



EARTH-FOUNDATION

Effective Assistance & Rehabilitation For Tormented Humanity-Foundation
Dhaka, Bangladesh

Journey to outreach



EARTH-FOUNDATION is a Non-profit, Non-political, Non-Government Organization. It had been launched in the early 2006 with a patriotic mission to implement several development activities like Family Planning, Health affairs, Micro, Macro and small Credit, Research and Publications to address the unmet needs and well-being of the people of rural and urban areas of Bangladesh.

Description of the Issue:

Population size of Bangladesh is 140 millions, annual growth rate of which is 1.42, TFR is 3.00 and CPR is 58.1. If the existing growth rate continues, the population will be doubled within the next 47 years, which cannot be afforded with the available resources of the country.

There are many reasons behind the high population growth rate. The main reasons are:

- Early Marriage
- Poor status of women
- Son preference
- Poverty
- Illiteracy
- Lack of spaced pregnancies
- Lack of Contraceptives security
- Child labor
- Unemployment
- High child mortality rate
- Traditional belief
- Misinterpretation of religious belief
- Cultural beliefs are also responsible for non-acceptance of family planning methods.

The acceptance of family planning methods through appropriate behavior change communication (BCC) may be able to eradicate these barriers for declining the fertility, which undoubtedly will reduce the population growth rate. Therefore, with a view to lower the fertility rate which is correspondingly related to high population growth, the EARTH-FOUNDATION has undertaken the Family Planning program as a means for development endeavor in the country.

The EARTH-FOUNDATION family planning program has been formulated in context of the fulfillments of the Government's commitments to the National Health Nutrition and Population Sector Program (HNPS) planned for the year 2006-2010. It is known that HNPS is prepared on the conceptual framework of the United Nations Millennium Development Goals (MDG), sectoral strategies of the International Conference on Population and Development (ICPD) 1994 and also on the basis of Poverty Reduction Strategy Paper (PRSP) of the Government of Bangladesh (GOB). In the HNPS, certain demographic and reproductive health goals are set in and if those goals could be achieved it will reduce fertility which will result in contributing to the economic development, poverty reduction and social development of the country. The EARTH-FOUNDATION as complementary partner of the GOB, strongly believes on the set goals of government's HNPS and aimed to go hand in hand with the goal of the government in reducing the population growth rate of the country.

Goals:

- Provide contraceptive services.
- Provide maternal and child health care.
- Decrease the total fertility rate.
- Aware and motivate people regarding education, life style, culture and popularizing the concept of two child family norm.

Program strategies:

- Increase the number of condom acceptors.
- Increase the number of Low Dose Oral Contraception Pills (LDOP) acceptors.
- Increase the number of male sterilization (Vasectomy clients).
- Increase the number of Female sterilization (Tubectomy clients).
- Increase the acceptors of Injunctables.
- Increase referral of antenatal care.
- Providing Iron Folic tablet to vulnerable pregnant women.
- Providing Vitamin-A supplementation capsule to the children.
- Promote skilled birth attendance for access to obstetric first aid.
- Introduce delay at marriage.
- Adolescent care.

The implementation of the contraceptives related objectives will directly help to increase contraceptive prevalence rate (CPR) at the program area. If the mother and child health (MCH) care objectives are achieved it would help to improve health situation of mothers and children. By and large, both the interventions will be helpful to decline the fertility rate. The services will be rendered targeting the fertile couples putting special emphasis to the pro poor people located in geographically disadvantaged rural areas and also in urban slums.

The Palli Clinic of EARTH-FOUNDATION, Will provide PHC solution, to build a healthy nation.

