**Title of Project*: Blood Grouping & Information Sharing Project***

**Organization Name and Country: *Global Communication Center, Grameen Communications, Bangladesh***

***Background of the Project***

Blood is universally recognizing as the most precious element, which sustains life. It saves innumerable lives across the world in a variety of conditions. Blood is the living fluid that all life is based on. According to BSM**M**U (Bangabandhu Sheikh Mujib Medical University), a medical research organization in Bangladesh, in every 2 seconds someone needs blood in Bangladesh. Blood donation can save more than one life at a time. Every year approximately 85.6 million people need blood for their treatment in our country.

Several national and international organizations such as Red Crescent, Shondhani, Badhon, Quantum Blood Bank etc. do blood group testing, blood collection, store and distribute blood. However, in rural areas in Bangladesh, the awareness activities are limited, so is the blood storing facility. As a result, about 80% of the village young females in Bangladesh do not know their blood group. The percentage is also similar to the young village male people. However, it is very important to know the blood group to both male and female people of the village, especially to the female when they give birth. Thousands of mothers die per year in need of blood, which can be saving if they know their blood groups. This problem is very acute in the rural areas of Bangladesh as there are no enough facilities to store blood. As human body is the best storage to keep blood, so this program can be the most effective way to save lives which are in danger due to blood. To run this process it is essential to have the blood group information and the donors contact numbers. We can do this task immediately by the help of ICT.

We developed a web-based platform to provide a point of information storage and sharing for the blood donors and blood receivers. A digitized mapping of the prospective blood donors is developed under this platform; on the other hand, the probable blood receivers will be able to access the blood donors’ information. We have developed three interfaces to access to this virtual blood bank database- (1) through web, for the people who have access to internet (2) through SMS, people with mobile phone and SMS literate (3) over phone, people with mobile phone. Instant search and SMS sending system to the blood donors are integrating into system, through which the blood receivers can easily be connecting to the blood donors at their nearest reach. This is termed as “GramBloodDataBank”. In Bangla language, Gram means rural.

**2. Goals & Timeframe of Project**

We have the following mission for GramBlood DataBank.

* Provide blood group testing service to the rural people especially the young females
* Register people who want to donate blood in our data bank. We keep their blood group and contact information
* Build a digitized area wise blood donor information platform on GramBlood DataBank. We develop an algorithm to efficiently find a nearby blood donor
* Create awareness among people saying, ***“Donate Blood; Save Life”***.

We believe, the above activities will achieve the goal of saving unnecessary deaths, especially maternal death as targeted by MDG.

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| --- | --- | --- | --- | --- |
| **Year** | 2012 | 2013 | 2014 | 2015 |
|  | 1500 | 2000 | 21500 | 30000 |
| **Cumulative** | 1500 | 3500 | 25000 | 55000 |

**3. Project’s added value and importance**

Technically, it is not very difficult to identify a blood group. Any local nurse can learn the process in two hours and do the job immediately. The necessary tools and reagents are also available even in developing countries. The cost for blood grouping is also affordable most of the people. Local health workers in rural areas have the facility to do blood group testing in an affordable cost. Some people do blood group testing just out of curiositybut their blood group information has never been stored.

Majority of the rural populations are unconscious about their health. They do not know their blood groups, which is very important in case of emergencies. In Bangladesh, old group is 25% of total population and only 50% of them know their blood groups. A country’s most efficient people are her young group. In Bangladesh, young group is 50% of total population. However, unexpectedly, only 25% of young people know their blood groups. The rest of population is children. Most of them do not know their blood group. For saving the life and the development of the country this, program in very important.

Organizations that operate their operations related to blood donation like: Sandhani, Quantam Lab, Badhan, Bangladesh Red Crescent Blood Bank etc. do their operations by collecting blood and reserve it for future demand. They also supply blood products from their previously collected blood. However, most of the doctors and patients prefer fresh blood or blood products to be used. Therefore, it is better to create a donor database rather than collecting blood and create a blood bank. GramBlood DataBank can be the solution to this problem by gathering the contact information of donors and their blood group. This will help to find the fresh blood for the blood seekers.

This program will help the society with following aspects:

* It will not only save lives, but will also help people live longer
* Maternal death and complexity can be reduced by providing mothers with blood group and donor information quickly
* There is not enough facility to store blood in rural areas. Human body is the best place to store blood.
* Support the people of the country during their emergency.

