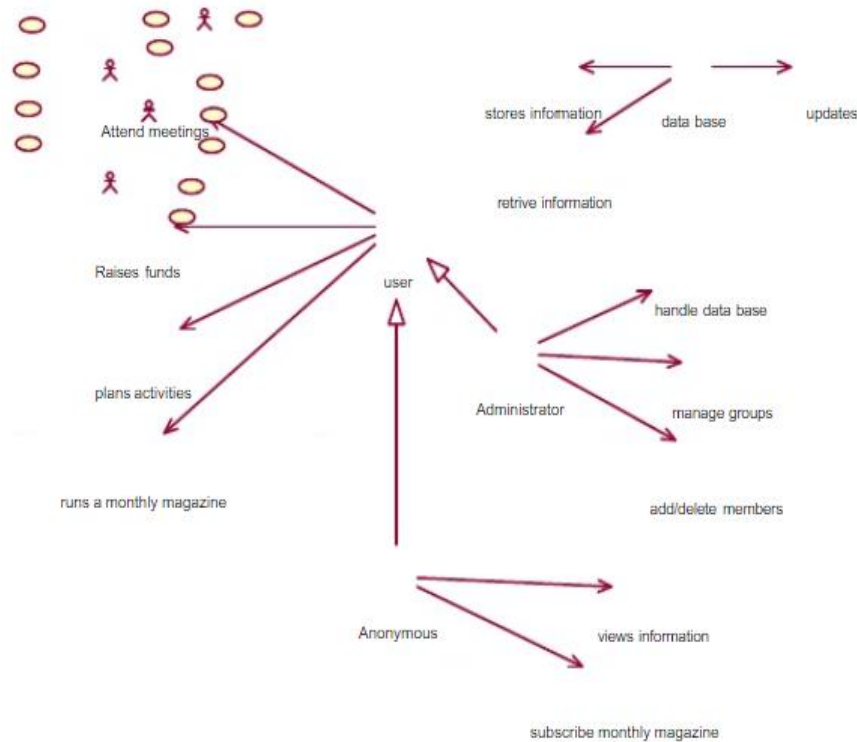


Fig. 5. Entity relationship model among all perimeters



**Fig. 6. Use case diagram**

**3.3.4 Class diagram**

Fig. 7 shows the Class Diagram for this project.

**3.4 Data Collection**

Data collection is the method by which information on specified parameters is collected and measured in a defined framework, which then helps one to answer related questions and analyze results. In this project, all data are primary data, there is no secondary

data. Fig. 8 shows Data collection of whole project.

**3.4.1 Data collection media**

Data collection for Medi-Care, Agri-Care and Relief-Care are face to face and mobile phone. Data collection for Edu-Care are face to face, Facebook Group, Facebook Messenger Group, Facebook Page, Facebook Live, Website, Phone, E-mail, Instagram and Twitter. Table 1 shows Data Collection Media.

**Table 1. Data collection media**

Survey Medium	Cost	Data Quality/ Integrity	Reach
Face to face	25,000 ₪– 30,000 ₪	High	100%
Facebook Group	5,000 ₪– 7,000 ₪	Medium	30%
Facebook Messenger Group	10,000 ₪– 12,000 ₪	Medium	80%-90%
Facebook Page	5,000 ₪– 7,000 ₪	Medium	15%
Facebook Live	10,000 ₪– 12,000 ₪	Medium	40%
Website	30,000 ₪– 35,000 ₪	High	70%
Phone	5,000 ₪– 7,000 ₪	Medium	10%
E-mail	200 ₪– 500 ₪	High	7%
Instagram	200 ₪– 500 ₪	Medium	5%
Twitter	200 ₪– 500 ₪	Medium	5%