Palli Clinic may be defined as a clinic for 7000-10000 population at rural areas. Initially, the clinic will be hereshed at a room constructed for IUD insertion and provide statutory services for the supply of Oral Pills, Condoms and injections for family planning clients. The clinic may be situated at house of the female field worker recruited from the area for a population of 7000-10000. The worker providing services and the Palli Clinic will be designated as the "Palli Nurse". The Palli Clinic will be the centre of all health and family planning activities in each area. In one union, there will be two such Palli Clinics located at two wards of the union. The third ward of the union will have the union Health & Family Welfare Centre (UHFWC) constructed to be constructed by the government. A full-fledged Palli-Clinic will have the following activities developed in phases:

IUD, Condom, Oral Pill and Injunctable supply and follow-up services. The follow-up services will include continuation of the family planning, identification and treatment of side-effects. The IUDs will be inserted at the Palli Clinic by the Palli Nurse herself. For insertion of IUD, the Palli Nurse will have adequate training and technical know-how in motivation, counseling, screening techniques, insertion techniques, treatment of side-effects of IUD method etc. She will also have necessary draws of the treatment of side-effects of IUD method etc. She will also have necessary draws of the treatment of side-effects of all other Family planning methods with adequate written reference materials and standing orders.

Community outreach services for motivation of people in family planning acceptances, constructing water-scale latrines at housesteads, producing vegetables at each house in the kitchen garden (Vegetable seeds will be supplied/sold to nothings during seasons), distribution Vit-A Capsules to under-5 children twice a year, identification children suffering from pneumonia, malnutrition and diarrhea (The three Killer diseases), registration of births, deaths and frequency cases.

Antenatal, postnatal care services will be provided at the Palli Clinic in the afternoon. These services will also be provided at the house Iron-folate tablets will be distributed/sold to mothers as a part of services during antenatal period. Immunization services will be provided at the Palli Clinic for children less than 1 year of age and expectant mothers and adolescent girls on fixed days in the afternoon. Immunization session will also be conducted at community as outreach services on fixed days. Normal delivery will be conducted at the Palli Clinic by the Palli Nurse for which there will be 24 beds with adequate support materials. Initially the Palli Nurse will be trained to conduct home deliveries with gradually upgrading the Palli Clinic for conductive normal deliveries there. The Palli Clinic will know how to manage obstetric emergency like post-partum hemorrhage and do necessary referred.

Limited curative services for the treatment of common diseases will be available at the Palli Clinic in the afternoon hour's everyday with one day break on week ends. The drugs supplied will be sold to patients with safety net arrangement for the poor. Vasectomy operations will be conducted at the Palli Clinic on fixed days by a trained male paramedic coming from higher facilities.

Cases of Protein-Caloric Malnutrition will be identified by the Palli Clinic at community and the mother will be trained to prepare and feed the child appropriate. The Palli Nurse will make special visit to weight the child to see progress and monitor the feeding practices of the mother. If there are more than two children suffering from protein-caloric malnutrition in her area, all the children will be brought to the Palli Clinic for sharing the mother's experience in training their children. If there is no adequate food in the house their mother will be held with food supplements in treating their sick children suffering from Protein-Caloric malnutrition.

Palli Nurse:

The Palli Clinic will be the centre of all health and family planning activities at each ward of the unions under program. The Palli Nurse will be a female to be recruited from areas where she will work. The Palli Nurse will have the qualifications of SSC/HSC with FVW or Nursing training pass. Especially the Palli Nurse will be trained to perform the following Skills:

- Insert IUD, inject Depo-Provera
- Measure blood pressure to give family planning Oral Pills distribute Condoms
- Motivate and counseling for sanitary latrine, Kitchen gardening, diarrhoea control and prevention of malnutrition and night blindness.
- Provide antenatal and postnatal care services, Conduct house deliveries, identify risk cases and referral.
- Treat common illness and dispense drugs.

Training of Palli Nurse:

As per the five year health action plan 14500 Palli nurse would be recruited containing both skilled and unskilled. At the first phase around 1000 Palli nurse has been taken on. A comprehensive training module is developed and the recruited 1000 would be trained by second half of 2007 to provide family planning related services. The trained nurses would be provided with one IUD kit each to provide aforesaid services. For the purpose procurement plan and notification of award is already offered for 14500 IUD kits. Training module consists 2 months of rigorous classroom session as well as on the job training.