O-negative is a rare blood group in Bangladesh, and when an emergency patient needs blood of this rare group, they advertise SOS through newspaper; rich people put ads on TV. This process is not cost effective for a rural patient.

Now, the power of ICT enabled the villagers to find a blood donor in a very cost effective way. Almost 98% of our geographical areas are covering by cell phone network. Almost every family has at least one mobile phone. Therefore, if the blood donor information can be made available on a secure Internet, people will be able to find the suitable donor in a cost effective way.

Blood can save lives and it can kill life also. Blood must be safe. This is very important because:

* Knowing one’s blood type can also be important because there is a constant need for blood donations. For example, ‘O-negative’ is fairly rare; those who possess this type can really serve their community by donating it on a frequent basis.
* If a patient is in an urgent need of blood, it saves time to find a suitable donor.
* Making people aware of their blood group by this program and this will share knowledge about the necessity of blood donation.
* Making a reliable source of blood donor.
* Information about blood group will help find out right donor easily in an emergency.
* Maternal death and complexity can be reduced by providing blood group and donor information quickly. We know that about 7,300 women die from childbirth and its related complications every year in the country. After giving birth, most of the women suffer severe bleeding. In this situation, our information center helps the blood seekers.
* There is not enough facility to store blood in rural areas. Human body is the best place to store blood.
* More than 70% people in rural areas of Bangladesh do not know their blood group.

This program will help reduce this ratio quickly.

Methodology of gathering and sharing blood information

The following picture explains the steps –

(1) We visit rural junior and senior high schools. We explain the importance of knowing blood group and donating blood for social good. We carry out blood group testing and provide their blood group. Almost 100% students want to know their blood group. We, a group of three people can check 200 students per day costing only 30 cents per person.

(2) We ask them to become a donor. Almost 83% students want to become a donor. We then register their name, blood group and contact number with our online blood databank. We provide a printed donor card with donor ID number, blood group and their picture.

(3) When a patient needs blood, the patient or their family members can contact our blood bank center through web, SMS or phone to find an available donor in their locality.

(4) After receiving the donor information, they communicate and discuss with the donor.

It is prohibited by law to provide blood in exchange of money. However, the blood receiver side can pay the transportation cost of the donor to the hospital.

Our project will be designing as a social business. We are planning to provide information for free of cost, however in order to run the platform, we envision to put ads on our website and in the donor card.

**4. Challenges of the Project**

We have experienced the following challenges.

* A good number of people do not think donating blood as a healthy activity. There is a wrong concept of religion that restricts people from donating blood. Our project can also be affective by the perception of our target group. During our campaign, we try to convince the head of the school, religious scholar in the village first.
* Our project includes taking sample of blood from every prospect of our target group, analyzing them and stores the information in the database. In addition, this process is not so quick process. Therefore, it will be difficult to get permission of arranging campaign from respective authorities, especially from schools, colleges and garments factories.
* Our platform now is very open. Some people may use it as illegal business. We do not have the process to monitor such off-line activities. We, however, can ask the receivers and donors to provide us their feedback.
* As business model, it is difficult to ask the blood seekers for money. Lot of blood seekers will be willing to pay for this service, but the pricing and payment method need to be developed.

**5. Relevance of the Project to the Respective Action Line**

The project is collaborating with Kyushu University in Japan for introducing our kits with their “Portable Health Clinic” project that targets the morbidity of rural population. We are empowering the local community health workers so that it can work as a social business. This project uses the advantage of ICT to gather and share blood group information.

**6. Conclusion**

We can reduce maternal deaths, if a pregnant mother knows her blood group before hand and can find a donor immediately when blood is required. It is natural and safer to keep blood in human body, as we do not have enough facility to store blood in rural areas. This project took the initiative to develop a virtual blood data bank. A blood seeker can easily access to the database to find a donor. It is possible because of the availability of ICT infrastructure in all over the country. We campaigned in 20 organizations both in rural and suburban areas, and populated our database with 4000 donor information. We estimated that it costs only 30 cents per person for blood group testing and upload the information to the web. Schools, colleges, garment factories are inviting us to visit their organizations to carry out our activities. We are a small team and cannot attend all the requests. We are now developing a social businessmodel in order to grow bigger and provide our services in a sustainable manner.