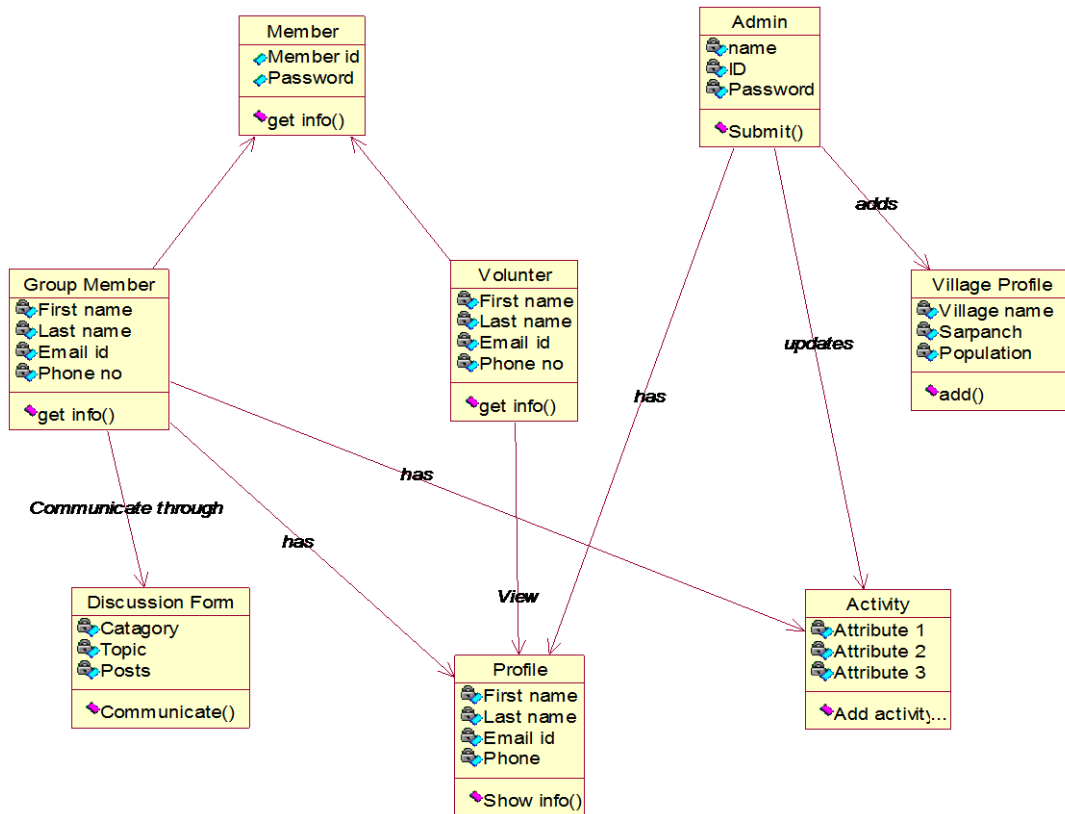


Fig. 7. Class diagram

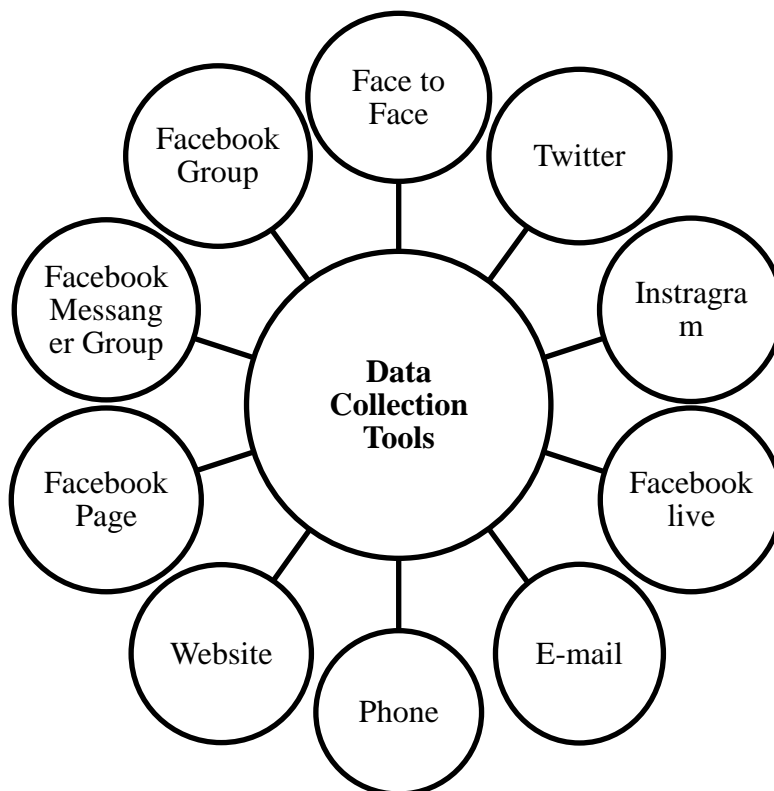


Fig. 8. Data collection tools

### 3.4.2 Collection of poor family data list

The main goal of the Neuron Group member was to make the general public aware of the Corona virus during the Corona Pandemic and to stand by the poor and needy. At the risk of our own lives, team member has visited every village in Raiganj Upazila in Sirajganj district to warn the common people about the corona virus. Team member were divided into small groups, each group had 3/4 members. There were about 15 such teams. A team would enter a village and take out the most authentic poor and needy people in the village and make a list of them and give them food aid. During the Corona virus Pandemic, the staff of Neuron Relief Support Center carried out public awareness campaign in about 150 villages of every Upazila of Sirajganj district, prepared a list of low-income people and has provided food assistance to 1,000 poor and needy families. Fig. 9 shows the List of Poor family in Raiganj.

### 3.4.3 Collection of students

The Neuron Educational Support Center is a completely fledged service organization. The team member have never hurt people by putting leaflets, posters, banners, festoons, billboards, etc. on the side of the road to serve people, writing on the wall (Chika Mara). Inshallah, we will be very careful so that no one gets in trouble while serving the people. Now our activities are only with Sirajganj and Bogra districts. Maximum students have been collected by using the medium of Messenger Group. Now we have about 100 messenger groups and each group has an average of 150+ students. Messenger group will grow further. In April 2020, we

surveyed four districts to help school and college students continue their studies in the Corona Pandemic. The districts are Bogra, Pabna, Sirajganj and Noakhali. Initially, 10 Facebook Messenger groups were opened for each district. Much response did not find in Pabna and Noakhali. Alhamdulillah, by receiving very good response in Sirajganj and Bogura districts, Pabna and Noakhali districts have been left out of our plan and have started working with Sirajganj and Bogura districts. Initially, the 10 district-based messengers were opened, but within a few days, 10 groups were filled. Note that it is possible to connect no more than 250 users to a Facebook messenger group. Then by opening a Facebook Messenger group based in each school and college and started providing free services to the students. One BUET student and one DMC student were added to each group. They are solving students' learning problems in the groups and helping them to study during this coronary pandemic. Students have been collected through Facebook Messenger Group, Facebook Group and Facebook Page.