Appropriate technology for TFR reduction: use of IUD

(The greatest challenge to contraceptive security in Bangladesh)

The family planning program of Bangladesh achieved success during the last three decades. The contraceptive prevalence rate (CPR) increased from 8 percent in 1975 to 58 percent in 2006, the Total Fertility Rate declined from 8 to 3.1 over that period. The population growth rate declined from 3 percent in 1975 to 1.4 percent in 2006. In fact the contraceptive has been able to regulate fertility in absence of major socio economic changes of the country. In spite of increase of CPR, to day as per the Bangladesh Demographic & Health Survey (BDHS) there exists a latent demand for the contraceptives and to achieve the replacement level fertility of having two-child family the CPR has to be further raised to 72 percent by 2010.

The experts identified the problem and noted five major factors that are contributing to the growing gap between TFR and CPR:

- Inadequate supply of long acting methods
- Growing interest in temporary contraceptive uses
- Getting more people of reproductive age group
- Inadequate logistics capacity of GO & NGO
- Insufficient, poorly coordinated donor funding.

Dropout rate: However, the dropout rate of condom oral pills and Injunctables are large. Almost 50% acceptors drops oral pill. The drop out rate for condom is also higher even the drop out rate of Injunctables is also larger than the condom.

Emphasis on IUD ignored: As a matter of fact emphasis could be given as an alternative method on IUD, a long acting method that can last for 8 years after insertion unfortunately, IUD did not get much impetus from the program personnel due to many reasons. One of the reasons is a huge side effect of earlier brand 200B and the second reason was poor management of side effect and the other reason is the lack of the careful screening of the clients before insertion of IUD.

Policy measure on popularizing IUD program: IUD is less costly one sets of IUD costs nearly US \$ 0.20, in contrast a set of Implant cost US \$ 16.0, one vial of Injunctable costs \$ 0.84, and one sterilization costs about US \$ 8.0. In view of pricing the IUD is most effective and from the point of couple years of protection it is active for long 8 years.

Shelf life: As per the contraceptive fact sheets of USA (Virginia) the Shelf life of IUD is 7 years, as such it is also viable.

Storage condition: Recommended storage condition is that they can be stored at room temperature (15.30 O C 59-86 F) if protected from excessive moisture and direct sunlight. It is viable for Bangladesh climatic condition.

Appropriate technology for TFR reduction: Considering the above stated advantage of IUD for fertility reduction, EARTH-FOUNDATION plans to create a momentum by appropriate technology for TFR reduction using IUD 380 A. Meanwhile an international bidding was invited for the procurement of 658,000 sets of Copper T 380 A, for which two bids were received from India. After evaluating the tender was awarded to Fanny Care India.

Structure of the clinical program: At the Upazilla level, there should be a static clinic to be headed by an MBBS doctor. The clinic will be technically well equipped to deal with the complication/side effects of the clients arising out of the insertion of IUD. The doctor will treat the clients referred to by the paramedic & he will visit the "Palli Clinic" at the union level to deal with the cases which the paramedic is unable to solve, one paramedic may be appointed in the Upazilla level to assist the doctor & also perform IUD cases if clients come for insertion. One Upazilla program coordinator will be working at the Upazilla level. He will supervise and guide the activities of the doctor, program organizers, paramedics, female field workers & coordinate all the programs of the Upazilla & ensure the logistics of contraceptives, funding, do personnel management and monitoring & reporting the program. He will also draw up the local level planning. He will coordinate the activities with those of Govt. & other NGOs at the local level. In every two-union Program Organizer (PO) will work to supervise & guide the family planning activities of the paramedic (except the technical aspect) and their motivation. He will ensure the proper scanning of clients by paramedic before IUD insertion by her so that incidence of complications and side effects are minimum. He will report the complicated cases to the Upazilla level. He will ensure that female workers motivate the clients through proper counseling & visiting the houses of the clients. There will be a paramedic in each union who will perform IUD insertion after proper scanning & provide services to IUD clients. She will be well equipped to treat the small complication/side effects of the clients. She will refer severe cases to Upazilla. She will have one IUD Kit & an insertion table to perform IUD insertion. In each union female motivators will be working at the word level to motivate the clients & bring them to the clinic for IUD insertion by the paramedic. The IUD program will expand gradually. It must start covering 1/4 union of the 14 District of 1st phase at the initial stage.