### 3.4.4 Facebook Messenger group and Facebook group

Now we have about 100 Facebook Messenger Groups and 10 Facebook Groups where each group has an average of 150+ students. Messenger group will grow further. One BUET student and one DMC student were added to each group. Fig. 10, Fig. 11 and Fig. 12 show the Facebook Messenger Group of Bogura Branch and Facebook Messenger Group of Sirajganj Branch and Facebook Group of Bogura and Sirajganj Branch respectively.

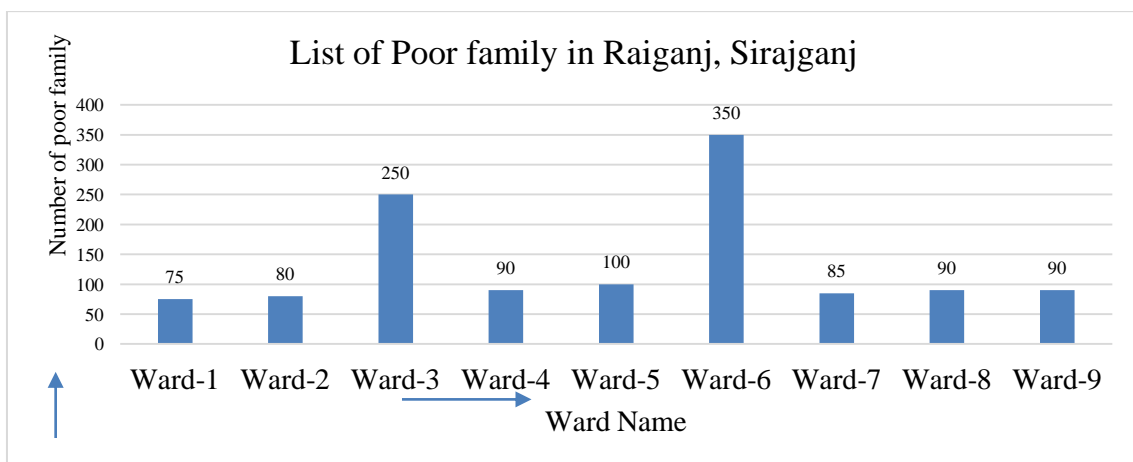


Fig. 9. List of poor family in Raiganj, Sirajganj

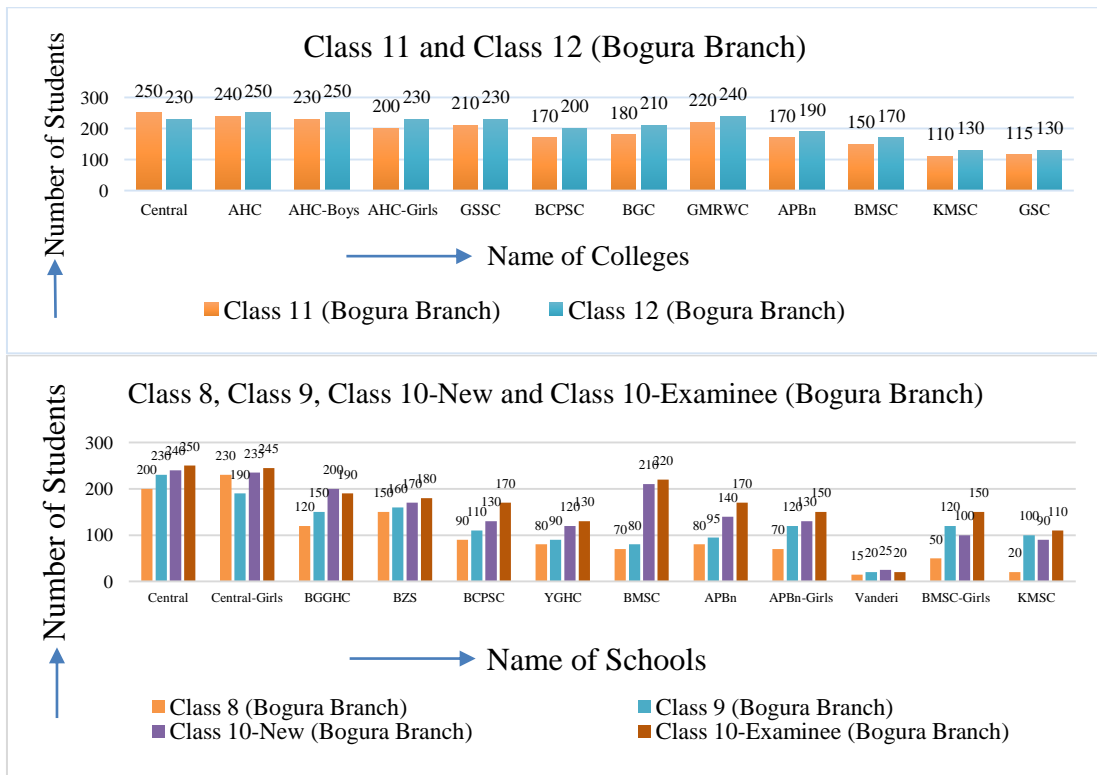


Fig. 10. Facebook messenger group of Bogura branch

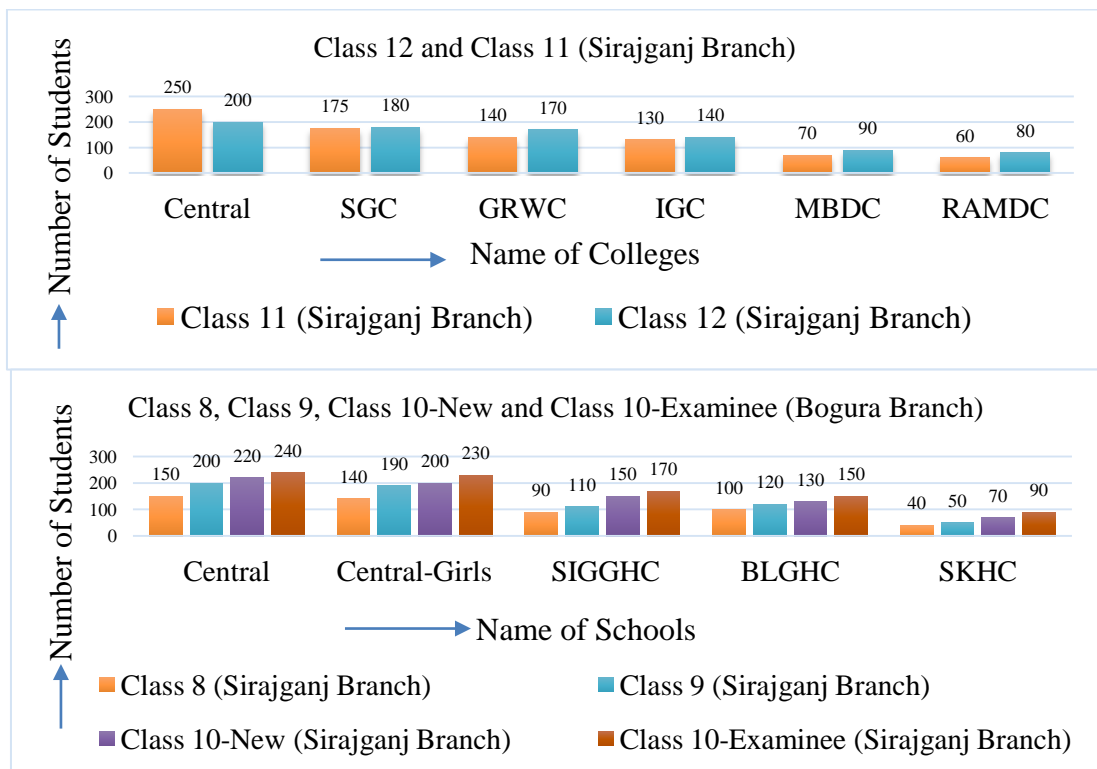
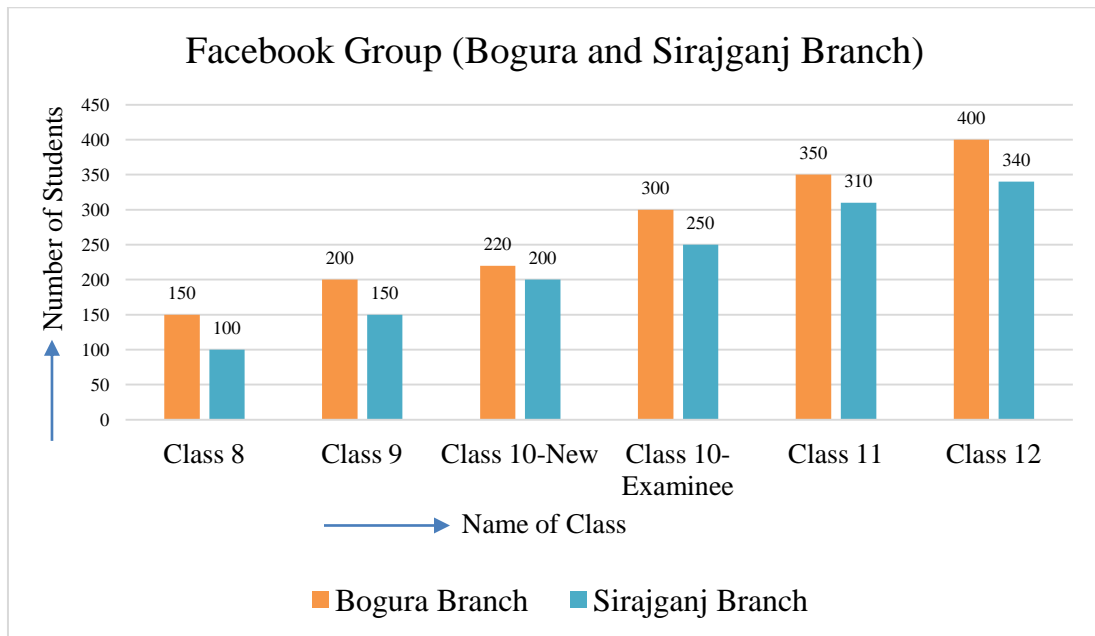


Fig. 11. Facebook messenger group of Sirajganj branch



**Fig. 12. Facebook group of Bogura and Sirajganj branch**

**3.4.4.1 Registrar students**

We launched the registration form on 13 August 2020. No one has to pay for filling up the registration form. It's free. The registration form was completed on 11 January 2021. About 25,000 students from 42 districts filled the registration form. Fig. 13 shows the number of registered students in Neuron Educational Support Center since 11 January 2021.