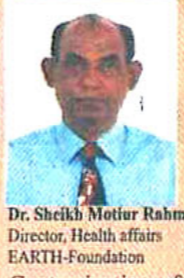
About 4500 female paramedics would be recruited for IUD insertion, as part of that advertisement for 250 workers is given in the newspaper on January 27, 2007. The female paramedics would be posted in the union level containing 20,000 populations in a cluster where nearly 5000 eligible couples are available. The 3 female field workers in the union will play the role for motivation. The female paramedics will be the permanent inhabitants of the union. Instead of constructed clinic or rented clinic she will provide services and insert IUD at her own residence. For this purpose EARTH-FOUNDATION has taken a program for redesigning a small room at her own house with facilities of IUD insertion room. It will have curtain and keep privacy for pelvic examination and IUD insertion. Simultaneously the room shall be sterile, free from open sun, protected from rain and moisture and insects. As such side effects can't occur.

Equipments & MSR: Each female paramedic will be given an IUD Kit costing Taka 20,000 and an IUD insertion Table costing Taka 3000. Besides bucket, soap, savlon and side effect management medicine will be given to her on regular basis.

Training: Training would be provided batch wise by the NHQ medical team.



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Health is one of the basic component and essential part of overall socio-economic development. We believe that without good health there is no scope for sustainable development. Bangladesh is still in grave position for primary health care, safe water distribution, well sanitation, communicable disease prevention, and malnutrition control under five years children etc. It has highest rate of IMR, MMR among the third world countries. Different infectious diseases including diarrhoea, cholera, respiratory tract infections, pregnancy related diseases are the major causes of deaths. In case of malnutrition it seems that 70% of the total under five children has been suffering from mild, moderate and severe malnutrition. Women are seriously under privileged in health facilities. This is manifested as high maternal mortality rate, infant mortality rate, high rate of low birth weight (<2.5 kg).

Contamination of arsenic poisons in underground water is one of threat and serious public health hazards in our country. Only tube wells are detecting as arsenic contaminated and marked red but no effective measures have yet been taken. Thousands of patients are also detected but the necessary treatments are not given.

Iodine deficiency disorder (goitre) is another public health problem in Bangladesh. About 70% of the total populations have iodine deficiency and 45% have the visible goitres. It has identified that the northern part of the country is high prevalence area of goitre. It affects the population as cretinism, dwarfism, low IQ etc.

Overall this entire grave situation hampers the socio-economic development. So EARTH-FOUNDATION has taken the following programmes of health sector:

Control of Malnutrition through Community Based Nutrition Centre

More than 70% of total <5 children have been suffering from different types of malnutrition. Now a days it is a threat for the development of the country. Malnourished mother (BMI<18.5) are giving births of low birth weight babies.

In each community center mother and <5 children will be registered and will provide training for:

- Identification of malnourished children and mother.
- Child growth monitoring by growth chart
- Identification of nutritional diseases (Kwashiorkor, Marasmus, Ricket etc).
- Proper food and nutrition education
- Awareness to locally available nutritious foods.
- Refer the severely malnourished children to the hospital
- Immunization for children (EPI).
- Deworming medication.

Arsenic Detection and Safe Water Supply:

A decade has passed since the arsenic problem in Bangladesh was identified. The government, private sector and non-government organizations have developed a variety of strategy and technologies to mitigate the problem. With each passing month the symptoms of arsenicosis or related diseases are becoming more visible amongst people in arsenic affected communities. Thousands of arsenicosis patients are waiting for advice and treatment.

We have planned to motivate the people for use of surface water and recognize the patients refer for treatments.

Sexually Transmitted Disease, HIV/AIDS Program Activities:

At this point in time more than 22 million people (men, women and children) that are infected by HIV world wide. Developing countries have lions share having about 90% of these infections.