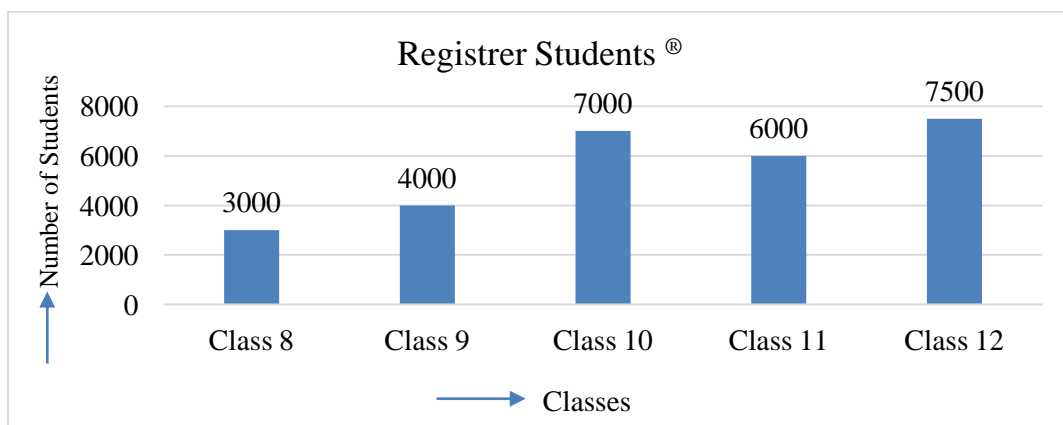
**3.4.4.2 Online quiz exam**

Online quiz exams have been arranged for students to continue their studies in the Corona pandemic situation. This quiz test is being held every Friday from 8:30 pm to 10:00 pm. Students of eight, nine, ten, eleven and twelve classes are

taking exams by sharing the topics based on the chapters of the board book. Students from about 30 districts are participating in the weekly quiz test. The names of those in the merit list from 1st to 15th are being published on our website and Facebook page and they are being encouraged to study. Weekly online exams will continue. Fig. 14 shows the number of participating students in different weekly quiz exam test.

**4. RESULTS AND DISCUSSION**

This chapter addresses the result and discussion of the project. The results contain a description about the main findings of a research, whereas the discussion interprets the results for readers and provides the significance of the findings.



**Fig. 13. Number of register students ®**

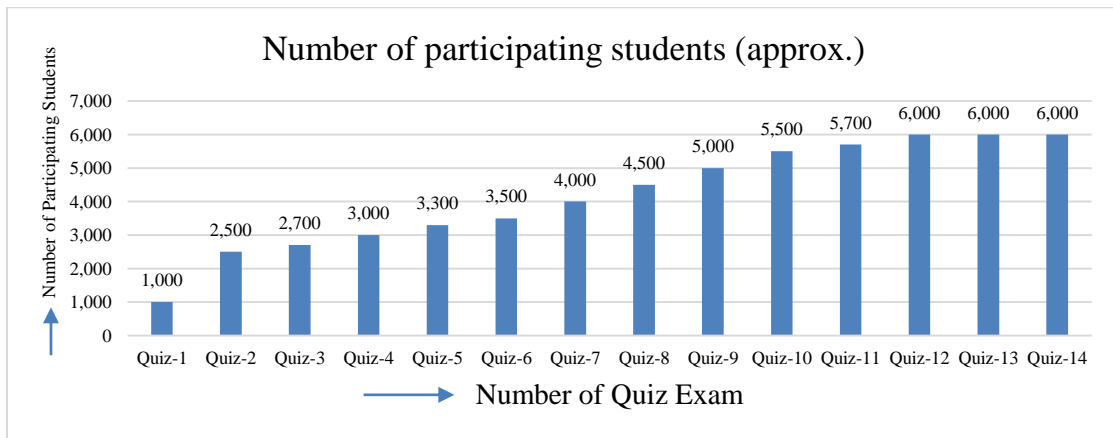


Fig. 14. Number of participating students in weekly quiz exam

#### 4.1 Logo

Logos or brand marks are a visual identity of any business, brand, or company. The Logo of our organization is shown in Fig. 15.

#### 4.2 Our Team Members

There are 6 types of members in this organization. They are Advisory Panel, Admin

Panel, Research Panel, Teacher Panel, Technical panel and Branch Manager Panel.

#### 4.2.1 Advisory panel

At the Annual General Meeting, they will give advice and guidance to the Admin Panel, Research Panel, Technical Panel, Branch Manager Panel, Students and their Parents at all centers through video conferencing once a year. Advisory Panel is shown in Fig. 16.



Fig. 15. Logo



Fig. 16. Advisory panel of neuron group

#### 4.2.2 Admin panel

Admin Panel consists of three members. They are Chairman, Managing Director (MD), and Chief Executive Officer (CEO). The Chairman will preside over the Annual General Meeting and all other meetings of the Organization. In the absence of the Chairman, either the MD or the CEO shall preside. Since our system is fully digital, on the first Friday afternoon of every month there will be a virtual seminar with the students of all the centers and their parents where the Chairman, MD and CEO will be involved through video conferencing. The Chairman will preside over the seminar. In the absence of the Chairman, either the MD or the CEO will preside. The managing director will be the organization's chief executive and, according to the guidance of the chairman, he will oversee all the organization's work. Admin Panel is shown in Fig. 17.

#### 4.2.3 Research panel

There are 4 types of powerful Research Panel in this organization. Medical Research Panel, Engineering Research Panel, English Research Panel and Agricultural Research Panel. Only BUET and DMC students can stay in the Edu-Care Research Panel. English Research Panel is composed of top meritorious students those who have completed their studies in Cadet College are currently studying at the country's top engineering university BUET and country's top medical college DMC. Agricultural Research Panel is composed of top meritorious students

those who have completed their studies in Bangladesh Agricultural University (BAU).

#### 4.2.4 Teacher panel

Now there are a total of 100 teachers, including 70 from BUET and 30 from DMC students in this organization. A few teacher profiles are given below. This list will gradually increase in-sha-Allah. Engineering related subjects like General Mathematics, Higher Mathematics, Physics and Information and Communication Technology subjects will be taken by the most meritorious engineering students studying at the country's top Government Engineering University - Bangladesh University of Engineering and Technology. Medical Related subjects like Chemistry and Biology are taken by the most meritorious medical students studying at the country's top Government Medical College – Dhaka Medical College.

#### 4.3 Medi-Care (Neuron Medical Support Center)

In remote areas of the country where people are deprived of medical services, they will get completely free medical services. One day a week our team of specialist doctors will go to the remote areas of each Upazila of the district where the "Branch of Neuron Group" will be to provide medical services. Fig. 18, Fig. 19, Fig. 20, Fig. 21, and Fig. 22 show Free Health Care, Prevention and Discussion, Awareness, Free Blood Grouping and Free Treatment respectively.

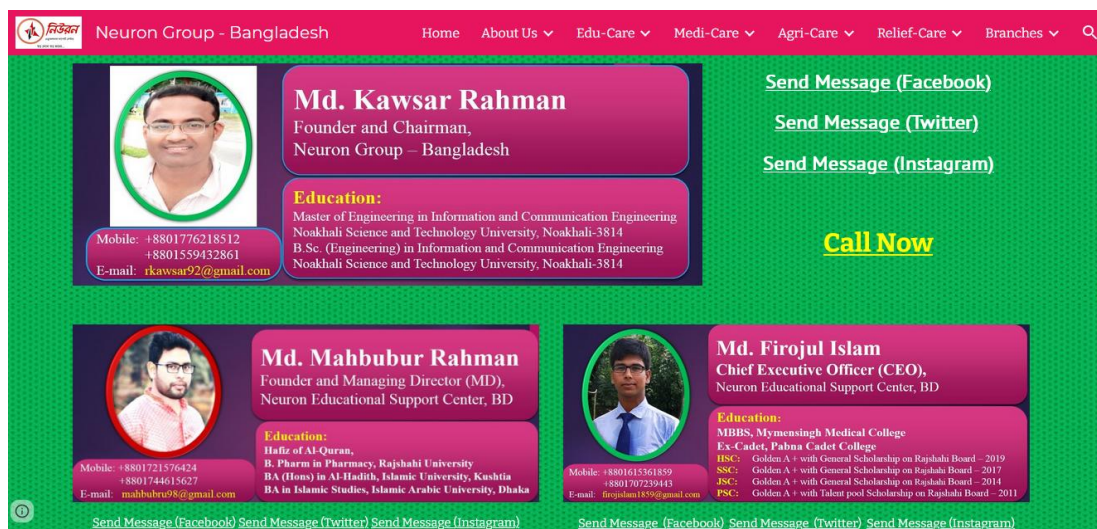


Fig. 17. Admin panel of neuron group



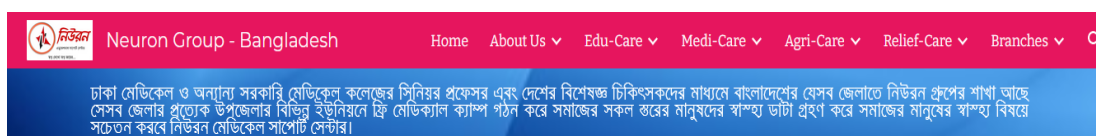


Fig. 18. Free health care



Fig. 19. Prevention and discussion

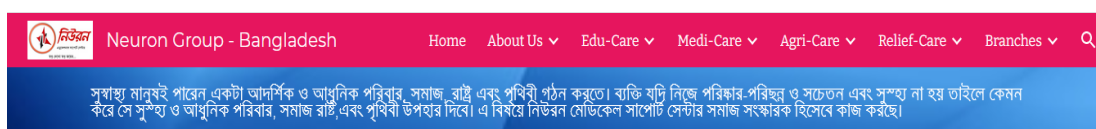


Fig. 20. Awareness



Fig. 21. Free blood grouping



Fig. 22. Free treatment

#### 4.4 Agri-Care (Neuron Agricultural Support Center)

The farmers of the country will get this service completely free of cost. One day a week, a team of our expert agriculturists (having completed Honors-Masters from Bangladesh Agricultural University) will go to the agriculture-dominated

areas of each Upazila of the district where the "Neuron Group" will have a branch to provide Agricultural Services. Fig. 23, Fig. 24, Fig. 25 and Fig. 26 show Agricultural Conference, List of Landless Farmers, Distribute Free Agricultural Equipment among Landless Farmers and Food Security respectively.



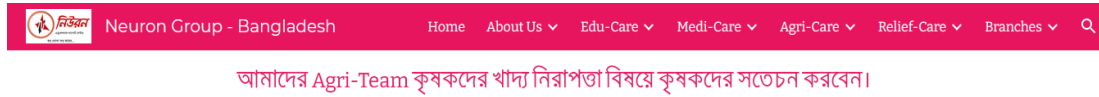
Fig. 23. Agricultural conference



Fig. 24. List of landless farmers



**Fig. 25. Distribute free agricultural equipment among landless farmers**



**Fig. 26. Food security**

#### 4.5 Relief-Care (Neuron Relief Support Center)

In the district where the Neuron Group will have a branch, a list of rational poor and destitute based on the wards of each Upazila of the district will be prepared

and they will be given food aid from time to time.