Bangladesh is surrounded by high prevalence areas such as the Indians states of Manipur and Mizoram and also our neighboring country Myanmar. In these areas the authorities concern are now grappling with the increasing number of HIV positive IVDUs. In addition, the sex industries in Thailand and India are not only posing threat to the individual country but also to other countries including Bangladesh.

By now we know that control of STDs has assumed a great importance in the prevention and control of HIV/AIDS. This is because, recent evidences indicate that people with ulcerative STDs such as Syphilis, Chancroid and Herpes etc. are many times more prone to contract HIV infection during a single sex act than without. Non-ulcerative STDs have also been demonstrated to increase several times the likelihood of HIV transmission.

EARTH-FOUNDATION has taken the specific program to control STD, HIV through social mobilization, workshop, seminar and treatment of STD patients.

Breast Feeding Campaign:

Absolute Breast-feeding Awareness is necessary to increase the immunity of infants and children. Mothers should aware to breast-feed to the child in timely and properly. Now this is a national issue in Bangladesh. Ignorance and superstition of the society is barrier to feed the breast milk to the children. To enhance breast-feeding mothers and surroundings must be trained up through social mobilization and training.

Diabetes Screening Program:

About 50% of the people in Bangladesh are illiterate. 80% of the total populations are living in rural areas. A large number of people have been suffering from general weakness and blurring of vision. They think that this is due to poverty or low intake of food. But this may happen due to diabetic disorders. It is proved that mental, social and political instability are the main factor for increasing diabetes. Now it is necessary to screen the persons those who have been suffering from weakness and associated complications to establish the cause of this ailment.

MCH Based Clinic:

To provide low cost treatment facilities for the poor EARTH-FOUNDATION is going to establish MCH Based clinics in district/upazila level. Already 10 district hospitals are under construction and will start soon. Indoor and outdoor facilities will be available in every hospital. Normal delivery, cesarean section, hernia, hydrocoele operation will be made at low cost.



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Solar energy can be extracted directly from the sunlight or through indirect methods. Some of the alternate ways of storing the solar energy are discussed below:

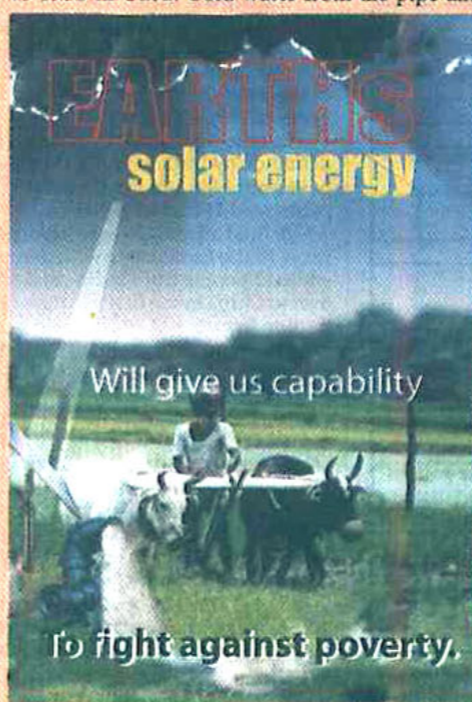
Biomass: Wood and dry crop wastes are referred to as biomass derived fuels. Plants use photosynthesis, deriving the energy from the sun. About a century ago, firewood was the most common form of fuel. Although other forms of energy are currently available, biomass is still the largest form of energy available in the US.

Wind Power: The cheapest source of solar electricity is the wind power. Variation of pressure between areas caused by solar energy, causes wind effects. This form of energy is used to run turbines that in turn generate electricity. In the Rocky Mountains in Chittagong region, the average annual wind speed is 21 miles per hour, making it ideal for electricity generation.

Collector Systems: This area concentrates more on materials research, which primarily deals with what materials will efficiently absorb solar energy. The idea is to have solar collectors for heating pool, interior of house during winter or for providing hot water. Other thermal applications include intermediate applications. Solar energy can be used to produce steam for industrial processes. The iron industries for example, consume 0.5% of energy in Bangladesh. Imagine the millions of taka that can be saved by reducing their reliance on the congenial form of power. The other application is the use of water pumps for irrigation.