The Neuron Relief Support Center has provided food assistance to 1,000 families in the Corona virus Pandemic in Sirajganj district. Fig. 27 shows the Relief-Work that we have worked in May 2020 to June 2020.



**Fig. 27. Relief work**

#### 4.6 Working Zone

Now, we have 3 branches. The location of the branches is Bogura – 01 (Jaleswaritola), Bogura – 02 (Upasahar) and Sirajganj Branch (Mujib

Road). We hope that by 2022 we will be able to open branches in Dhaka, Rangpur, Rajshahi, Pabna, Natore, Comilla, Feni, Noakhali and Chittagong In-sha-Allah. Fig. 28 shows the Working Zone of this project.

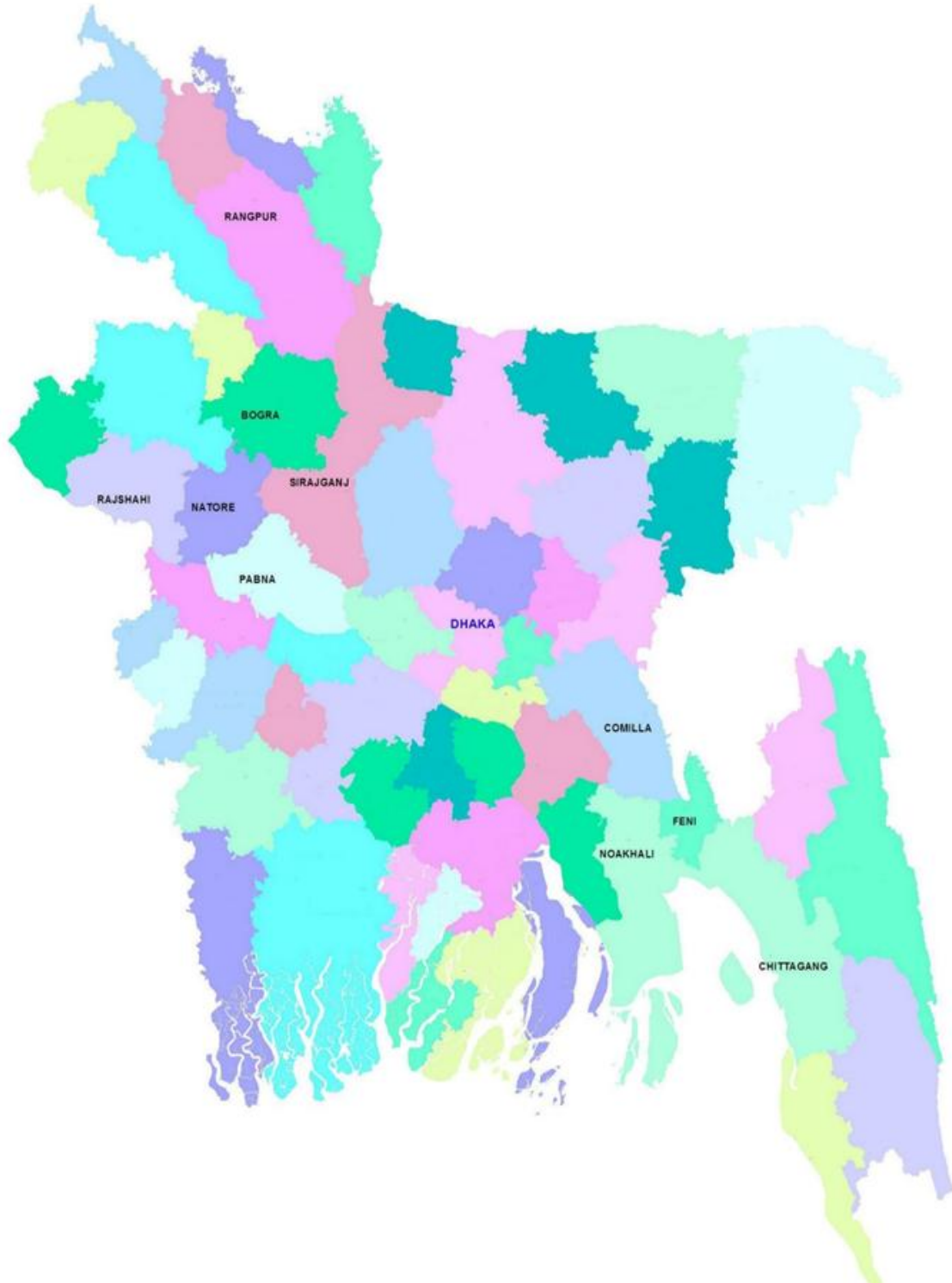


Fig. 28. Working zone

The four (Edu-care, Medi-Care, Agri-Care and Relief-Care) case studies were suitable for addressing the research questions and for examining issues of four fields in practice. Social entrepreneurship, public private partnership model, and the formation of collectives out of an informal economy can all be the means of implementing the aforementioned solutions. It is a relevant and powerful idea that businesses be the vehicles to create an economic value and simultaneously contribute to building a fair and equitable society through inclusive growth. Changes occurring in inter-personal and social relations and behaviors collectively contribute towards the social change. Such a change is driven by various factors, such as technological aspects, scientific factors, economic factors, political factors, religious sentiments, and socio-cultural aspects. We have worked to save lives, overcome poverty and achieve social justice. We desire a society of hope, peace with social justice, where all people live with dignity and protection, where poverty has been conquered. Education is our main focus. We know that until all citizens provide equal rights and opportunities, we cannot solve poverty. Factors Influencing Neuron Group Projects are capacity building, provision of demand response, pro-poor approach, etc. The Satisfaction of this project are increase education, increase health facilities, increase agriculture production, clean environment, low infant mortality etc. The Constraints of this project are bad terrain, delay disbursement, retirement process, illiteracy level, lack of Technical Staff etc.

## 5. CONCLUSION AND FUTURE WORK

The work has explained and analyzed the characteristics of four social fields of social planning how online system development for education, medication, agriculture and relief work at pandemic time (covid-19 period) and has examined the relationship among them and sustainable development, addressing six research questions. The most important aim of the work has been to show that collaborative governance, despite some limitations, is an effective means for implementing the principles of sustainable development. The contribution of this work is to keep the students in their studies at pandemic time (covid-19 period) with the help of our website and social media such as Facebook, twitter and Instagram. Other contributions of this work are social awareness, to develop rural areas, create employment, help increase the income of poor people, raise

awareness among poor people, bringing poor people into the mainstream of society, assistance in agriculture and financial assistance of poor and marginal farmers. A union-based list of poor, destitute, helpless old people, widows, orphans, disabled people was made and published it on our website and give them food aid every 3 months. Services are provided to the poor affected by the disaster and to the poor at normal times, rational beneficiary selection and enlistment through our union volunteer committee, provide food grains to every family among the listed elderly, widows, crippled, disabled, natural disaster victims and distressed families.

In Future this project will be developed with much more functionality and any specification - untraced errors will be concentrated in the coming versions which are planned to be developed.

Disclaimer: The figures in the manuscript showed some different languages are basically part of our project. Since our project focuses on the area of education and poverty reduction, hence, some instruction in our work has been provided in native language (Bengali). This is not affecting the whole manuscript as; the article is entirely written in English; readers can easily understand the paper entirely.

## DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

## REFERENCES

1. Pellissery S, Sun L. Rural Development. Encyclopedia of Sustainability. 2012;7:222-225.
2. Rajvanshi AK. Roadmap for rural India. Current Science. 2016;39-43.

3. Whitney E, Rolfes SR. Understanding nutrition. Cengage Learning; 2018.
4. Nelson GL, Sears DW, Reid JN. Rural development research: a foundation for policy (No. 170). Greenwood Publishing Group; 1996.
5. Islam S. Banglapedia: national encyclopedia of Bangladesh. Asiatic society of Bangladesh. 2003;3.
6. Wajed AAA. Work experience at British American Tobacco Bangladesh; 2015.
7. Atchrimi T. Community development and participation in Togo: the case of AGAIB Plateaux. Field Actions Science Reports. The journal of field actions, (Special Issue 11); 2014.
8. Rehim M. La problématique du développement en Lybie: étude de cas: la société locale de la ville d'El-Beida (Doctoral dissertation, Poitiers); 2007.
9. Rono FC. Influence of participatory development on sustainability of spring protection projects in Bomet central sub-county, Kenya (Doctoral dissertation, University of Nairobi); 2015.
10. Cornwall A. Beneficiary consumer citizen: perspectives on participation for poverty reduction. Swedish International Development Cooperation Agency. 2002; 2.
11. Okoli FC. Development Administration: Nature and Principles; 2004.
12. McNicoll G. United Nations Department Of Economic and Social Affairs, Population Division: Population, Resources, Environment and Development Database, Version 4.0. Population and Development Review. 2006;32(4):790-791.
13. UN D. World population prospects: The 2012 revision. UN Department of Economic and Social Affairs; 2013.
14. Riaz A, Rahman MS. (Eds.). Routledge handbook of contemporary Bangladesh. Routledge; 2016.
15. International Monetary Fund. 2020. *Real GDP growth*. [online] Available at: <[https://www.imf.org/external/datamapper/NGDP\\_RPCH@WEO/OEMDC/ADVEC/EOWORLD/BGD](https://www.imf.org/external/datamapper/NGDP_RPCH@WEO/OEMDC/ADVEC/EOWORLD/BGD)> [Accessed 21 May 2022].
16. Heitzman J, Worden RL. Area Handbook Series: Bangladesh, a country study. library of congress washington dc federal research div; 1988.
17. Lawrence B Lesser. Economic Reconstruction after Independence. A Country Study: Bangladesh (James Heitzman and Robert Worden, editors). Library of Congress Federal Research Division; 1988.
18. South A. Ethnic politics in Burma: States of conflict. Routledge; 2008.
19. Khanom, Sonzida. Relationship among Bangladesh, Bhutan and Maldweep: 1971-2008 (Doctoral dissertation, University of Dhaka); 2019.
20. Bareq A. The Role of World Bank as a Development Partner in Bangladesh: A case study of Education Sector (Doctoral dissertation, University of Dhaka); 2018.
21. Ahammad I, Khan MAR, Salehin Z. Advancement of IoT System QoS by Integrating Cloud, Fog, Roof, and Dew Computing Assisted by SDN: Basic Framework Architecture and Simulation. International Journal of Ambient Computing and Intelligence (IJACI). 2021;2(4):132-153.
22. Hasan M, Khan MAR, Ahammad I, Uddin M, Khan TZ. Digital Allowance Estimation Technique. International Journal of Recent Technology and Engineering (IJRTE). 2020;8(5):4633-4639.
23. Prosad R, Khan MAR, Ahammad I. Design of Class Routine and Exam Hall Invigilation System based on Genetic Algorithm and Greedy Approach. Asian Journal of Research in Computer Science. 2022; 13(3):28-44.

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