Photovoltaic Cells: Photovoltaic (PV) cells are devices that convert sunlight to electricity, bypassing thermodynamic cycles and mechanical generators. PV stands for photo (light) and voltaic (electricity), whereby sunlight photons free electrons from common silicon.

Future of Solar Energy: The success of solar power will depend on the alternate ways and means to store the solar energy to be utilized at night. The simple answer is to build an auxiliary system that will store energy when the sun is out. However, the problem is that such storage systems are unavailable today. Simple systems, like water pipes surrounded by vacuum, do exist. It is based on the concept that provided the pipes are insulated, the water will store thermal energy. The ocean is a natural reservoir of solar power and could be used as a source for thermal energy. If we can draw warm water from the surface and cold water from the depths, an ocean thermal plant could operate 24 hours a day. George Claude tested this hypothesis as early as 1930 in Cuba. Cold water from the pipe and warm water from the



Will give us capability

To fight against poverty.

majority of the resources will probably flow into research for developing better and more efficient solar cells. Parallel to that, more research will be undertaken to develop rechargeable batteries that will last longer hours.

Being a member of the developing country and very restrictive source of alternate energy (other than oil) we are heavily dependent on oil import for consumption. Rising oil prices in the international market has adversely affected the balance of payment scenario of our country. In addition our high dependency on institutional and non institutional overseas loans steadily rising the inflation. Hence to reduce the dependency on loans from abroad keeping in mind to reduce the inflation rate we need to search drastically for alternate source of energy. EARTH-FOUNDATION has obtained a pragmatic approach of the issue and started making an effort to explore the solar energy for the same. EARTH believes if properly explored solar energy can revolutionize the irrigation system and can transform the present one to a cost efficient one. Through this marginalized farmers can reduce the cost of their production and can redefine the ways modern technologies are used in our society.

What is Arsenic?

Arsenic is a testless, odorless, mineral which occurs in nature, including soil, rock and plants. Arsenic found in both organic & inorganic forms. The contamination of arsenic in ground water in Bangladesh has not yet been identified. In nature, arsenic exists as metal compound like oxides, hydrates, sulfides and arsenate of Copper, Silver, Iron, Zinc etc. It is believed that unrestricted withdrawal of under ground water for irrigation may be a cause of pollution by arsenic. Excessive use fertilizers and pesticides are other causes.

Magnitude of problem:

It has been found that the tube well water samples from 61 districts out of 64 districts of the country were tested for arsenic poisoning. In 41 districts the arsenic content exceeded 0.05 mg/liter and 76.9 million people are at risk of arsenic poisoning of this districts (Permissible limit is 0.05 mg/liter by the WHO). Several people were reported to have died of arsenic poisoning, may be more deaths were not reported.

Clinical Presentation of Arsenic Poisoning:

It has been found that the affected people were mostly adults those who have exposed to contaminated arsenic water more than 6.5 years duration. Vital organs like brain, liver, kidney and heart are involved by arsenic toxicity. It is responsible to duration of intake of arsenic contaminated water, nutritional status and defense mechanism of individuals. In early stage of arsenicosis characterized by the change in the skin of black spot (Melanosis), thickening of skin on palm and sole (Keratinosis) and eye changes. Later develops hyperkeratosis and leukomelanosis, swelling of feet and involve kidney and liver. Secondary stages are characterized by gangrene of feet, malignant changes of the skin. As poisoning progresses failure of vital organs (Liver, Kidney, Brain) become more characteristics. Loss of hairs and nails are another frequent occurrence in severe arsenic poisoning.

Arsenic Program of EARTH-FOUNDATION:

- EARTH-FOUNDATION has taken the following activities for Arsenic Mitigation-
- Identification Tube wells and Patients
- Counseling of patients and refer
- Surface water treatment and supply
- Rain water preservation and supply
- Deep tube well digging and arsenic free filter supply.